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THE CATALOG OF SOUTHERN RINGED GALAXIES

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ABSTRACT

The Catalog of Southern Ringed Galaxies (CSRG) is a comprehensive compilation of diameters, axis ratios, relative bar position angles, and morphologies of inner and outer rings, pseudorings, and lenses in 3692 galaxies south of declination −17°. The purpose of the catalog is to evaluate the idea that these ring phenomena are related to orbital resonances with a bar or oval in galaxy potentials. The catalog is based on visual inspection of most of the 606 fields of the Science Research Council (SRC) IIIa-J southern sky survey, with the ESO-*B*, ESO-*R*, and Palomar Sky surveys used as auxiliaries when needed for overexposed core regions. The catalog is most complete for SRC fields 1–303 (mostly south of declination −42°). In addition to ringed galaxies, a list of 859 mostly nonringed galaxies intended for comparison with other catalogs is provided.

Detailed analysis of 5403 duplicate estimates of ring diameters (D) and 1606 duplicate estimates of bar/ring position angles (θ) indicates that the CSRG has very good internal precision and homogeneity in these parameters. For an "average" ring or lens of angular diameter 0.'6 and apparent axis ratio 0.8, the internal errors are $\sigma(D)$ = 0.'026 and $\sigma(\theta)$ = 6.°3. Based on a comparison with two other major sources of ring-diameter measurements, the external mean error in CSRG diameters is $\approx$3.2 times the internal error at a given diameter. Comparison of the type classifications with those in other catalogs indicates good agreement on interpretations of features, including family and variety.

Improved model distributions of apparent axis ratios and bar/ring position angles are computed which allow for the errors in the observed parameters and the fact that most of the observed rings have small angular diameters. These model distributions use Gaussian intrinsic distributions of shapes and angles, and contain the fundamental assumption that the spin axes are randomly oriented to the line of sight. Comparison with observed distributions is accomplished using the χ^2 test. The results are consistent with my previous 1986 analysis, but are much stronger because the samples are larger and better defined and the analysis is more thorough. The full CSRG confirms the noncircular average intrinsic shapes of galaxy rings, pseudorings, and lenses. The typical outer feature has an intrinsic axis ratio of 0.87 ± 0.14, while the typical inner feature has an intrinsic axis ratio of 0.84 ± 0.10. Weak dependences on family (i.e., apparent bar strength) are found, with SB features being more elongated than SA features. Similar results, but with smaller best-fitting dispersions, are found from an identical analysis of the completely independent set of ring axis ratio measurements from the Southern Galaxy Catalogue of Corwin, de Vaucouleurs, & de Vaucouleurs (1985).

The distribution of bar/ring position angles shows once again that outer features have two preferred intrinsic alignment angles with respect to bars (parallel and perpendicular), while inner features have one preferred intrinsic alignment angle (parallel). Most outer features in SB galaxies are aligned perpendicular to the bar, while most outer features in SAB galaxies are aligned parallel to the bar. The perpendicular and parallel varieties of outer features are readily distinguished morphologically in many galaxies as the R'_1 and R'_2 subclasses, respectively. These findings again link the observed ring features to specific orbital resonances with a bar or oval. Outer features are very likely tracers of the location of the outer Lindblad resonance, while inner features are very likely tracers of the location of an ultraharmonic resonance near and inside corotation. These firm identifications allow the possibility for indirect measurement of the bar pattern speed in many galaxies.

Other findings from the CSRG that are not based on statistics are the identification of intrinsic bar/ring *misalignment;* bars which *underfill* inner rings; dimpling of R'_1 pseudorings; pointy, rectangular, or hexagonal inner or outer ring shapes; a peculiar polar-ring–related system; and other extreme examples of spiral structure and ring morphology.

Subject headings: catalogs — galaxies: structure — galaxies: fundamental parameters

1. INTRODUCTION

Of all the features that define disk galaxy morphology, rings are perhaps the most intriguing. Although generally regarded as of secondary importance to galaxy dynamics, rings are of much more than secondary interest, for a variety of reasons. First, many rings appear to be sites of enhanced star formation, and in some galaxies a ring is the only place where new stars appear to be forming. Second, rings provide a dimension to the morphology of galaxies that, though often glossed over (or even omitted) in textbooks, must contain some clues as to how galaxies form and evolve. Rings are visible probes of internal dynamics that can be deciphered for information on galaxian

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potentials. Third, we can identify at least three physically distinct types of optical ring phenomena: collisional rings (or ring galaxies), where the ring is thought to be an expanding shock wave in a disk of gas which has suffered a near "bull's eye" collision with a companion; polar rings, where the ring is part of a disk which is tipped by nearly 90° to the plane of a more massive S0 galaxy, and which is thought to be the result of a disruptive merger; and resonance rings, which are features that form, through the action of gravity torques, near orbital resonances with a bar or some other kind of nonaxisymmetric disk perturbation, such as an oval or a spiral density wave.

This paper is concerned mainly with the resonance rings, which are by far the most common among the three ring categories. In galaxy classification systems, the resonance rings are usually identified as features called inner, outer, and nuclear rings or pseudorings. I present here a catalog of galaxies containing these kinds of ring features which I have created for the principal purpose of identifying which resonance or resonances each ring type is associated with. My motivation came from a series of test-particle models[2] of barred galaxies published in 1981 and 1984 by M. P. Schwarz, who made interesting predictions concerning the morphological properties expected for resonance rings. These predictions, together with the availability of the very fine SRC-J southern sky survey, made possible a detailed confrontation between theory and observation that had not been fully tapped at the time. I will show with this catalog that visual data from the SRC-J sky survey can be used to firmly establish the existence of resonance rings in galaxies and, moreover, that specific resonances can be linked to each of the observed inner, outer, and nuclear ring types.

2. THE CSRG PROJECT

The Catalog of Southern Ringed Galaxies (CSRG) was begun in 1984 June at the Mount Stromlo Observatory in Canberra, Australia. The idea for the catalog arose out of my thesis work and also out of discussions with M. P. Schwarz and A. Kalnajs earlier in 1984, when I realized that the SRC-J southern sky survey, being produced at the UK Schmidt telescope at Siding Spring, Australia, could be a gold mine for the study of ring phenomena in galaxies. This was because the fine grain of the IIIa-J emulsion and the limiting surface brightness of ≈ 27 mag arcsec^{-2} made it possible to detect very small and very low surface brightness rings that would have been difficult to detect on other survey materials. Thus, the SRC survey provided the opportunity for obtaining a large, homogeneous sample of ringed galaxies that could be used for statistics. There were four major types of information derivable from the copy films that could be used to directly test predictions of barred galaxy resonance ring models: (1) intrinsic shapes, as deduced from the distribution of apparent shapes of a large sample of rings; (2) intrinsic bar/ring alignments, as deduced from the distribution of apparent relative bar/ring major axis position angles of a large sample of ringed and barred galaxies; (3) morphology, through subtle details such as pointy or hexagonal shapes, dimples, and spiral pattern distinctions; and (4) size ratios of rings in multiple ring systems.

[2] In the past, I have incorrectly referred to these models as "n-body" models. They are not true n-body models because the self-gravity of the gas clouds is neglected.

Because of the large area of sky covered by the SRC survey (606 36 square degree fields south of declination −17°), and because of the need for statistical reliability over a large range of angular diameters, the CSRG became a very long term project. What I am presenting here is still not a fully completed CSRG, because the field searches are more thorough in some regions than in others. Nevertheless, the present version of the CSRG is statistically viable for the questions the catalog originally was created to address. It is intended that any future revisions to the catalog will be mainly to improve its completeness but not necessarily to greatly improve its statistical usefulness for the resonance problem.

Because the CSRG is so sharply focused on ringed galaxies, it is not a catalog that can be used for general studies, since it includes no information on magnitudes, isophotal diameters, radial velocities, colors, or neutral hydrogen content. For this kind of information, the catalog must be cross-checked with other sources of data. The catalogs with the greatest amount of this kind of information are the Third Reference Catalogue of Bright Galaxies (de Vaucouleurs et al. 1991, hereafter RC3), the Southern Galaxy Catalogue (Corwin, de Vaucouleurs, & de Vaucouleurs 1985, hereafter SGC), and the Surface Photometry Catalogue of the ESO-Uppsala Galaxies (Lauberts & Valentijn 1989, hereafter ESO-LV). The latter two catalogs cover the same sky area as the CSRG.

Section 3 describes the background needed for appreciating what the CSRG was designed to confront. Section 4 describes the production of the catalog as a two-phase process needed for accurate assessment of the internal errors in the catalog parameters. The error analysis itself is described in § 6.4. The main catalog and two auxiliary tables are described in § 5, while § 6 provides a complete analysis of the data in the CSRG as well as in the SGC. A discussion of other findings from the catalog is provided in § 7. Finally, a summary of the results and a discussion of the future supplementation of the catalog are presented in § 8.

3. RINGS AND BARRED GALAXY MODELS

I have already described the theoretical motivations for the CSRG in a preliminary analysis of data collected up until the end of 1985 (Buta 1986a). In a series of papers and a thesis, Schwarz (1979, 1981, 1984, 1985) made test-particle models of the flow of gas clouds in response to a model bar potential, and demonstrated very convincingly how rings might form. These are not the only models of the gas flow in barred spirals that have been published, nor are they the most sophisticated models possible (see the general review of barred galaxies by Sellwood & Wilkinson 1993), but the simplicity of the models and the significant insight into ring formation that they provided made them very amenable to confrontation with observation. The key factors in the models that led to rings were the following: (1) the change in orientation of periodic orbits near major bar orbit resonances (see, e.g., Sanders & Huntley 1976; Contopoulos 1979), so that different families of orbits may cross in these regions; (2) the tendency of gas clouds to try to settle into these periodic orbits, making dissipation via cloud collisions important near a resonance region; and (3) the effect of gravity torques on the resulting initially spiral shock fronts, causing the pattern to evolve secularly into ring-shaped gas concentrations, the shape being determined in part by a domi-

nant family of periodic orbits near a given resonance. Other important factors were the strength of the bar, the bar pattern speed, and the initial distribution of test-particle clouds. A recent review of the ring formation process, with a discussion of orbits and the operation of gravity torques, has been presented by Combes (1993).

The three most important resonances in the models that led to ringlike concentrations of gas were the inner Lindblad resonance (ILR), the inner 4:1 ultraharmonic resonance (UHR), and the outer Lindblad resonance (OLR). The models made predictions concerning the intrinsic elongation and morphology of rings associated with these resonances, and also on intrinsic alignments between the major axis of the bar and the intrinsic major axes of the rings. These predictions are summarized as follows:

1. *OLR.*—At this resonance, two major families of periodic orbits are important, one whose average radius is slightly inside the OLR and one whose average radius is slightly outside the OLR. The inner OLR orbit family has a blunt oval shape with major axis perpendicular to the bar, and can have slight "dimpling" near the bar major-axis points. The outer OLR orbit family is slightly elongated parallel to the bar, and, for the adopted model parameters, does not show dimpling. These two families of orbits allowed one of two types of gaseous pseudorings to form near the resonance. One type involves spiral arms which wind about 180° with respect to the ends of the bar, dipping in slightly toward the bar on either side in such a way that the galaxy can resemble a broad figure-eight pattern. This pseudoring has an intrinsic elongation perpendicular to the bar. The second type of pseudoring is associated with the outer OLR orbit family and involves spiral structure which winds 270° with respect to the bar major axis. This type is slightly elongated parallel to the bar.

2. *UHR.*—At this resonance, the periodic orbits have a fourfold symmetry. Intersecting orbits of different orientation lead to an oval ring of gas which can be pointy (or lemon-shaped) and intrinsically aligned with the bar major axis. The ring may be slightly discontinuous at its major- and minor-axis points. For a given model, this ring is usually more elongated than an OLR ring.

3. *ILR.*—At this resonance, orbit orientations can change from parallel to the bar axis just outside the resonance to perpendicular to the bar axis just inside. Intersecting orbits can lead to a ring of gas which, at least initially, may have an elongation at an intermediate angle to the bar major axis.

Based on the location of each of these resonance ring types, Schwarz made the suggestions that observed outer rings are associated with the OLR, inner rings with the UHR, and nuclear rings with the ILR. These predictions are manifestly testable in various ways. Individual galaxies with all three ring types coexisting can be kinematically and photometrically studied to evaluate Schwarz's suggestions directly. However, these kinds of studies cannot provide a global view of the ringed galaxy population as a whole because individual galaxies can depart from the average significantly. A much more powerful way of evaluating Schwarz's suggestions would be to obtain *distributions* of *apparent* shapes and bar alignments for a large, homogeneous sample of ringed galaxies, and then to derive *intrinsic* shapes and bar alignments by modeling these distributions. At the same time, a large sample of galaxies can be inspected for the *morphological* signatures of specific resonances, such as dimples; boxy, pointy, or hexagonal shapes; and the pitch angle and the extent of winding of spiral structure.

It was the possibility of linking observed rings with specific bar resonances that originally led me to consider the use of the sky surveys to obtain a very large sample of ringed galaxies for statistics. The ultimate goal was to learn how we could use ring phenomena to obtain information on one of the most elusive parameters of galactic dynamics: the bar pattern speed. This parameter determines the location of resonances in the disk, but it is not yet known what fixes its value. It is also unclear whether this parameter changes with time or whether different features in a given galaxy all have the same pattern speed. The kind of study I describe here can address some of these problems.

4. PRODUCTION OF THE CATALOG

The catalog began with a 2 week feasibility study in 1984 June. Measurements of ring major- and minor-axis diameters were accomplished using a 7× Bausch and Lomb measuring magnifier, while measurements of relative bar/ring major-axis position angles were accomplished using a small ruler and one of two circular protractors having radii of 4–5 cm. The same measuring magnifier was used for all measurements. Since I wanted to measure bar/ring position angles, it became impossible to base the CSRG on the SRC-J survey films alone. This is because the central regions of many galaxies are overexposed on the SRC films, making it difficult to see a bar, if present, and sometimes making it difficult to see any inner structure, such as a high surface brightness inner ring. Overexposed cases were dealt with initially using the much less deeply exposed (and larger grained) ESO-*B* copy films as auxiliaries, but after 1986, ESO-*R* copy films were used instead as the auxiliaries because of the greater sensitivity of the red emulsion to even very weak bars. Thus, ESO-*R* films were used to obtain position angles for bars that were either overexposed on the SRC-J films or too weak to measure easily on those films. For a few galaxies north of the limit of the ESO survey, glass copy plates of the Palomar Sky Survey (PSS) were used as the auxiliaries. The searches began with field 001 (−90°).

In the beginning of the project, I did not use a very effective search technique because I was mainly interested in the larger ring examples. I simply scanned each field closely, but without magnification, and examined as many of the galaxies as possible. This was the search technique used from 1984 June to 1986 May, when the catalog was temporarily discontinued so that I could work full time on the Third Reference Catalogue of Bright Galaxies. When I resumed the CSRG on a few occasions in late 1988, I improved the search technique by using the equatorial coordinate grid that was supplied with the Palomar Sky Survey. This substantially increased the number of identified examples, and improved the completeness of the catalog.

By the summer of 1990, I had visually scanned about 575 SRC fields, and it was at that time that I decided to completely redo the part of the catalog south of −42° (covering about 300 fields). This was necessary to check the consistency and accuracy of the parameters in the catalog in a meaningful way, and avoided the use of only those objects that happened to lie in an overlap region between two or more films. I will refer to the

part of the CSRG produced before 1990 July as CSRG I and that produced after 1990 July as CSRG II. At the time of this writing, CSRG II involves 320 fields. Because CSRG II was based on a thorough search technique and had the benefit of the experience of CSRG I, it is a more complete, more polished catalog than CSRG I. The final CSRG is based on an unweighted average of CSRG I and II.

The compilation of CSRG II proceeded as follows. First, an initial search was made on each field in 15′ declination strips on the PSS coordinate grid. All obvious or suspected ring cases were marked with a felt-tip pen. These would include not only conventional inner- and outer-ringed galaxies but also collisional ring galaxies and polar ring galaxies. (The latter objects were regarded as peculiar and mostly avoided in CSRG I.) For about one-third of the CSRG II fields, the initial grid search was the only search made. However, the grid lines were sufficiently thick to cause some galaxies to be missed, and thereafter a second search was made with the grid displaced by half a grid step in both right ascension and declination. This was usually sufficient to find any cases missed in the initial search. In addition to ringed galaxies, many nonringed galaxies were marked for the purpose of comparing classifications with other catalogs.

Once all candidates were marked, I then placed a PSS grid appropriate to the declination on the film and used ESO galaxies of known position to register the grid lines. Because the PSS grids are not exactly geared to the declination zones of the SRC survey, it was sometimes necessary to use an awkward combination of two grids to cover a whole field. This, and the fact that the grids are hand-drawn, meant that coordinates could not be estimated to better than 1′–2′. All marked galaxies were checked against the ESO-*B* catalog (Lauberts 1982), and positions for any found were merely taken from that catalog. For all non-ESO galaxies, the coordinates were interpolated within the grid lines. These approximate positions were later input into the FINDER program which created plots of stars and other objects from the Space Telescope Science Institute Guide Star Catalogue (GSC) located within a 2° × 2° box centered on the approximate position. With these plots, it was possible to match the faint CSRG galaxies to objects in the GSC. The final positions adopted for these galaxies are taken from this catalog and are much more accurate than the grid coordinates.

Once a galaxy was identified either by an ESO-*B* catalog name or an estimated position, then the next step was to classify the galaxy. The classification system I adopted is a modified version of the de Vaucouleurs (1959) revised Hubble system. Table 1 summarizes the revisions. Following Kormendy (1979), I have distinguished lenses from rings using the notation (l) for inner lens (analog of inner ring) and (L) for outer lens (analog of outer ring).[3] There are also features that could be called nuclear lenses (nl); these are described by Buta (1989). I have also distinguished three subclasses of outer rings and pseudorings: the R'_1 subclass, a type where the outer arms wind 180° with respect to the bar ends and which resemble the perpendicular-aligned OLR rings found by Schwarz; the R'_2 subclass, a type where the arms wind 270° with respect to the bar ends and which resemble the parallel-aligned OLR rings found by Schwarz; and a final subclass called $R_1R'_2$, which is a combination of the first two subclasses. These three subclasses of outer pseudorings are described in detail by Buta & Crocker (1991). The catalog also distinguishes ring galaxies and polar rings. A ring galaxy is simply called "RG," and a polar ring galaxy is called "PR." The catalog is not complete with respect to the identification of these kinds of features, especially north of declination −42°.

TABLE 1

ADDITIONAL NOTATION USED IN REVISED HUBBLE CLASSIFICATIONS

Feature	Notation
Inner lens	(l)
Inner ring-lens	(rl)
Inner pseudoring-lens	(r'l)
Outer lens	(L)
Outer ring-lens	(RL)
Outer pseudoring-lens	(R'L)
Type 1 OLR outer ring	(R_1)
Type 1 OLR outer pseudoring	(R'_1)
Type 2 OLR outer ring	(R_2)
Type 2 OLR outer pseudoring	(R'_2)
Mixed mode outer ring, pseudoring combination	($R_1R'_2$)

The classification of the rings, pseudorings, and lenses into subclasses such as "inner" or "outer" was not always straightforward. By "inner feature," I will mean inner rings (r), inner pseudorings (rs), inner lenses (l), or inner ring-lenses (rl). By "outer feature," I will mean outer rings (R), outer pseudorings (R′), any of the subclasses R_1, R'_1, or R'_2, outer lenses (L), or outer ring-lenses (RL). Only for barred galaxies was it usually possible to distinguish these different feature types unambiguously. This is because the bar usually fills an inner ring or lens, if present, in one dimension. Occasionally, galaxies which appeared to be nonbarred on an SRC-J film revealed a weak bar on the corresponding ESO-*R* survey film, so that inner and outer features could still be distinguished. However, in some clearly nonbarred galaxies with only a single ring, it was difficult to decide whether a ring or lens was an inner or an outer type. In the main table, some of these are classified as (R?) or (r?) types, where the question mark does not mean the feature is weak, only that its interpretation is uncertain. Another ambiguity arises from the fact that there are at least three different ordinary ring types possible in barred galaxies: outer, inner, and nuclear rings, and that there are analogs of each of these in nonbarred galaxies. Nuclear rings are easily distinguished from inner rings in SB galaxies, again because the bar usually fills the inner ring in one dimension. Without this diagnostic, however, one cannot readily distinguish an inner from a nuclear ring in an SA galaxy unless all three feature types are present. The ambiguity means that some features in SA galaxies which are really analogs of nuclear rings will be misclassified as inner rings.

The next step was to measure the ring dimensions and position angle with respect to the bar axis. The scale in the Bausch and Lomb measuring magnifier is 20 mm long and is divided into 0.1 mm intervals. Diameters were estimated to 0.01 mm, although the actual internal errors are several times larger than

[3] Note that this use of L differs from that in RC3, where L is a code to symbolize a "lenticular" (or S0) galaxy.

this (§ 6.4.1). A few large outer rings could not be measured with the magnifier, and a millimeter ruler was used instead. Although most diameters were measured on the SRC-J survey films, some were based on ESO-*B*, ESO-*R*, or PSS images whose scales are slightly different from the scale of the SRC-J survey films. Table 2 lists the scales used for converting millimeter diameters to arcminutes for each film or plate source.[4]

The bar and ring major-axis position angles were measured using the 7× magnifier in conjunction with a small, flat metal ruler. Except for nearly round rings or rather weak bars, it was generally not difficult to line up the edge of the ruler with the long axes of the features. A felt-tip pen was used to indicate the position angles, and then a circular protractor was used to measure the relative angle between the features. The angle was usually tabulated as an acute angle, i.e., between 0° and 90°. However, in some cases, the angle is listed as obtuse or negative. These occur in systems with two or more ring or pseudoring features. If all of the rings lie in the same quadrant with respect to the bar, then the angles are all positive between 0° and 90°. If the inner feature has a major axis with respect to the bar in a quadrant adjacent to the outer feature, then the inner feature angle is listed as negative or obtuse. This preserves information on the relative angle between the inner and outer features, irrespective of the bar. Note that for very nearly round rings, no angle could be reliably estimated and none is listed.

In cases where the central region was overexposed on the SRC-J survey film, but a bar was clearly seen in the image on other survey material, such as ESO-*B*, ESO-*R*, or the PSS, then the bar position angle was judged on that image and transferred to the SRC-J film by reference to field stars. In some cases it was necessary to measure the bar/ring position angle entirely on the other survey material.

Because I wanted to distinguish ringed galaxies having multiple-armed or flocculent spiral structure from those with two-armed spiral structure, I counted the number of spiral arms in many cases. This parameter is sensitive to the quality of the plate material and is not very precise.

5. THE CATALOG AND AUXILIARY LISTS

The CSRG is contained in Table 3. The main parameters listed are schematically illustrated in Figure 1. The column explanations are as follows:

Column (1).—Right ascension (hours, minutes, seconds) and declination (degrees, arcminutes) for epoch 1950.0. If an object has an NGC, IC, ESO, or MCG name, then the position is taken from the ESO-*B* catalog. If an object has a CSRG number, then the position is from the Space Telescope Science Institute Guide Star Catalogue.

Column (2).—Catalog name in NGC, IC, ESO-*B*, or MCG catalog if available. If not in these catalogs, a running CSRG number has been assigned to prevent the use of anonymous positional names.

[4] The combination of these relatively small scales and the frequent overexposure of galaxy nuclei on the survey films caused nuclear rings to be severely selected against, so that the CSRG is mainly a catalog of inner and outer features only. A compilation of nuclear feature dimensions from various sources, including the few noted on sky survey images, is provided by Buta & Crocker (1993a).

TABLE 2

SCALES ADOPTED FOR MILLIMETER CONVERSION

Survey Material	Scale (arcmin mm^{-1})	Reference
SRC-J	1.118	UK Schmidt Notes 1976
ESO-*B*	1.125	West & Schuster 1982
ESO-*R*	1.124	West 1985
PSS	1.119	Minkowski & Abell 1963

Column (3).—Revised Hubble classification in modified de Vaucouleurs (1959) system. Revisions account for subclasses of outer rings and pseudorings, and also for outer lenses and inner lenses (see Table 1).

Column (4).—Revised Hubble stage coded on RC2 and RC3 numerical scale.

Columns (5)–(7).—Major- and minor-axis diameters (arcminutes), and position angle of major axis with respect to bar axis (degrees), of an outer ring, pseudoring, or lens feature. If the object has an $R_1R'_2$ double ring, pseudoring feature, then the dimensions and angle for the R_1 feature are given on the first line, while those for the R'_2 feature are given on the second line. The meaning of a negative or obtuse angle is discussed in § 4.

Columns (8)–(10).—Major- and minor-axis diameters (arcminutes), and position angle of major axis with respect to bar axis (degrees), of an inner ring, pseudoring, or lens feature. The meaning of a negative or an obtuse angle is discussed in § 4.

Column (11).—Number of spiral arms. Notation such as "2+" means there are at least two clear arms and possibly other fainter arms; "2 + 2" means "two main arms + two secondary arms"; "4i, 2o" means "four inner arms, two outer arms"; etc. Although in most cases the number of arms was actually counted, in some cases multiple arms are symbolized simply by "m," or, if flocculent, by "f."

Column (12).—This number specifies the number of estimates that went into each parameter, as follows:

Digit 1: number of outer feature classifications.
Digit 2: number of family estimates.
Digit 3: number of variety estimates.
Digit 4: number of stage estimates.
Digit 5: number of outer feature major-axis diameter estimates.
Digit 6: number of outer feature minor-axis diameter estimates.
Digit 7: number of estimates of relative bar, outer feature major-axis position angle.
Digit 8: number of inner feature major-axis diameter estimates.
Digit 9: number of inner feature minor-axis diameter estimates.
Digit 10: number of estimates of relative bar, inner feature major-axis position angle.

In addition to the main catalog, two auxiliary lists are provided (Tables 4 and 6). Table 4 presents a set of brief notes on selected objects of interest in the catalog. These notes represent

TABLE 3

CATALOG OF SOUTHERN RINGED GALAXIES

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
000000−2528.6	CSRG 1	(R?)SA(r)a p	1.0	0.68	0.51		0.32	0.25		2	1222110220
000011−5401.6	CSRG 2	(RL)SB0/a	0.0	0.51	0.40	87.6					1101111000
000012−3230.3	CSRG 3	(R)SB(l)0°	−2.0	0.50	0.40	84.4	0.26	0.20	0.0		1111111111
000021−3430.8	NGC 7812	SAB(rs)ab	2.0				0.57	0.39		4i,2o	0111000110
000031−5431.4	CSRG 4	SB(rl)0/a: p	0.0:				0.40	0.27	2.3	2	0111000111
000032−4227.4	ESO 293−31	SAB(rs)ab	2.0				0.39	0.20		2+	0333000220
000053−5336.5	ESO 149−15	SAB(r)c	5.0				0.39	0.29	3.9	2	0111000111
000054−6528.5	IC 5382	SB(rs)b: p	3.0:				0.40	0.23	33.0		0111000111
000116−4353.8	CSRG 5	SB(r)ab p	1.5				0.51	0.40	16.2:	2	0222000222
000125−4448.5	CSRG 6	(R_1)SB(s)0°	−1.5	0.59	0.47	85.3					2212222000
000128−5140.3	ESO 193−13	SA:(r)c	5.0				0.36	0.11		4	0111000110
000138−5308.1	CSRG 7	(R_1)SB0$^+$	−1.0	0.48	0.28	69.4					2102221000
000142−5055.5	ESO 193−14	SAB(rs)b	3.0				0.29	0.20	31.5	4	0111000111
000158−4718.6	CSRG 8	(R′)SA(s)b	3.0	0.44	0.22					2	1111110000
000207−4554.4	ESO 241−12	(R'_1)SAB(rs)a	1.2	0.74	0.43	50.9	0.46	0.25	15.8	2	4444443332
000219−5445.8	ESO 149−16	(R)SA0/a:	0.0:	0.75	0.40						1101110000
000220−4545.9	ESO 241−13	(R′)SAB(s)a	1.0	0.96	0.39	16.0				2	4444444000
000227−3047.1	ESO 409−13	(R)SB(l)0°	−2.0	0.74	0.65	72.0	0.39	0.34	−4.7		1111111111
000232−5106.8	CSRG 9	SB(r)0/a:	0.0:				0.22	0.17	50.4		0111000111
000237−4053.0	CSRG 10	(R'_2)SAB(s:)a	0.5	0.40	0.29	88.6				2	2212221000
000257−5032.9	ESO 193−19	SB(r)c p	5.0				0.41	0.27	7.5	3	0111000111
000258−5105.3	CSRG 11	SB(r)0$^+$	−1.0				0.32	0.18	37.0		0111000111
000317−6223.9	CSRG 12	(R′)SAB(rs)d p	7.0	0.68	0.56						1332110000
000326−3624.9	ESO 349−27	SA(rl)a p	1.0				0.38	0.30		1?	0111000110
000338−4705.0	CSRG 13	(R'_1)SAB(rs)ab	2.3	0.67	0.32		0.29	0.19		2	2333220330
000418−3530.7	ESO 349−30	SAB(rs)a	1.0				0.67	0.30	2.4		0111000111
000419−5228.8	ESO 193−25	SAB(r)c	5.0				0.22	0.12	64.1	4	0222000221
000427−5107.0	ESO 193−27	SB(rs)a	1.0				0.38	0.27	36.9	2	0111000111
000437−2203.9	ESO 538−22	(R'_2)SB(s)ab	2.0	1.53	0.22	2.0				2	1111111000
000453−5447.9	CSRG 14	SA(rs)bc:	4.0:				0.29:	0.22		3	0111000110
000458−2100.6	ESO 538−23	SA(rs)bc p	4.0				0.40	0.29		2:	0111000110
000521−4434.6	CSRG 15	(R'_2)SB(s)0/a	0.0	0.64	0.36	4.0				2	1111111000
000536−4432.6	CSRG 16	(R_1)SB0°	−2.0	0.56	0.45	66.6					1101111000
000541−6658.6	CSRG 17	(R'_1)SAB(r)a	1.0	0.61	0.39	44.9	0.27	0.17	4.0:	2	3233222222
000548−5947.6	ESO 111−14	SA(rs)cd	5.5				0.27	0.19		4	0222000220
000559−4453.7	CSRG 18	(R:)SA(rs)a:	1.0:	0.70:	0.66:		0.34	0.22			1111110110
000602−3408.2	NGC 10	SAB(rs)bc	4.0				0.61	0.29	12.9	2+3:	0111000111
000626−3736.4	ESO 293−42	(R)SA(rs)0/a	0.0	0.70	0.50		0.42	0.18			2222220110
000749−4641.8	ESO 241−21	(R′)SB(s)b	2.5	2.18	0.29	5.3				2	1222111000
000749−5723.3	CSRG 19	SB(r)a	1.0				0.51	0.29	49.9	2	0333000333
000756−4641.5	CSRG 20	SA(rs)bc	4.0				0.28	0.28		2	0111000110
000806−5147.5	CSRG 21	(R'_2)SB(s)a	1.0	0.37	0.34	34.9				2	1111111000
000810−5704.8	ESO 149−21	(R'_2)SB(rs)a	0.7	0.85	0.41	6.8	0.39	0.19:	8.3	2	3333333111
000812−5958.4	ESO 111−16	SAB(r)0/a	0.0				0.48	0.30	58.4		0111000111
000814−4721.2	ESO 241−23	(R'_2)SAB(rs)b	3.0	1.86	0.72	41.6	0.50	0.28	24.7	2	2333222333
000821−3524.5	CSRG 22	(R'_1)SB(s)a	1.0	0.46	0.36	80.6				2	1111111000
000822−2120.8	ESO 538−25	(R)S0$^+$	−1.0	1.23	0.15						1001110000
000826−3529.3	ESO 349−37	(R_1R_2)SAB(l)0/a	0.0	0.64	0.46	80.6	0.28	0.22	0.0		1111111111
〃	〃	〃		0.74	0.67	0.8					0000111000
000841−3351.5	ESO 349−38	(R′)SA:(r)b	3.0	1.39	0.55		0.50	0.25		2	1111110110
000843−5925.9	ESO 111−17	(R′)SAB(s)b	3.0	0.84	0.34					2	1111110000
000855−5714.1	NGC 37	(RL)SAB0°	−1.7	0.75	0.43	49.4					3303331000
000908−5759.8	CSRG 23	SA(r)c:	5.0:								0111000110
000912−4752.6	CSRG 24	(R′)SA(r)ab p	1.8	0.59	0.56		0.33	0.31		2+	2444110330
001030−4803.7	CSRG 25	(R'_1)SB(s)a	1.0	0.59	0.40	30.3				2	1111111000
001031−2429.6	ESO 472−20	SA(r)c	5.0				0.27	0.21		5	0111000110
001046−4937.2	ESO 193−36	SA(rs)b	3.0				0.51	0.29		2	0111000110
001104−3538.8	CSRG 26	(R'_2)SAB(s)0$^+$	−0.5	0.56	0.38	34.9					2212111000
001113−4152.1	ESO 293−46	(R′)SB(s)ab	2.3	0.73	0.50	27.6				2+3	3333333000
001157−4240.1	CSRG 27	(R_1)SB0$^+$	−1.0	0.40	0.27	31.8					1101111000
001215−6036.4	NGC 53	(R′)SB(r)ab	2.0	1.98	1.50	30.6	0.94	0.72	20.6	2	2222222222
001223−2422.1	ESO 473−2	SB(rs)ab	2.0				0.45	0.27	12.4:	2	0111000111
001249−2510.2	CSRG 28	($R'_1R'_2$)SB(s)b	3.0	0.53	0.29	75.7				2	1111111000
〃	〃	〃		0.63	0.42	62.2					0000111000
001250−5731.3	ESO 111−22	(R)SA(r)b	3.2	1.64	0.70	18.8	0.53	0.23	15.2	2	4444441441
001252−5745.2	CSRG 29	(R_1)SB0$^+$	−1.0	0.36	0.27	86.5					1101111000
001253−8057.0	CSRG 30	(R)SAB0$^+$:	−1.0:	0.34	0.29	63.6					1101111000
001259−4323.4	CSRG 31	(R'_1)SB(s)a	1.0	0.45	0.37	70.0				2	1111111000
001306−5704.3	CSRG 32	(R′)SAB(r)a	0.5	0.50	0.49:		0.26	0.18	2.4	4	1222110221
001313−3318.5	ESO 350−4	SAB(rs)0/a	0.0				0.34	0.34		2	0111000110
001340−3506.1	CSRG 33	(R′)SB:(r)b	3.0	0.55	0.30		0.17:	0.15:		2	2222220110
001350−3813.4	CSRG 34	(R'_1)SB(s)ab	2.0	0.45	0.32	34.0				2+1	1111111000
001458−6305.1	CSRG 35	SB(r)a	1.0				0.26	0.23		2+1:	0111000110
001516−6200.4	CSRG 36	(R)S(r)0/a?	0.0?	0.64	0.28		0.23	0.09		1?	1011110110
001527−4812.4	ESO 194−1	SAB(rs)bc	4.0				0.39	0.29	46.5	3	0222000221
001534−3409.1	ESO 350−7	(R)SB(r′l)0/a	0.0	1.40	1.00	65.0	0.51	0.40	13.0	2	1111111111
001604−7325.8	ESO 28−12	(R′)S0/a:	0.0:	0.81	0.35						2002220000
001634−8323.4	ESO 2−8	(R_1)S(r)0$^+$	−1.0	1.01	0.60		0.50	0.22			1011110110
001704−4916.4	ESO 194−3	SAB(rs)b:	3.0:				0.39	0.17	36.6	2	0111000111
001713−5132.7	ESO 194−4	(R′)SB(s)a	0.5	0.90	0.20	12.3				2	2212222000
001718−3445.0	ESO 350−9	(R)SB(r)a	1.0	1.29	0.78	59.6	0.51	0.40	46.7	2	1111111111
001745−4012.0	CSRG 37	(R_1)SB(l)0°	−2.0	0.67	0.50	72.6	0.34	0.19	0.0		1111111111
001810−2333.6	ESO 473−16	SB(r)ab	2.0				0.56	0.27	3.9	3	0111000111
001841−4444.7	CSRG 38	(R_1)SB0°	−2.0	0.53	0.40	56.0					1101111000
001842−5046.1	ESO 194−7	SA(rl)b: p	3.0:				0.28	0.26		2:	0111000110
002012−4851.5	ESO 194−13	SAB(r)c	5.0				0.40	0.29	19.3	2	0111000111
002017−6053.0	CSRG 39	(R′)SB(r)b p	3.0	0.64	0.48	92.8	0.29	0.26	81.3	2+	1222111221
002022−4532.8	NGC 98	SB(r)bc	3.5				0.48	0.39	2.0	4	0222000221
002045−3502.7	CSRG 40	SA(r)0/a	0.0				0.46	0.39		2	0111000110
002051−4406.3	CSRG 41	(R′)SA(s)a	1.0	0.47	0.26	50.6					1111111000
002125−3248.8	NGC 101	SAB(rs)c	5.0				0.50	0.39	4.9		0111000111
002128−5710.1	CSRG 42	SAB(r)0$^+$: p	−0.5:				0.29	0.21	41.0		0222000221
002144−5705.4	CSRG 43	SA(rs)ab	1.5				0.39	0.29		2	0222000110
002314−5728.0	ESO 150−7	SA(r)0/a	0.0				0.17	0.17		f	0111000110
002321−5825.8	CSRG 44	(R'_1)SB(r)a	1.0	0.46	0.34	80.2	0.28	0.16	−5.7	2	1111111111
002329−6236.4	ESO 79−1	SA(s)bc	4.0				0.56	0.30		2+	0333000110
002336−4223.6	CSRG 45	SAB(rs)ab:	2.0:				0.37	0.18		2:	0111000110
002358−5339.5	CSRG 46	SAB(rs)bc	4.0				0.27	0.21	9.0:	2+:	0111000111
002409−6020.0	CSRG 47	(R′)SA(s)b	3.0	0.54	0.37					2	2212220000
002410−6313.1	CSRG 48	SAB(rs)b: p	3.0:				0.48	0.39			0223000220
002423−2619.1	CSRG 49	SA:(r)a	1.0				0.21	0.20		2	0111000110
002442−4115.6	ESO 294−16	($R_1R'_2$)SB(s)ab	1.5	0.87	0.46	31.3				2	2222222000
〃	〃	〃		1.16	0.54	24.7					0000222000
002447−5924.5	CSRG 50	(R'_1)SB(s)a	1.0	0.42	0.40					2	1111110000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
002543−5822.8	ESO 112−4	S(r)c:	5.0:				0.49				0022000200
002556−4921.2	ESO 194−20	(R'_2)SB(s)b	3.0	0.84	0.59	26.0				2	1111111000
002617−3240.9	ESO 350−20	SB(rs)bc	4.0				0.28	0.23	37.3	2	0111000111
002622−6013.4	ESO 112−5	SB(r)c:	5.0:				0.39	0.36		3	0111000110
002719−5147.7	ESO 194−21	SB(rl)0°	−2.0				0.72	0.56	13.0		0111000111
002731−2050.1	CSRG 51	(R'_2)SB(s)b:	3.0:	0.50	0.21	10.1:				2	1111111000
002741−3709.4	ESO 350−22	SA(rs:)c	4.5				0.29	0.22			0222000110
002742−6219.0	CSRG 52	(R'_1)SB(s)0/a	0.0	0.41	0.21	69.7				2	1111111000
002806−5231.8	CSRG 53	(R)SAB(r)a	1.0	0.50	0.40		0.18	0.12			2212110110
002810−3206.5	ESO 410−14	(R'_2)SB(s)ab	2.0	0.84	0.31	4.0					1111111000
002833−5642.8	ESO 150−9	(R'_1)S(r)a	1.0	0.75	0.48						1011110000
002834−3605.3	ESO 350−25	(R'_2)SB(rs)ab	2.0	0.73	0.64	6.0	0.39	0.18	3.6		1111111111
002849−5045.7	CSRG 54	(R′)SB(s)0/a:	0.0:	0.41	0.34	71.8					1111111000
002902−4951.9	ESO 194−24	(R′)SAB(rs)c: p	5.0:	0.85	0.50		0.29	0.23		2	1111110110
002949−4139.5	ESO 294−21	SAB(rs)b	3.0				0.67	0.34	6.9	3:	0222000111
002954−3659.5	CSRG 55	SAB(rs)b	3.0				0.28	0.19		2	0111000110
002958−4226.9	ESO 294−22	(R′)SAB(rs)b	3.0	0.96	0.95		0.52	0.50		3+	1333110330
003040−3232.1	IC 1554	SB:(r:)0/a	0.0				0.67	0.38:	23.2:		0111000111
003050−6745.1	CSRG 56	(R)SB(s)0^+	−1.3	0.64	0.40	54.4					2213222000
003116−5304.7	CSRG 57	SAB(s)b	3.0				0.34	0.29	46.6	2+	0222000111
003129−5354.4	CSRG 58	(R′)Sb:	3.0:	0.45	0.18					2	1001110000
003144−2143.0	ESO 540−1	(R'_1)SB(rl)bc	4.0	1.12	0.76	61.9	0.45	0.36	1.0	2	1111111111
003147−2804.8	NGC 150	SB(rs)bc	4.0				1.74	0.62	81.0		0111000111
003157−4753.9	CSRG 59	(R′)SA(s)c	5.0	0.50	0.38						1111110000
003208−4355.9	ESO 242−14	(R)SAB(l)0°	−2.0	1.20	1.06	50.1	0.57	0.43	11.1		2222222222
003217−5603.9	NGC 159	(R)SB(r)0/a	0.0	0.95:	0.39	8.3	0.61	0.22	4.6		2122111111
003238−3735.8	CSRG 60	(R'_1)SB(rs)a	1.0	0.61	0.30	40.2	0.32	0.12	5.1	2	1111111111
003247−3750.0	ESO 294−23	(R_1)SB(r)a	0.5	1.12	0.82	73.0	0.53	0.39	−3.1	1	2222222222
003247−4415.6	ESO 242−16	(R_1)SB0^+	−1.0	0.85:	0.44	15.5					1101111000
003254−4421.4	ESO 242−17	(R)SAB(rs)b	2.5	1.06	1.05		0.30	0.28		4	2222220220
003308−5547.8	ESO 150−13	(R)SAB(rs)a	1.0	0.94	0.74	12.5	0.51	0.45	−51.5	2	2222221221
003310−2024.1	ESO 540−3	SA(r)b	3.0				0.45	0.21		2	0111000110
003344−3251.0	CSRG 61	(R′)Sa	1.0	0.51	0.29					2	1001110000
003346−5633.9	CSRG 62	(R'_1)SB(r)a: p	1.0:	0.63	0.34	80.5:					1111111000
003431−2945.2	NGC 174	SB(rs)0/a	0.0				0.84	0.35	20.8	2	0111000111
003444−4655.1	ESO 242−18	SAB(rs)cd	5.7				0.36	0.22		6:	0333000220
003450−5025.0	CSRG 63	SB(rs)dm	8.0				0.39	0.18	64.6:	2	0111000111
003452−2012.7	NGC 175	SB(r)ab	2.0				0.85	0.66	20.8	m	0111000111
003506−2249.4	NGC 177	SAB(r)b	3.0				1.15	0.26		2:	0111000110
003515−3359.5	ESO 350−40	RG		1.23	0.94		0.27	0.17			1000110110
003521−2655.4	ESO 474−7	SAB(r?)0^+	−1.0				0.55	0.47	28.8:		0111000111
003540−5224.1	CSRG 64	SA(rs)ab	2.0				0.28	0.18		2	0111000110
003551−5555.2	CSRG 65	SB(r)0°	−1.5				0.61	0.36	8.7		0222000222
003607−4716.3	CSRG 66	(R'_1)SAB(r)a	1.0	0.48	0.27	83.1	0.20	0.17	65.3	1	1111111111
003623−3905.5	CSRG 67	(R)SAB0^+	−1.0	0.34	0.32						1101110000
003644−5216.9	CSRG 68	(R′)SA(r)c: p	5.0:	0.78	0.56		0.17	0.15		1?	1111110110
003727−5053.1	CSRG 69	(R_1)SAB(r)0^+	−1.0	0.73	0.56	30.0	0.40	0.22	6.7		1111111111
003737−3052.3	ESO 411−6	SB(r)bc p	4.0				0.39	0.34	5.3	3	0111000111
003739−5216.7	CSRG 70	(R′)SA(s)b p	3.0	0.53	0.30					1	1111110000
003758−5102.4	CSRG 71	SAB(rs)c p	4.5				0.40	0.34			0222000110
003810−4615.6	ESO 242−24	(R'_1)SB(s)a	0.5	1.29	0.34	6.8				2	2222222000
003814−5532.9	CSRG 72	(R)S0°	−2.0	0.46	0.22						1001110000
003827−3044.1	CSRG 73	SB(r)d	7.0								0111000111
003833−6343.1	ESO 79−5	(PR?)SB(r)cd: p	6.0:								1111000222
003901−4526.2	CSRG 74	(R)SAB(r)0^+:	−1.0:	0.63	0.41						1111110110
003929−8150.5	ESO 12−22	SAB(rs)c	5.0								0111000110
003934−3852.1	CSRG 75	SA(rs)0/a	0.0								0222000110
003937−4810.8	ESO 194−28	(R'_2)SB(rs)ab	2.0	0.67	0.59	45.9					1111111111
003952−5100.3	CSRG 76	(R)SA0°	−2.0	0.61	0.60						1101110000
003957−5047.0	CSRG 77	SA(rs)0/a	0.0								0111000110
004009−4230.9	ESO 295−1	(R'_1)SB(s)bc:	4.0:	0.40	0.28	85.5					3333222000
004025−2349.1	NGC 235a	(R′)SAB(s)a	1.0	0.58	0.39	69.4					1111111000
004050−5653.2	CSRG 78	(R_1)SB0^+	−1.0	0.51	0.28	81.0					1101111000
004106−5536.1	ESO 150−20	(R′:)SA(r)bc	4.0	0.97	0.45						1222110220
004107−5027.5	NGC 238	(R′)SB(rs)b p	3.0	1.52	1.19	15.8					3333333331
004220−7651.8	ESO 29−7	(R'_2)SB(r)b	2.7	1.14	0.88	16.9					3333333333
004239−4829.8	CSRG 79	SA(rs)0^+	−1.0								0111000110
004306−2650.3	IC 1579	SB(r)bc:	4.0:								0111000111
004355−5550.5	ESO 150−22	(R′:)SAB(rs)bc	3.5	1.12	0.27						1222110220
004445−4859.5	ESO 194−38	SA(r)bc	4.0								0111000110
004447−4809.7	CSRG 80	(R_1)SB:0^+	−1.0	0.34	0.17	43.7:					1101111000
004447−5219.4	ESO 194−39	S(r)b p	3.0								0111000110
004456−5544.1	CSRG 81	SB(rs)m	9.0								0222000110
004502−3141.6	NGC 254	(R)SA(rl)0^+	−1.0	2.07	1.19						1111110110
004518−4243.6	CSRG 82	(R'_1)SB(r)a	0.5	0.53	0.42	82.5					2222222222
004523−5538.4	CSRG 83	(R)SA(r)0^+:	−1.0:	0.77:	0.61:						1222110220
004603−4808.8	ESO 195−2	SA(r)0^+ p	−1.0								0111000110
004701−4945.0	ESO 195−3	(R′)SA(rs)ab	2.3	1.35	0.69						3333330330
004711−7859.3	CSRG 84	SAB(r)b	3.3								0223000221
004716−4708.9	ESO 243−2	(R′)SAB(rs)bc	3.5	1.51	1.19						1222110110
004732−3954.6	ESO 295−10	(R)SAB(r)0/a	0.0	1.29	0.46						2122220110
004800−7854.1	CSRG 85	SA(r)ab	2.0								0111000110
004819−8139.9	CSRG 86	SB(r)ab p	2.0								0222000110
004827−5229.5	CSRG 87	(R)SB(rl)0°	−1.5	0.88	0.71	76.0					6666666664
004840−3241.6	ESO 351−11	S(r)0/a	0.0								0011000110
004841−5545.8	ESO 150−25	(R'_2)SB(rs)a	1.0	0.76	0.51	37.7					3333333222
004909−3755.6	CSRG 88	(R)SAB(rl)0^+	−1.0	0.95	0.61	3.4					1222111110
004950−2737.2	ESO 411−24	SB(rs)bc	4.0								0121000111
004955−5156.5	CSRG 89	SB(rs)b: p	3.0:								0222000111
005017−3128.6	NGC 289	SAB(rs)bc	4.0								0111000111
005041−5345.9	CSRG 90	(R_1)SB(r)0^+	−1.0	0.51	0.34	83.4					1111111111
005052−5243.6	ESO 151−1	(R'_1)SB(rs)a	1.0	1.06	0.23:	30.1					1333111333
005120−3736.1	CSRG 91	(R'_1)SB(s)ab	2.0	0.53	0.40	17.8					1111111000
005122−5822.8	IC 1597	(R′)SB(rs)b: p	3.0:	1.18	0.28						2122220220
005128−4755.1	IC 1594	SAB:(r)a:	1.0:								0111000110
005159−4714.0	ESO 243−10	(R'_1)SB(s)a	1.0	0.78	0.22	13.3					1111111000
005210−4817.7	ESO 195−13	SA(r)ab:	2.0:								0222000220
005210−6243.6	ESO 79−8	(R′)SAB(rs)bc	4.0	1.30	0.75	7.0					1333111111
005235−1916.6	ESO 541−1	SB(rs)bc	4.0								0111000111
005254−4411.2	ESO 243−11	(R_1)SAB(rs)0/a	0.0	1.06	0.51						2222220220
005316−6305.6	CSRG 92	SB(rs)a	1.0								0222000221
005356−5306.0	ESO 151−5	(R_1L,R'_2)SB(s)0/a	0.0	0.77	0.42	23.8					4444444000
〃	〃	〃		1.12	0.53	14.2					0000222000
005358−4720.1	ESO 243−12	(R)SAB(rl)0^+	−1.0	0.83	0.49	1.1	0.38	0.17	0.0		2222221221

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
005429−3214.0	NGC 314	(R)SB(r)0$^+$	−1.0	0.78	0.50	55.0	0.39	0.28	20.9		1111111111
005439−4406.5	NGC 319	(R$'_2$)SAB(s)a	0.5	0.72	0.67	72.1:				2	2222222000
005445−5311.6	NGC 328	SAB(rs)ab	2.0				1.03	0.29	5.3	2	0222000222
005450−6345.1	ESO 79−13	SAB(r)p					0.37	0.34			0110000110
005452−6848.4	CSRG 93	(R)SB(r)0$^+$	−1.0	0.75	0.63	10.0	0.42	0.21	5.0		1222111111
005459−5302.6	CSRG 94	(R:)SA(l)0°	−2.0	0.69	0.63		0.38	0.36			1111110110
005500−3114.2	ESO 411−33	SB(rs)bc	4.0				0.31	0.17	51.9	2	0111000111
005522−4910.3	IC 1605	(R$_1$R$'_2$)SB(r)b	3.0	1.34	1.01	44.7	0.60	0.40	−10.4	4	1222111222
〃	〃	〃		1.68	1.23	6.2					0000111000
005556−6035.8	CSRG 95	(R)SB0$^+$	−1.0	0.29	0.26	35.9:					1101111000
005652−6708.3	CSRG 96	SB(r)bc	4.0				0.22	0.13	38.0		0222000111
005809−6823.8	ESO 51−11	(R′)SA(r)ab p	1.5	1.96	1.65		0.31	0.28		2	2222220110
005852−6649.9	CSRG 97	SA(rs)0$^+$	−1.0				0.32	0.29			0222000110
005930−2110.2	ESO 541−10	SA(r)0/a: p	0.0:				0.32	0.27			0111000110
005933−5208.2	ESO 195−24	(R′)SA(rs)a	1.0	0.73	0.60	64.5	0.54			2+1	3333331100
010013−3920.3	ESO 295−29	(R′:)SA(r?)c?	5.0?	0.94	0.84		0.18	0.17			1111110110
010113−6123.9	CSRG 98	(R′)SAB(rs)bc	4.2	0.66	0.56		0.30	0.30:		2+2	2444110220
010117−4717.5	CSRG 99	(R$'_2$)SAB(rs)0$^+$	−0.5	0.64	0.52	1.9	0.39	0.16		2	2222221110
010156−5124.0	IC 1615	SB(r)bc	4.0				0.50	0.34	12.8		0112000111
010200−4025.0	ESO 295−31	(R$'_1$)SB(rs)b	2.7	0.94	0.60	44.2	0.50	0.35	23.9	2+1	3333333333
010205−4332.6	NGC 368	(R?)SA(rl:)0$^+$: p	−1.0:				0.48	0.44			1221000110
010206−5118.0	IC 1617	(R)S(r:)0$^+$ p	−0.5	0.75	0.39						2012220000
010212−6247.5	ESO 79−15	SAB(rs)c	5.0				0.27	0.25	89.7	4+	0333000321
010219−5143.6	ESO 195−29	SAB(rs)c	5.0				0.45	0.22		2+1	0111000110
010229−1940.4	CSRG 100	(R)SAB(l)0$^+$	−1.0	0.57	0.51	86.3					1111111000
010232−2741.8	IC 1616	SB(rs)bc	4.0				0.50	0.40	15.0	3	0111000111
010241−1801.5	NGC 369	SA(r)b:	3.0:				0.39	0.30		2	0111000110
010259−2317.3	ESO 475−9	(R$'_2$)SAB:(s)b	3.0	0.85	0.30	0.6?				2	1111111000
010307−4728.1	CSRG 101	(R)SB(r)0°	−1.5	0.87	0.75	61.9	0.46	0.35	4.1		2222222222
010314−5842.3	ESO 113−10	(R$_1$)SB(rl)0/a	0.0	0.76	0.62	6.8	0.42	0.19	5.6		2222222111
010327−5636.0	ESO 151−23	(R$'_2$)SB(s)ab	2.0	0.67	0.41	23.6				2	1111111000
010336−4839.9	CSRG 102	(R′)SB(rs)ab	2.0	0.58	0.56	61.2:	0.34	0.21	8.7:	4	1111111111
010422−5903.2	ESO 113−11	SAB(rs)c	5.0				0.28			3	0111000100
010428−4231.8	CSRG 103	(R′)SAB(s)c	5.0	0.46	0.40	6.5				2	4421333000
010447−6133.6	CSRG 104	(R′)SA(s)a:	0.7:	0.57	0.29					2	2323220000
010450−4216.5	ESO 295−37	SA(rs)c	4.7				0.31	0.22		2	0333000110
010454−4239.4	ESO 243−30	SAB:(rs)c	5.0				0.41	0.19		3:	0222000220
010501−3701.3	ESO 352−6	(R$'_1$)SB(rs)b	2.5	0.64	0.35	55.8				2	2122221000
010501−4209.5	CSRG 105	(R)SB(rl)0$^+$	−1.2	0.86	0.74	57.5	0.43	0.32	−6.1		2444222444
010511−4005.7	CSRG 106	(R$'_2$)SAB(s)b	3.0	0.49	0.41	6.8				2	3333333000
010512−1730.0	CSRG 107	(R$'_1$)SB(s)a:	1.0:	0.54	0.40	86.1				2	1111111000
010532−6136.4	ESO 113−12	(R$_2$)SB(s)0°	−2.0	0.84	0.59	40.8					2212222000
010551−8113.1	ESO 13−11	SAB(rs)c	5.0				0.29	0.26		2	0111000110
010558−4724.1	ESO 243−35	(RL)SB(rs)0°	−2.0	0.92	0.63	48.4	0.45	0.34	−1.6		3222222111
010606−4720.3	ESO 243−37	(R)SB(r)0$^+$	−1.0	0.96	0.75	8.7	0.53	0.37	5.7		2222222222
010607−5843.3	ESO 113−14	(R$'_1$)SB:(s:)0$^+$:	−1.0:	0.54	0.22					2?	1111110000
010619−6202.6	ESO 113−16	S(r)b:	3.0:				0.45	0.11			0011000110
010640−4724.7	ESO 243−42	(R)SB(r)ab p	1.5	0.56	0.50	57.6	0.30	0.19	11.8		2222222222
010641−4534.2	ESO 243−43	(R$_1$)SB0$^+$	−1.0	0.61	0.45	48.0					1101111000
010644−3733.4	ESO 296−2	(R$'_1$)SB(r)ab	2.0	1.32	1.21	60.2	0.80	0.38	2.3	2	3333332333
010646−4536.8	ESO 243−44	(R$'_1$)SB(rs)b	3.0	0.73	0.39		0.22	0.22		2	1111110110
010741−7446.8	ESO 29−34	(R)SB(r)b p	3.0	0.95:	0.74	80.5	0.39	0.29	9.8		1111111111
010743−4715.5	ESO 243−47	(R)SB(r)0$^+$	−0.5	0.82	0.67	6.9	0.38	0.25	6.0		2222222222
010800−4248.3	CSRG 108	SA(r)0°	−2.0:				0.37	0.28			0111000110
010804−5648.3	CSRG 109	(R$'_1$)SAB(s)a	1.0	0.36	0.29					2	2222220000
010804−6144.0	CSRG 110	SB(rl)0°	−2.0				0.50	0.39	6.4		0111000111
010820−3832.2	CSRG 111	SA(rs)c	5.0				0.22	0.17		2	0111000110
010854−1832.6	CSRG 112	SA(rl)0$^+$	−1.0				0.37	0.31			0111000110
010856−6739.9	CSRG 113	(R)SA(r)0$^+$ p	−1.0	0.78	0.69		0.39	0.32			2222220220
010910−3820.9	NGC 424	(R)SB(r)0/a	0.0	2.16	0.64	27.6	0.73	0.34	25.9	2	2122221221
010940−5249.8	ESO 151−29	(R$'_2$)SB(r)bc	4.3	0.73	0.64	3.6	0.25	0.19	−1.5	2	2333222333
010948−3230.4	ESO 352−18	SA(r)a	1.0				0.35	0.35			0111000110
010957−5032.1	CSRG 114	(R′)SABa	1.0	0.45	0.31					2	1101110000
010958−4711.9	CSRG 115	(R$'_1$)SB(l)0/a	0.0	0.58	0.51	50.4	0.37	0.20	0.0	2	1111111111
010959−3219.6	NGC 427	(R$_1$R$'_2$?)SB(r)a	1.0	0.86	0.49	40.1	0.33	0.18	12.7		1111111111
〃	〃	〃		0.89	0.56	28.6					0000111000
011006−1743.6	ESO 541−25	(R$'_2$)SB(s)ab	2.0	0.79	0.64	16.3				2	1111111000
011007−1916.8	CSRG 116	(R)SB0$^+$	−1.0	0.51	0.39	27.5					1101111000
011011−5040.0	IC 1650	SAB(rs)b	2.7				0.69	0.35	20.0	2i,4o	0333000331
011011−5443.4	ESO 151−32	SA(rs)bc:	4.0:				0.45	0.18		2:	0111000110
011013−5830.7	NGC 434	(R$_1$R$'_2$)SAB(s:)a	1.0	0.98	0.62	9.6					2212222000
〃	〃	〃		1.62:	0.74	−4.6					0000111000
011024−3822.7	CSRG 117	(R′)SA:(r)0/a:	0.0:	0.73	0.45:		0.32	0.16		2	1111110110
011026−4620.2	ESO 244−2	(RL)SA0°	−2.0	0.92	0.50						1101110000
011036−3142.9	ESO 412−16	(R$_1$?)SB(s)0/a:	0.0:	0.61	0.50	85.7				2	1111111000
011116−3810.0	NGC 438	(R$'_1$)SAB:(rs)b p	3.0	0.94	0.69					2+1	2222220000
011124−5234.0	ESO 151−34	(R$'_2$)SB(s)c p	5.0	0.96	0.61	40.6				2	1333111000
011125−3119.6	ESO 412−17	(R$_1$)SBa	1.0	0.73	0.50	75.7					1101111000
011131−3203.1	NGC 441	(R′L)SB(rl)0/a	0.0	0.89	0.67	50.0	0.55	0.48	8.6	2	1111111111
011147−3254.9	IC 1657	(R′)SB(s)bc	4.0	1.79	0.34	5.7				2	1111111000
011201−5811.9	ESO 113−27	(R′)SB(s)c	5.0	1.57	0.82	0.0				2	1222111000
011233−5947.4	ESO 113−28	(R$'_1$)SB(r)0/a	0.0	1.00	0.25	77.7	0.40	0.22	83.4	2	1111111111
011240−3230.4	ESO 352−28	(R)SB(rl)0/a	0.0	1.34	1.01	91.0	0.40	0.35	3.7		1111111111
011341−6131.4	ESO 113−30	(R′)SAB(rs)c	4.5	0.57	0.51	24.0	0.30	0.26		2	2222221110
011346−3245.3	CSRG 118	(R?)SABa:	0.5:	0.39	0.28	53.4					1102111000
011347−5027.2	ESO 195−35	(R$_1$)SB(l)0/a	−0.3	1.05	0.69	63.6	0.42	0.37	8.1	2	3333333332
011411−6153.2	ESO 113−32	(R′)Sab	2.0	0.93	0.28					2	1001110000
011439−3702.0	CSRG 119	(R′)SB(s)a:	1.0:	0.34	0.26	29.8				2	1111111000
011450−3717.3	CSRG 120	SAB(r)bc:	4.0:				0.28	0.26		4:	0111000110
011451−4426.7	ESO 244−10	SA(r)a	0.5				0.56	0.50		2:	0222000220
011515−6143.7	ESO 113−33	SA:(r)0$^+$	−1.0				0.44	0.12			0111000110
011516−5910.4	NGC 466	SA(rs)0$^+$ p	−1.0				1.24	0.90		1	0122000110
011516−7918.6	ESO 13−14	SA(rs)c	5.0				0.38	0.17		4	0111000110
011607−3848.8	CSRG 121	(R)SA(r)0$^+$	−1.0	1.30	0.93		0.50	0.37			1111110110
011616−5318.9	CSRG 122	(R′)SB:(s)b	3.0	0.41	0.11					2	1111110000
011619−1953.4	ESO 542−3	SA(r)0$^+$	−1.0				0.53	0.34			0111000110
011622−2412.5	ESO 475−16	(R?)SB(r)ab p	2.0	1.06	0.86	11.4:	0.74	0.34	4.4	2	1111111111
011639−6841.2	CSRG 123	(L)SB0°	−2.0	0.50	0.28	87.7					1101111000
011644−5859.6	ESO 113−35	SB(rs)0$^+$	−0.5				0.51	0.38	84.2		0222000111
011645−5333.3	ESO 151−40	SAB(s)c	4.5				0.50	0.47	0.0	4	0222000111
011713−5113.6	IC 1674	SA:(r)c	5.0				0.26	0.16		1+4?	0111000110
011723−5202.6	ESO 196−3	(R$'_2$)SB(rl)0/a	0.0	0.93	0.81	45.4	0.37	0.29	21.6	2	6666665333
011724−6818.5	CSRG 124	SA(r)d p	6.5				0.28	0.17		1	0112000110
011807−5005.5	CSRG 125	SAB(rl)0$^+$	−0.5				0.51	0.29	19.9		0222000222

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
011807−6008.2	ESO 113−37	SB(rs)ab	2.0				0.32	0.11	52.4	2	0111000111
011808−4423.4	ESO 244−17	(R:)SB(r)a p	1.0	1.12	1.05	26.8	0.73	0.51	4.6	1	1222111222
011823−5323.0	CSRG 126	(R'_1)SB(s)a	1.0	0.57	0.40	69.4				2	1111111000
011841−6224.1	ESO 113−39	(R)SB(l)0°	−2.0:	0.80	0.31	30.0	0.29	0.19	2.3		1111111111
011845−6135.1	ESO 113−40	(R′)SA$\underline{B}$(r)a	1.0	0.96	0.73	84.0:	0.35	0.30	28.4:	3	1222111222
011854−2303.8	ESO 476−5	SB:(r)bc	4.0				0.67	0.25	34.3:	2	0111000111
011937−4240.7	ESO 244−20	SB(rs)c	5.0				0.34	0.22	45.4	5	0111000111
011938−4419.1	ESO 244−21	SB(r)bc	4.0				0.48	0.34	14.8	3	0222000222
011947−3821.7	CSRG 127	SA(rs)0/a:	0.0:				0.51	0.37		2	0111000110
012117−5153.0	CSRG 128	(R'_2)S$\underline{A}$B(s)bc	4.3	0.67	0.32	8.0				2	3333221000
012130−2803.0	ESO 413−2	(R)SB(r)0$^+$	−1.0	0.89	0.67	1.8	0.52	0.39	1.3		1111111111
012132−5656.9	ESO 151−43	SAB(rs)c p	4.7				0.62	0.29	2.6	3:	0333000222
012201−3735.7	ESO 296−19	SA(rs)c	5.0				0.38	0.28		5	0111000110
012204−1547.9	MCG −3−4−61	(R)SAB(r)0/a	0.0	0.82	0.66	9.3	0.39	0.28	7.3		1111111111
012205−5514.5	CSRG 129	SA(r)ab:	2.0:				0.22	0.20		3	0111000110
012220−5147.2	CSRG 130	(R'_1)SB(s)0/a:	0.0:	0.35	0.18	86.7					1111111000
012223−3903.4	ESO 296−20	(R)SB0$^+$	−1.0	0.86	0.07	3.7					1101111000
012252−3816.0	ESO 296−22	(R′)SB(s)0/a:	0.0:	0.40	0.28	48.6				2	2212222000
012321−6851.6	CSRG 131	SB(r)0/a	0.0				0.35	0.30	67.5	2	0333000221
012331−6852.5	CSRG 132	SA$\underline{B}$(rl)0$^+$	−1.0				0.35	0.27	64.8		0333000222
012335−3921.9	ESO 296−28	($R_1R'_2$)S$\underline{A}$B(s)a	0.5	0.84	0.35	2.1				2	2222222000
〃	〃	〃		1.08	0.38	0.7					0000111000
012409−3851.2	CSRG 133	(R)SA(l)0° p	−2.0	1.84	1.57		0.96	0.78			1111110110
012410−2329.1	ESO 476−8	SA$\underline{B}$(r)bc	4.0				0.42	0.40		3:	0111000110
012411−3743.0	CSRG 134	(R)SA(rl)0°	−2.0	1.84:	1.57:		1.01	0.89			1111110110
012448−2301.3	NGC 555	(R:)SB(r)0/a	0.0	0.63	0.56	31.8	0.34	0.28	−3.7		1111111111
012509−4419.4	CSRG 135	(R_1)SB0$^+$:	−1.0:	0.63	0.39	49.5					1101111000
012510−4005.5	CSRG 136	(R)SB?0$^+$:	−1.0:	0.40	0.18						1101110000
012515−5836.8	ESO 113−48	SA(nr)bc	4.0				0.22	0.17		2	0111000110
012536−3917.4	CSRG 137	(R_1)SAB:(l)0$^+$	−1.0	0.40	0.30	73.9:	0.21	0.15	0.0:		1111111111
012553−5056.6	ESO 196−5	(R'_2)SB(r)b	3.0	0.84	0.82	97.0	0.38	0.28	20.6		2222221222
012607−3614.9	ESO 353−5	SA?(rl?)0$^+$:	−1.0:				0.89	0.39			0111000110
012623−3933.9	NGC 572	(R'_2L)SB(s)0$^+$	−1.0	0.67	0.66					2	1111110000
012631−6806.1	CSRG 138	(R)SA(r)0$^+$	−1.0	0.96	0.56		0.29	0.28			1111110110
012647−3551.4	NGC 574	(R'_1)SB(r$\underline{l}$)b	3.0	1.12	0.61	40.3	0.41	0.28	12.0:	2	1111111111
012655−5151.4	NGC 576	(R′)SB(r$\underline{l}$)0/a	0.0	1.39	0.98	51.8	0.48	0.40	30.2		2222222222
012738−3836.0	ESO 296−33	SB(rs)c p	5.0				0.35	0.34			0111000110
012741−4234.9	ESO 244−30	(PR?)		0.61	0.50						1000110000
012755−4256.6	ESO 244−31	SA(rs)c	5.0				0.25	0.23		5+	0222000220
012805−2702.3	ESO 476−16	SB(r)bc	4.0				0.41	0.29	35.5	2+2	0222000111
012817−4133.2	ESO 296−34	(R'_1)SA$\underline{B}$(rs)a	0.5	0.95	0.78	49.0	0.61	0.26	0.0	2	2222111111
012828−3758.7	ESO 296−35	SA$\underline{B}$(rs)bc	4.0				0.85	0.55	2.6	4	0111000111
012829−2737.3	ESO 413−8	(R'_1)SB(r)0/a	0.0	0.84	0.40	63.4	0.28	0.17	30.6		1111111111
012837−4243.1	ESO 244−32	SAB?(r)0$^+$?	−1.0?				0.50	0.17			0111000110
012948−6201.2	CSRG 139	SAB(rs)c	5.0				0.34	0.32		2	0222000110
012951−4156.8	CSRG 140	(R)SAB0° p	−2.0	1.05	1.03						1101110000
013004−5407.1	ESO 152−7	SA(r)c	5.0				0.22	0.18		2+2	0111000110
013015−3856.2	ESO 296−38	S$\underline{A}$B(rs)c	5.0				0.51	0.40	86.9	4:	0111000111
013051−5620.1	CSRG 141	(R'_2)SB(s)ab	2.0	0.39	0.34	58.4				2	1111111000
013102−6953.1	ESO 52−6	SA(rs)bc: p	4.0:				0.25	0.22		6	0111000110
013149−3942.6	CSRG 142	S$\underline{A}$B(r)c	5.0				0.22	0.18		2	0111000110
013153−3834.4	ESO 297−2	(RL)SB0°	−2.0	0.89	0.18	11.6					1101111000
013159−2940.5	NGC 613	SB(rs)bc	4.0				2.40	1.23	5.2	4	0111000111
013237−4726.4	ESO 244−34	(R′L)SA(r)0$^+$	−1.3	0.72	0.63		0.33	0.23			3213330110
013238−3644.6	NGC 619	(R'_1)SAB(r$\underline{s}$)b	3.0	1.45	0.78		0.67	0.50			1111110110
013238−7943.8	ESO 13−16	SB(r$\underline{s}$)cd	6.0				0.84	0.78		4	0111000110
013243−6203.8	ESO 113−53	(R'_1)SB(r$\underline{s}$)a	0.7	0.85:	0.58	3.2	0.38	0.19	6.1	2	3333333333
013300−3924.2	NGC 626	SA$\underline{B}$(rs)bc	3.5				0.53	0.47	50.2	8	0222000222
013319−3938.5	ESO 297−8	($R'_1R'_2$)SB(r$\underline{s}$)ab	1.5	1.10	0.92	51.2	0.61	0.45	7.8		2222222222
〃	〃	〃		1.73	1.20	22.6					0000222000
013339−5354.7	CSRG 143	SAB(r)bc	4.0				0.18	0.17		3	0111000110
013359−4040.9	CSRG 144	(R_1)S$\underline{A}$B(r)0$^+$	−1.0	0.57	0.40	67.8:	0.23	0.18	−3.7:		1111111111
013411−3734.7	NGC 633	(R′)SAB:(rs)b p	3.0	2.06	1.51		0.44	0.37		2	1111110110
013417−4250.9	ESO 244−36	(R)SA(rs)b p	3.0	1.17	0.58		0.61	0.29			3333330330
013419−4659.6	CSRG 145	(R)S$\underline{A}$B(r)0$^+$	−1.0	0.63	0.51	4.6	0.39	0.18	4.6		1111111111
013443−5438.6	ESO 152−15	SA$\underline{B}$(rs)a p	1.0				0.40	0.28	40.6	1	0111000111
013447−8526.0	ESO 3−1	(R_1)SB(r$\underline{l}$)0/a	0.0	1.25	1.07	84.0	0.65	0.42	3.8		2222222222
013500−6240.8	CSRG 146	(R)SA$\underline{B}$(r)0$^+$	−1.0	0.79	0.73	3.7	0.48	0.28	2.8		3333332333
013526−4255.6	ESO 244−39	(R:)SB(r$\underline{l}$)0/a	0.0	1.52	0.89:	1.7:	0.81	0.30	−1.0:		1222111221
013529−4940.7	CSRG 147	S$\underline{A}$B(r$\underline{s}$)0/a	0.0				0.42	0.26	65.4	2	0111000111
013553−3306.5	ESO 353−28	(R)SB(r)0/a	0.0	0.60	0.41	39.5	0.29	0.15	34.3	2	1111111111
013556−6107.1	ESO 114−1	SAB(r)ab p	1.5				0.63	0.26		1	0222000220
013631−3204.5	ESO 413−12	SA(r)0/a	0.0				0.41	0.22		2	0222000220
013650−4705.4	ESO 244−44	(R'_2)SB(s)b	2.7	1.58	0.57	3.4				2	3333333000
013653−5003.0	ESO 196−14N	(RL)SB:0°	−1.5	0.75	0.18	67.2:					2202222000
013658−4223.2	CSRG 148	(R'_1)SB(s)b	3.0	0.64	0.41	77.0				2	1111111000
013659−6632.9	CSRG 149	(R'_1)SB(s)ab	2.0	0.59	0.37	66.6				2	1111111000
013711−4817.2	CSRG 150	(R′)SA(s)0/a	0.0	0.59	0.53					1i,2o?	1111110000
013716−4024.0	CSRG 151	(R'_1)SB(s)c p	5.0	0.61	0.29	62.3				3	1111111000
013721−5114.8	ESO 196−15	SA:(r)b: p	3.0:				0.34	0.14		2	0111000110
013724−4938.1	ESO 196−16	(R′:)SB(s)0/a	0.0	0.63	0.50	0.0					1222111000
013742−2817.3	ESO 413−18	(R)SB(r)a	1.0	1.73	0.28	4.6					1111111000
013751−5632.5	CSRG 152	SA(r$\underline{s}$)b p	3.0				0.50	0.29		1	0111000110
013837−3718.0	CSRG 153	RG?		0.39	0.27						1000110000
013927−4628.0	ESO 245−1	($R_1R'_2$)SB(s)a	1.0	0.73	0.56	35.6				2	1111111000
〃	〃	〃		0.96	0.72	7.4					0000222000
013952−6232.3	CSRG 154	SB(r)b	2.5				0.22	0.19	3.9	2	0222000111
014013−4022.0	CSRG 155	SAB?(r$\underline{s}$)bc: p	4.0:				0.29	0.12:		2:	0111000110
014015−4746.9	ESO 196−19	(R'_2)SB(s)a p	1.3	1.07	0.60	4.4				2	3333333000
014018−1828.8	ESO 543−12	(R'_1)SB(s)ab:	2.0:	1.01	0.48	22.0				2	1111111000
014021−5831.8	CSRG 156	(R′)SAB:(s)b:	3.0:	0.39	0.17					2	1111110000
014021−8337.0	ESO 3−3	SAB(rs)c	5.0				0.45	0.22			0111000110
014029−4023.1	CSRG 157	(R)S0$^+$	−1.0	0.39	0.22						1001110000
014132−3620.4	ESO 353−40	(R)SB(r′l)0$^+$	−1.0	1.34:	0.67	87.6:	0.67	0.39	58.0:		1111111111
014143−7924.6	ESO 13−19	(R'_1)SB(s)ab	2.0	0.75	0.22	50.2				2	1111111000
014217−3847.3	ESO 297−22	(R'_1)SB(s)b	3.0	0.45	0.22	39.4				2	1111111000
014218−4205.0	CSRG 158	(R'_1)SB(s)ab	2.0	0.45	0.34	80.1				2	1111111000
014220−4054.9	ESO 297−23	SA$\underline{B}$(rs)b	2.5				0.45	0.15		2:	0122000110
014239−3833.6	CSRG 159	(R'_1)SB(r$\underline{s}$)a	1.0	0.73	0.45	47.4	0.37	0.21	−10.8	2	1111111111
014245−3859.0	ESO 297−25	(R_1)SB0/a?	0.0?	0.84	0.60	23.0					1101111000
014303−4207.8	ESO 297−27	SA(r$\underline{s}$)b	2.7				0.60	0.37		1i,2o	0333000220
014325−3446.5	ESO 353−42	(R′)SA(rs)b	3.0	1.17	0.85		0.60	0.46		2	1111110110
014332−4059.0	CSRG 160	(R′)SB(s)a	1.0	0.49	0.48					2	1111110000
014346−4145.3	CSRG 161	(R′)SB(rs)b:	3.0:	0.39	0.29	72.6:	0.26	0.11	−7.2	2	1111111111

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
014356−4306.6	CSRG 162	(R'_2)SB(s)b	3.0	0.55	0.27	14.7				2	1111111000
014420−2537.2	ESO 477−3	SA(r)b:	3.0:				0.34	0.22		f	0111000110
014440−3410.3	ESO 353−45	SB(rs:)ab	2.0				0.34	0.25:	20.6	4	0111000111
014453−4042.4	CSRG 163	SAB(rs)bc	4.0				0.28	0.25		2	0111000110
014502−3024.0	CSRG 164	SA<u>B</u>(<u>r</u>s)b p	3.0				0.35	0.31	68.6:		0222000221
014541−6126.3	ESO 114−8	(R′)SB(s)0/a	0.0	1.25	0.27	1.5				2	2212222000
014549−5300.6	NGC 685	SB(<u>rs</u>)d	7.0				0.74	0.56	4.2	4	0333000111
014630−2912.6	ESO 414−3	(R'_2:)SB?(s:)b	3.0	0.78	0.29	4.6?					1111111000
014643−4853.8	NGC 692	(R′:)S<u>A</u>B(rs)b	3.0	2.07	1.68		0.89	0.88		4+1	1333110330
014703−3259.5	IC 1734	SB(r)c	5.0				0.51	0.39	4.5	3	0111000111
014726−5030.0	CSRG 165	(R'_2)SB(s)0/a	0.0	1.06	0.79	13.4				2	1111111000
014731−3504.7	NGC 698	(R)SA(r)b	3.0	0.78	0.72		0.49	0.45		2	1111110110
014734−2742.8	NGC 689	(R'_1)SB(r)b	3.0	0.63	0.39	6.7	0.37	0.18	10.1	2	1111111111
014740−5618.0	ESO 152−26	($R_1R'_2$)S<u>A</u>B(r)ab	2.0	1.23	0.73	71.4	0.47	0.35	54.1		1111111222
〃	〃	〃		1.93	1.07	63.6					0000111000
014820−5618.9	CSRG 166	SAB(rs)c:	5.0:				0.36	0.29	65.4	2	0111000111
014828−4724.7	ESO 245−6	(R′)SA(s)0/a	0.0	1.84	1.27					2	1111110000
014847−5316.5	CSRG 167	(R'_1)SB(s)a	1.0	0.39	0.27	89.9				2	1111111000
014854−4739.9	CSRG 168	SB(rs)bc	4.0				0.27	0.19	8.0	2	0222000111
014931−3626.1	ESO 354−4	(R′:)SA(<u>r</u>s)b	3.0	1.05	0.70		0.74	0.49		2	1111110110
015008−4304.4	CSRG 169	(R'_1)SB(s)ab	2.0	0.41	0.34	38.4				2	1111111000
015126−2400.2	NGC 723	SA(r)bc	4.0				0.40	0.39		m	0111000110
015128−6242.5	CSRG 170	SA<u>B</u>(rs)c	5.0				0.36	0.23	0.0:	4	0222000221
015130−3525.5	ESO 354−9	(R'_1)SB(s)ab	2.0	0.73	0.27	90.0					1111111000
015138−3606.1	NGC 727	(R)SAB:(rs)a	1.0	1.19	0.82		0.63	0.45:			1111110110
015141−5620.4	CSRG 171	(R′)SA<u>B</u>(s)a	1.0	0.55	0.38	3.1				3	1111111000
015207−3801.9	ESO 297−32	(R'_2)SB(s)a	1.3	1.08	0.65	2.9				2+2	3333333000
015238−7248.3	CSRG 172	(R)SAB0$^+$	−1.0	0.39	0.32	44.7					1101111000
015254−5554.5	ESO 152−34	SB(l)0°	−2.0				0.45	0.29	23.6		0111000111
015305−7720.8	CSRG 173	(R′)SAB(s)c	5.0	0.48	0.17	20.6				2	1111111000
015307−6221.0	ESO 114−14	SA(rs)b	3.0				0.46	0.46:			0222000110
015319−7829.1	ESO 13−24	(R′)S(r)b	3.0	1.11	0.25		0.39	0.11		2	1011110110
015326−3010.0	NGC 749	(R'_1)SB(s)0/a	0.0	1.23	0.95	7.6				2	1111111000
015347−8152.6	CSRG 174	SA(r)bc p	4.0				0.22	0.17		1	0222000110
015419−4546.8	CSRG 175	SA(rs)a:	1.0:				0.34	0.28			0111000110
015457−4029.5	CSRG 176	(R'_1)SB(s)a	1.0	0.48	0.40	45.8				2	1111111000
015504−7918.9	CSRG 177	SA(r)ab:	2.0:				0.26	0.22		2	0111000110
015556−5802.0	NGC 782	SB(r)b p	3.2				0.84	0.70	15.0	3	0444000444
015600−3917.1	CSRG 178	SA(r)0/a: p	0.0:				0.34	0.28		2	0111000110
015606−3947.3	ESO 297−37	SB(rs)b:	3.0:				0.89	0.25	4.2	3	0111000111
015615−2632.1	NGC 775	SA(r)cd	6.0				0.28	0.22		3	0111000110
015616−4007.3	CSRG 179	(R:)SA(rs)a	1.0	0.94:	0.60:		0.34	0.26			1111110110
015617−6127.3	ESO 114−16	SB(r)ab	2.0				0.84	0.67	77.3	5	0222000222
015643−4017.7	ESO 297−38	S<u>A</u>B(<u>rs</u>)bc	4.0				0.36	0.20		3:	0111000110
015712−7823.9	CSRG 180	($R_1R'_2$)SB0/a	0.0	0.49	0.32	45.0				2	1101111000
〃	〃	〃		0.82	0.36	14.7					0000111000
015713−5224.8	ESO 197−15	(L)SAB0°	−2.0	0.76	0.61	12.7					1101111000
015750−5635.7	ESO 153−7	SA(<u>rs</u>)c p	5.0				0.48	0.34		4	0111000110
015814−6801.7	ESO 52−14	(R'_2)SB(s)a	1.0	1.05	0.50	5.2				2+	1111111000
015850−4141.0	CSRG 181	(R′?)Sab:	2.0:	0.41	0.22					2	1001110000
015859−3832.6	CSRG 182	SB(rs)m	9.0				0.39	0.27	77.9	1+	0111000111
015901−3158.2	ESO 414−22	(R_1)SB:(rs)a	1.0	0.63	0.55	80.2	0.31	0.20			1111111110

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
015929−7650.3	CSRG 183	SA(r)bc:	4.0:				0.23	0.16		2	0111000110
020004−3937.8	ESO 298−2	(R′)S<u>A</u>B(<u>rs</u>)b	3.0	1.00	0.67		0.51	0.32			1111110110
020006−5837.1	ESO 114−19	(R'_2)SB(s)a p	1.0	0.81	0.39	26.2				2	2212222000
020035−4302.2	ESO 245−12	(R'_1)SB(r)a	1.0	1.42	0.61	75.6	0.44	0.33	34.8	2	3333333333
020122−4358.8	ESO 245−13	SB(rs)cd	6.0				0.28	0.22	14.5:	3:	0111000111
020137−2333.2	NGC 808	(R′)SAB(<u>rs</u>)bc	4.0	1.01	0.49						1111110000
020200−6105.5	ESO 114−23	(R′)S<u>A</u>B(r)a	0.5	1.18	0.59	10.2	0.39	0.21	6.6	2+2	2222221221
020240−4147.0	CSRG 184	SA(r)0$^+$	−1.0				0.29	0.25			0111000110
020314−5743.4	ESO 114−24	(R′:)SB(<u>r</u>l)b	2.5	0.89	0.61	70.0	0.39	0.31	3.3	2+2	1222111222
020317−6954.1	ESO 52−18	S(r)0/a:	0.0:				0.39	0.17			0011000110
020321−5521.0	ESO 153−17	SAB(r)bc	4.0				0.50	0.35	4.8	3+	0222000222
020334−3254.9	ESO 354−34	(R)SAB(l)0$^+$	−1.0	0.66	0.60	89.8:	0.26	0.20	5.6:		1111111111
020342−6001.0	ESO 114−25	(R′)SB(s)m	9.0	0.45	0.31						1111110000
020343−4016.7	ESO 298−6	(R′)S<u>A</u>B(s)b	3.0	0.89	0.72					2	1111110000
020413−4145.6	ESO 298−8	S<u>A</u>B(<u>rs</u>)c	4.5				0.58	0.31		6:	0222000220
020420−5525.8	ESC 153−20	(R'_1)SB(rs)ab	2.0	1.48	0.70	75.2	0.65	0.61	30.0:	2+2	2222222221
020425−3201.0	ESO 414−31	SA(r)b	3.0				0.44	0.18:			0111000110
020445−3641.4	NGC 824	SB(<u>rs</u>)b	3.0				0.47	0.44		3+	0111000110
020504−5710.4	ESO 153−23	(R'_2)SB(rs)0/a	0.2	0.95	0.58	3.0	0.52	0.32	7.9	2	4444444333
020505−5248.9	ESO 153−24	(R)S<u>A</u>B(rs)a: p	1.3:	0.55	0.48		0.37	0.34			3323330110
020530−4101.0	CSRG 185	(R′)S(rs)b	3.0	0.49	0.22		0.22	0.17			1011110110
020541−3526.3	ESO 354−41	(R′)S(r:)a	1.0	0.92	0.28		0.40	0.22			1011110110
020553−2852.5	ESO 414−32	SB:(r)a	1.0				0.40	0.17	21.3:		0111000111
020600−1738.3	MCG −3−6−8	(R′)S<u>A</u>B(s)0$^+$	−0.5	0.51	0.47						2212110000
020716−5658.4	NGC 852	(R′)S<u>A</u>B(rs)bc	4.0	1.52	0.96		0.45	0.39	13.3	6	1444110442
020806−2217.4	NGC 836	(R′)SA(s)0/a	0.0	1.51	1.13						1111110000
020836−4109.2	ESO 298−15	SB(<u>rs</u>)d p	6.5				0.81	0.45	14.2	2	0222000222
020847−5404.3	ESO 153−27	(RL?)SA(r)a	0.5				0.52	0.17	5.3:		1122000221
020923−3604.3	NGC 854	SA:(<u>rs</u>)b:	3.0:				0.67	0.28			0111000110
020925−1830.1	ESO 544−20	SB(r)b?	3.0?				0.73	0.23	31.6		0111000111
021012−5031.2	ESO 197−29	(PR?)		1.06	0.28						1000110000
021023−7516.4	ESO 30−9	(R′)S<u>A</u>B(rs)b	3.0	2.68	0.56		1.41	0.48		fi,2o	1111110110
021026−3210.7	NGC 857	SA(rl)0$^+$	−1.0				0.67	0.51			0111000110
021046−2243.5	ESO 478−14	(R'_1)SB:(r)ab:	2.0:	0.68	0.26	53.3:	0.34	0.17	45.0:	2	1111111111
021128−6201.6	ESO 114−31	SAB:(r)a: p	1.0:				0.39	0.17			0111000110
021135−3958.5	ESO 298−21	(RL)SB0$^+$	−1.0	1.16	0.26	4.2					2202222000
021151−5655.8	CSRG 186	(R'_1)SB(rs)b	3.0	0.63	0.38	51.0	0.36	0.20	7.4	2+2	3333333333
021231−5455.1	ESO 153−29	(R′:)SAB(<u>rs</u>)c	4.5	0.94:	0.84:		0.59	0.35	7.2	2:	1222110221
021231−6007.4	ESO 114−33	SAB(rs)a	1.0				0.30	0.22	12.0:		0222000111
021232−2504.9	ESO 478−15	(R'_2)SB(s)b p	3.0	0.56	0.50	66.9					1111111000
021401−4549.9	ESO 246−4	(R)SB(r)0$^+$	−1.0	1.06	0.78	18.7	0.49	0.35	−5.0		1111111111
021446−6320.2	CSRG 187	(R)SB0$^+$: p	−1.0:	0.55	0.39	4.5					1101111000
021504−3314.6	ESO 355−2	(R′)SA(r)ab	2.0	1.23	0.73		0.50	0.50		2	1111110110
021622−2243.5	ESO 478−24	SB(rl:)0$^+$	−1.0				0.50	0.31	6.2		0111000111
021637−5028.3	CSRG 188	SB(r)b:	3.0:				0.31	0.26	25.1	6+	0111000111
021712−6117.5	ESO 115−4	SA(<u>rs</u>)bc	3.5				0.64	0.45		2	0222000220
021733−3802.9	ESO 298−28	SA(<u>rs</u>)b	3.0				0.89	0.56		6:	0111000110
021748−6616.2	ESO 81−6	(R′)SB(s)ab p	2.0	1.03	0.90	55.5				2	2222221000
021749−4829.2	CSRG 189	(R'_2)SB(s)a	1.0	0.54	0.27	7.9				2	1111111000
021758−6501.9	CSRG 190	(R′)SB(s)a	1.0	0.61	0.38	29.9				2	1111111000
021803−8356.1	CSRG 191	(R'_2)SB(s)b	3.0	0.59	0.45	82.6				2	1111111000
021825−1852.3	ESO 545−6	(R'_2)SB(s)b	3.0	0.66	0.54	67.4				2	1111111000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
021858−3357.0	NGC 897	SA(rs)a	1.0				1.21	0.84		2	0111000110
021913−4213.8	ESO 298−31	(R)S(r)ab	2.0	1.57	0.56		0.51	0.13			1012110110
021927−2730.4	ESO 415−22	(R′)SB(r)b	3.0	1.07	0.73	66.3	0.40	0.29	19.5	2	1111111111
021955−3741.0	ESO 298−36	SAB:(rs:)bc	3.5				0.50	0.17			0112000110
022048−4135.9	IC 1796	(R?)SB0$^-$	−3.0	1.23:	1.06:						1101110000
022123−1726.3	CSRG 192	(R'_2)SB(r)0/a	0.0	0.73	0.70:		0.30	0.28			2222110110
022145−4013.4	CSRG 193	(R_1)SB0$^+$	−1.0	0.63	0.45	52.0	.				1101111000
022208−5819.1	CSRG 194	SB(rs)a:	1.0:				0.39	0.23	18.1:		0111000111
022312−6520.1	CSRG 195	(R′)SB(s)b	3.0	0.46	0.32	28.1				2	1111111000
022342−2456.3	ESO 479−2	(R′:)SB(r)a	1.0				0.56	0.29	7.4	2	1111000111
022342−3831.5	ESO 299−3	SB(rs)d? p	7.0?				0.42	0.22	2.8:	1+1?	0111000111
022608−5056.1	ESO 198−11	(R′)SB(s)b	3.0	0.70	0.26	24.2					1222111000
022613−1915.8	NGC 947	SA(r)c	5.0				0.45	0.28		2	0111000110
022640−2234.4	NGC 951	SB(rs)a	1.0				0.59	0.46	50.5	2	0111000111
022651−4317.8	ESO 246−15	(R'_2)SAB:(rs:)b	2.5	1.00	0.40					2	2222220000
022722−3328.1	ESO 355−19	(R'_2)SAB(r)ab	2.0	1.01	0.61	10.8	0.43	0.28	11.4	2	1111111111
022728−4842.7	ESO 198−13	(R)SA(r)ab	2.0	2.29	1.68		0.78	0.60			2222220220
022731−4317.8	IC 1810	(R)SAB(rs)b	3.0	1.34	1.13:		0.73	0.51		4i	2222220220
022748−4851.2	ESO 198−14	(R'_1)SB(s)b	2.5	0.56	0.22	33.2				2	2212222000
022819−4308.8	CSRG 196	SAB(rs)a	0.5				0.50	0.41	41.5	2	0222000222
022832−3429.1	IC 1811	SB(r)a	1.0				0.46	0.34	69.5	2	0111000111
022833−4314.9	ESO 246−21	(R′)SB(r)bc	3.5	2.07	1.29	32.5	0.63	0.47	24.1	6	1222111222
022842−1801.0	CSRG 197	SA(r)0$^+$:	−1.0:				0.21	0.21			0111000110
022845−1933.2	ESO 545−26	SAB(r)bc	4.0				0.32	0.27	1.0	3+	0111000111
022848−5823.4	ESO 115−13	SAB(r)bc	3.5				0.41	0.37	62.9	2	0222000221
022900−2041.3	ESO 545−27	(R'_1)SB(rs)a:	1.0:	0.89	0.61	72.7	0.34	0.32		2+	1111111110
022941−5808.3	ESO 115−15	SB(r)ab	1.5				0.45	0.11	90.0:		0122000221
022945−4444.7	NGC 979	(R)SB(rl)0°	−2.0	1.48	0.96	79.5	0.65	0.65			2222222220
022948−3653.5	IC 1816	(R′L)SA:(s:)a	1.0	1.05	0.95					2	1111110000
022955−5758.7	ESO 115−16	(R)SB(s)0/a	0.0	0.64	0.55	64.5					1222111000
023008−2042.2	CSRG 198	SB(rs)d:	7.0:				0.39	0.28	87.0		0221000111
023028−3850.8	CSRG 199	(R′)Sb	3.0	0.53	0.29					2	1001110000
023102−4643.1	CSRG 200	SB(r)a: p	1.0:				0.26	0.22		2:	0111000110
023131−4344.3	ESO 246−25	(R'_1)SB(r)a p	1.0	1.31	0.84	62.8	0.50	0.38	0.2	2+1	2222222222
023134−3915.9	NGC 986	(R'_1)SB(rs)b p	2.5	3.44	2.49	66.7	1.65	1.07	−12.8	2	2222222222
023138−2115.7	ESO 545−36	(R′?)SA(s)a p	1.0	0.69	0.68					1	1111110000
023223−5917.0	CSRG 201	SAB(r)ab	1.5				0.29	0.23	20.6:	2	0322000222
023226−5913.3	CSRG 202	(R′)SAB(rs)a	1.0	0.52	0.37:		0.35	0.17		2	2222220220
023308−2544.8	ESO 479−15	SB(rs)bc	4.0				0.28	0.18	18.4	4	0111000111
023340−4825.6	ESO 198−19	(R)SA(r)0$^+$	−0.5	0.81	0.49		0.39	0.26		2	2222220220
023420−4826.5	CSRG 203	SB(rs)b: p	3.0:				0.34	0.23	1.4	2	0111000111
023431−4214.8	CSRG 204	(R'_1)SB(s)a	1.0	0.49	0.23	63.4:				2	1111111000
023505−5504.6	NGC 1031	S(r)a	1.0				0.62	0.23			0011000110
023513−2033.2	CSRG 205	(R'_1)SB(rl)a	1.0	0.67	0.55	86.0	0.36	0.23	−1.4	2	2222111111
023519−4459.1	CSRG 206	SB(r)b	3.0				0.32	0.28	89.5	4	0222000222
023530−3308.5	ESO 355−30	SB(rs:)bc:	4.0:				0.84	0.34	10.5	2	0111000111
023543−5527.5	CSRG 207	SA(r)0$^+$	−1.0				0.39	0.29			0111000110
023652−2739.6	IC 1830	SAB(rs)0$^+$	−1.0				0.80	0.73	15.1		0111000111
023709−5212.1	CSRG 208	(R'_2)SB(s)0/a	0.0	0.65	0.23	1.3				2	2212222000
023801−1744.7	CSRG 209	(R′)SB:(s)b	3.0	0.34	0.11						2222110000
023928−2823.1	IC 1833	SAB(l)0°	−2.0				0.95	0.44			0111000110
023938−2110.6	ESO 546−8	(R′)SB(r)b	3.0	0.74	0.61:	67.5	0.32	0.27	29.5		1111111111
023941−2130.0	ESO 546−9	(R'_2)SB(s)dm:	8.0:	0.87	0.73	16.6				2	1111111000
024039−2539.9	ESO 479−26	(R′)SB(rs)a	1.0	0.84	0.45	55.0	0.40	0.27	65.5	2+	1111111111
024108−6247.8	ESO 82−2	(R′)S(r)a:	1.0:	0.74	0.26		0.34	0.15		2	1011110110
024111−5502.8	CSRG 210	(R'_2)SB(s)ab	2.0	0.46	0.37	1.6				2	1111111000
024135−2912.9	NGC 1079	($R_1R'_2$)SAB(r′l)a	1.0	3.58	1.98	56.6	1.34	0.73	33.4	2	1111111111
″	″	″		5.20	2.96	42.8					0000111000
024230−5203.3	ESO 198−28	(R'_1)SB(s)a	1.0	0.84	0.45	53.9				2	2222222000
024231−6007.4	NGC 1096	SB(rs)c	4.5				0.66	0.46	7.5	2+2	0222000222
024258−1755.1	NGC 1099	SB(rs)ab	2.0				0.74	0.37	55.5		0111000111
024316−1753.8	NGC 1100	SA(r)a	1.0				0.63	0.22			0111000110
024340−5557.0	ESO 154−10	(R'_1)SB(r)ab	1.5	2.18	0.73	65.0	0.89	0.49	55.2	2	2222222222
024355−3221.8	ESO 416−18	(R)SAB(s)0/a:	0.0:	2.46	0.95						1111110000
024401−2631.0	ESO 479−35	(R)SA(r)a	1.0	0.85	0.56		0.49	0.32			1111110110
024411−3028.9	NGC 1097	(R'_1:)SB(r′l)b p	3.0	7.38:	5.14	55.0:	3.38	2.19	3.5		1111111111
024418−2627.5	ESO 479−37	(R′:)SA(rs:)bc p	4.0	1.62	1.06		1.12	0.52			1111110110
024500−7021.9	CSRG 211	SAB(rs)ab:	2.3:				0.32	0.29	49.0	2	0223000111
024501−3141.6	ESO 416−21	($R_1R'_2$)SB:(l)a	1.0	0.67	0.42	71.7:	0.28:	0.19:	37.0:	2	1111111111
″	″	″		0.78	0.66	62.2:					0000111000
024509−2228.5	ESO 546−20	(R'_2)SB(r)a	1.0	0.73	0.57	68.4	0.23	0.22	50.5:	2	1111111111
024523−2521.3	ESO 480−1	(R)SB:(r:)a	1.0	1.17	0.28	22.5	0.56	0.17	15.1	2	1111111111
024544−2212.5	CSRG 212	SB(r)0/a	0.0				0.31	0.27	66.0		0121000221
024552−2224.9	ESO 546−23	(R)SBa:	1.0:	0.59	0.22	1.1					1101111000
024616−3919.3	CSRG 213	SAB(rs)b	3.0				0.22	0.22		4	0111000110
024640−3233.2	ESO 356−11A	(RL)SAB:0$^+$	−1.0	0.89	0.50	5.1:					1101111000
024646−6946.3	ESO 53−15	SAB(nr)b:	3.0:				0.22	0.15			0111000110
024648−2845.0	ESO 416−26	SB(r)0/a	0.0				0.42	0.11	8.5		0111000111
024730−6907.7	ESO 53−16	SAB:(rs)a: p	1.0:				0.45	0.34			0111000110
024736−3858.6	ESO 299−20	(R'_1)SB(rs)a	1.3	1.72	0.57	20.1	0.61	0.22	0.0	2	3333333111
024738−5129.0	ESO 199−2	SB:(r)a	1.0				0.34	0.14		2:	0111000110
024753−4015.2	CSRG 214	(R′)SB(s)ab:	2.0:	0.37	0.28	53.5				2	1111111000
024820−3145.9	ESO 416−34	SA(r)0/a	0.0				0.45	0.39			0111000110
024826−3136.1	ESO 416−35	(R)SA(rs)0/a	0.0	1.12	0.85		0.45	0.44			1111110110
024910−3132.0	CSRG 215	SB(r)0/a	0.0				0.34	0.23	81.2		0111000111
024920−1651.3	NGC 1125	(R′)SAB(rl:)0$^+$	−0.5	1.13	0.52	1.2					2212221000
024920−1651.4	MCG −3−8−34	SB(r)0$^+$	−1.0				0.28	0.22	14.7		0222000111
024924−2554.3	NGC 1124	(R_1)SB:(l)0$^+$	−1.0	0.85	0.39		0.29	0.26			1111110110
024925−5510.8	NGC 1136	(R'_2)SAB(rl)ab p	2.0	1.15	0.79	14.3:	0.43	0.34	7.0	2	2222221221
024950−5406.2	CSRG 216	(R)SA0/a: p	0.0:	0.40	0.29						1101110000
024952−8544.7	CSRG 217	SB(r)ab	2.0				0.32	0.29			0222000110
025009−4055.2	CSRG 218	(R'_1:)SB(s)b	3.0	0.37	0.17	35.1				2	1111111000
025041−6824.7	CSRG 219	SA(r)b	3.0				0.30	0.20		f	0222000110
025100−5809.1	ESO 116−1	(R'_2)SB(r)bc p	3.7	1.32	0.84	17.3	0.57	0.34	17.1	2+3	2333222222
025123−3103.8	ESO 416−41	SAB(rs)bc	4.0				0.54	0.27:	11.7		0111000111
025158−5301.8	CSRG 220	SB(r)0/a:	0.0:				0.41	0.31	33.9:		0111000221
025238−1715.2	CSRG 221	SB(rs)dm	8.0				0.59	0.49	49.8	2+	0111000111
025349−7257.7	ESO 31−4	SAB(r)b	3.0				0.51	0.44	18.9		0222000222
025417−3223.2	ESO 417−6	(R)SA0/a?	0.0?	0.64	0.45						1101110000
025429−6243.8	CSRG 222	($R_1R'_2$)SB(rl:)a	1.3	0.51	0.29	66.3				2	3323222000
″	″	″		0.61	0.45	37.0					0000111000
025442−3732.2	CSRG 223	(R'_2)SB(s)0/a	0.0	0.45	0.37	36.9				2	1111111000
025451−1651.7	CSRG 224	(RL)SAB0$^+$	−1.0	0.54	0.29	0.0					2202111000
025524−3546.1	ESO 356−20	SAB(rs?)a:	1.0:				0.63:	0.39	6.6	3+	0111000111

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
025550−3655.0	ESO 356−22	SB(r)bc	4.3				0.84	0.38	27.2	8:	0333000333
025551−3918.4	CSRG 225	$(R_1)SB0^+$	−1.0	0.51	0.38	55.1					1101111000
025551−5251.4	CSRG 226	SAB(rs)a	1.0				0.41	0.28		2	0111000110
025605−7203.2	ESO 53−23	(R′)SAB(r)a	1.0	1.60	0.39	42.4	0.61	0.22	37.0	2	2222221221
025621−2701.4	CSRG 227	SB(rs)cd	6.0				0.34	0.34			0111000110
025643−3217.8	NGC 1165	(R′:)SB:(rl)a	1.0	1.79	0.83	1.6:	1.12	0.28	3.7:	2	1111111111
025643−4109.4	CSRG 228	SA(r)0/a:	0.0:				0.34	0.27			0111000110
025648−3508.9	ESO 356−23	$(R_1')SB(r)a$	1.0	0.90	0.62	31.9	0.45	0.23	23.4	2	1111111111
025746−5720.2	CSRG 229	$(R_1)SB0^+$	−1.3	0.45	0.33	40.2					3303333000
025805−2330.2	ESO 480−19	$(R_1')SB(r)ab$	2.0	0.85	0.41	76.3	0.34	0.26	70.9	2+1	1111111111
025806−2840.0	CSRG 230	$(R_1)SB(r)0^+$	−1.0	1.17	0.73	46.4	0.52	0.28	19.0		1111111111
025822−7439.3	ESO 31−5	SAB(rs)bc	4.0				0.95	0.34			0222000110
030005−3852.4	ESO 300−4	(R′)SAB(rs)b	3.0	1.06	0.84		0.31	0.22		2i,4:o	1111110110
030021−1905.7	NGC 1179	SB(rs)d	7.0				1.23	1.19			0111000110
030025−5328.3	CSRG 231	SAB(r)b	3.0				0.27	0.16	80.9	2	0111000111
030040−4231.8	ESO 247−14	(PR?)SAB(r:)c p	5.0				0.37	0.26	0.6	3	1211000221
030056−2323.6	ESO 480−24	SB(rs)b	3.0				0.34	0.32		2	0111000110
030115−5803.3	ESO 116−5	$(R)SB(r)0^+$	−1.3	1.96	1.23	73.8	0.74	0.51	5.3		3333222222
030144−6134.4	CSRG 232	(R′)SB(r)a	0.5	0.68	0.39	63.1	0.34	0.23	42.2	2+2?	2222222222
030209−5218.0	IC 1878	(R′)SB(rs)ab p	2.0	0.85	0.45	57.4	0.38	0.23	−25.6	2+2	1222111222
030246−3704.3	CSRG 233	$(R)SB0^+$:	−1.0:	0.32	0.32						1101110000
030411−3912.8	CSRG 234	(R′)SB(s)a p	1.0	0.63	0.44	9.0					1111111000
030504−5415.8	CSRG 235	SB(r)b:	3.0:				0.26	0.19	11.4	2	0111000111
030509−3135.5	ESO 417−18	SAB(r)c	5.0				0.50	0.23	24.4	4	0111000111
030514−4650.9	CSRG 236	$(R_1')SAB(s)a$	1.0	0.54	0.32	41.0:				2	1111111000
030601−4036.9	CSRG 237	SAB(r)b: p	3.0:				0.25	0.23			0111000110
030602−5311.4	CSRG 238	(R′)SB(s)a	0.5	0.45	0.34	38.6				2	2222222000
030609−5415.1	CSRG 239	(R)SAB0/a:	0.0:	0.34	0.26	26.9:					1101111000
030700−4754.7	CSRG 240	$(R_2')SAB(s)0/a$	0.3	0.38	0.31					2	3323220000
030700−6651.6	ESO 82−10	SA(r)bc	4.0				0.43	0.33		3+	0333000330
030726−2526.6	IC 1895	(R?)SAB(r′l)0/a	0.0	1.29:	0.95		0.49	0.40			1111110110
030738−3817.6	CSRG 241	(R′)SB(s)0/a	0.0	0.34	0.26	53.0				2	1111111000
030802−6704.4	CSRG 242	SAB(rs)b p	3.0				0.28	0.26:		2+ring	0111000110
030835−5331.4	NGC 1249	SB(rs)dm	8.0				1.95	0.78	8.7	2	0111000111
030957−6752.1	CSRG 243	(R)SB(l)0°	−2.0	0.62:	0.56:	0.6:	0.27	0.18	2.6		1111111111
030958−2519.1	ESO 481−7	$(R_1)SB0^+$	−1.0	0.56	0.50	80.4					1101111000
031005−5629.2	CSRG 244	SA(rs)ab	2.0				0.42	0.31		2	0112000110
031018−5551.1	CSRG 245	(R)SB0°	−2.0	0.51	0.41	37.4					1101111000
031030−5052.8	CSRG 246	(R′)SAB(s)ab:	2.0:	0.34	0.28	66.4:				2	1111111000
031053−6025.8	CSRG 247	$SAB(r)0^+$: p	−1.0:				0.44	0.42	14.5:		0222000221
031137−5820.7	CSRG 248	SAB(r)b	2.7				0.37	0.28	44.3	2	0333000221
031203−4757.6	CSRG 249	$(R_1')SB(s)a$:	1.0:	0.38	0.28	73.0				2	1111111000
031243−5052.9	CSRG 250	SAB(rs)bc	4.0				0.26	0.21			0111000110
031257−3053.6	IC 1904	$(R_1')SB(rs)b$	3.0	1.04	0.39	35.2	0.40	0.21	19.5	2	1111111111
031305−4247.3	CSRG 251	$(R_1')SB(s)a$:	1.0:	0.40	0.17	63.8				2	1111111000
031343−3719.0	CSRG 252	$(R_1')SB(s)a$	1.0	0.38	0.28	88.3				2	1111111000
031343−5500.1	IC 1908	SAB(rs)c p	5.0				0.30	0.17	57.6	3	0111000111
031452−2302.9	ESO 481−17	SAB(r)ab	2.0				0.44	0.39			0111000110
031512−3245.5	NGC 1288	SA(rs)bc	4.0				0.63	0.51		6	0111000110
031520−3352.4	IC 1909	SB(r)ab	2.0				0.49	0.28	84.0	3	0111000111
031528−4117.4	NGC 1291	$(R_1R_2')SB(l)0/a$	0.0	8.16	7.35	86.8	3.52	2.94	0.0	2	2222222222
"	"	"		10.34	10.06						0000110000
031609−5432.3	ESO 155−14	SAB(l)0°	−2.0				0.50	0.48			0111000110
031705−5419.0	CSRG 253	SB(r)ab	2.0				0.28	0.25	64.9	3	0112000111
031725−1935.5	NGC 1300	(R′)SB(s)bc	4.0	5.70	4.92	15.6				2	1111111000
031742−2614.4	NGC 1302	(R′)SAB(rl)a	1.0	3.20	2.87	14.5	1.01	0.95	13.4:		1111111111
031749−5956.2	CSRG 254	(R)SA(rs)b	3.0	0.73	0.60		0.41	0.29		2i	1223110220
031814−5113.7	ESO 200−4	$(R_1')SB(s)a$	1.0	0.76	0.53	86.7				2	1111111000
031909−3716.8	NGC 1310	SB(rs)cd	5.5				0.27	0.26		4:	0222000110
031916−5428.5	ESO 155−20	(R′)SA:(r)ab	2.0	1.01	0.61		0.34	0.16		2	1111110110
032012−5150.1	ESO 200−9	$(R)SB0^+$	−1.0	0.49	0.45	38.4					2202222000
032050−3716.8	NGC 1317	(R′)SAB(rl)0/a	0.0	3.41	2.99	5.4:	2.01	1.94	63.0:	2	2222221221
032115−4246.8	ESO 248−14	SAB(r)b p	2.7				0.36	0.26	69.7	2+	0333000332
032126−5820.1	CSRG 255	SAB(r)c	5.0				0.23	0.17	82.0:	4+1	0222000221
032140−3949.3	CSRG 256	$(R_2')SAB(s)0/a$:	0.0:	0.39	0.30	28.4					1111111000
032201−3638.4	NGC 1326	$(R_1)SB(rl)0/a$	0.0	2.76	1.74	73.0	1.12	0.90	20.0		1111111111
032206−5738.3	CSRG 257	SA(rl)0/a	0.0				0.41	0.40		1?	0111000110
032235−2130.8	NGC 1325A	SB(rs)bc?	4.0?				0.86	0.68	67.8	4:	0111000111
032322−5336.2	CSRG 258	SB(rs)bc	4.0				0.17	0.16		2	0112000110
032345−1745.9	NGC 1329	SA(rs)0/a	0.0				0.61	0.53		2	0111000110
032353−6054.8	ESO 116−18	$(R)SAB(r)0^+$	−1.0	0.95	0.16	8.3	0.27	0.11			2212221110
032415−5257.5	IC 1933	$(R_2')SB(s)d$	6.5	1.84	0.97	14.5	0.72	0.50	33.7	2	1222111111
032417−5241.4	ESO 155−27	$(R_1'?)SB(rs)ab$ p	2.0	1.12:	0.73:	80.6:	0.47	0.41	1.2	1+1	1333111333
032426−5131.0	IC 1932	(R)SA:(r)0/a	0.0	1.07	0.58		0.48	0.22			1111110110
032508−4151.6	ESO 301−15	$(R_2')SB(s)b$ p	2.5	0.74	0.58	15.4				2	2222222000
032511−6659.3	ESO 83−3	SA(r)bc	4.0				0.27	0.11		2	0111000110
032529−4221.7	CSRG 259	(R:)SAB(rl)0/a	0.0	1.07:	0.85:	83.7:	0.34	0.28	4.4	2	1111111111
032552−3746.6	CSRG 260	$(R_2')SB(s)c$ p	5.0	0.60	0.34	20.2				2	1111111000
032604−3719.4	NGC 1341	SAB(rs)ab p	2.0				0.72	0.72		2	0222000110
032616−5218.7	IC 1940	(R′)SAB(r)ab	2.3	0.74	0.57	77.7	0.38	0.30	−9.4	3	3333333333
032648−2218.7	ESO 548−25	$(R_1')SB(s)a$	1.0	0.95	0.42	86.5				2	1111111000
032712−6622.2	CSRG 261	(R)SAB(rs)0/a:	0.0:	0.74	0.45	14.6	0.27	0.19	−5.1		1111111111
032758−5247.4	IC 1946	(R′)SB(s)0/a	0.0	0.67	0.39	9.9				2	1111111000
032854−5239.1	CSRG 262	(R′)SA(s)0/a: p	0.0:	0.48	0.38						1222110000
032903−5326.4	ESO 155−41	(R′)SB(l)a	1.0	0.67	0.53	43.0	0.34	0.22	−3.5	2+1	1111111111
032910−3347.9	NGC 1350	$(R_1')SB(r)ab$	2.0	5.42	2.76	43.8	2.35	1.14	22.1	2	1111111111
032911−5028.7	NGC 1356	SAB(rs)b p	3.0				0.70	0.44	13.6	3+1	0222000221
032923−6628.7	CSRG 263	(R)SB(rs)c:	5.0:	1.12	0.95	17.8	0.39	0.35	−28.5	2:	1111111111
032928−3022.9	ESO 418−8	SB(r)d	7.0				0.78	0.48	36.7		0111000111
032949−2059.1	NGC 1353	SA(rs)bc	4.0				1.23	0.43			0111000110
033000−3824.8	CSRG 264	SAB(r)0/a	0.0				0.28	0.22	30.0	2	0111000111
033006−4037.2	CSRG 265	$(R_1')SAB(rs)b$:	3.0:	0.45	0.38	3.6	0.29	0.11	3.6:	2	1111111111
033024−3925.4	CSRG 266	$(R)SB0^+$:	−1.0:	0.44	0.35	12.0					1101111000
033109−5413.6	ESO 155−49	$(R_2')SB(r)a$	1.0	0.52	0.29	73.2	0.16:	0.13:	57.9:	2	2222222111
033110−6244.3	ESO 83−6	$(R_2')SB(rl)c$	4.7	2.19	0.95	13.2	0.46	0.26	10.3	2+2	1333111333
033118−3805.2	CSRG 267	(PR?)		0.34	0.18						1000110000
033139−3718.2	CSRG 268	SA(r)ab p	1.5				0.28	0.25		1	0222000220
033141−3618.4	NGC 1365	(R′)SB(s)b	3.0	10.51	6.09	58.0				2+3	1111111000
033150−3831.8	CSRG 269	$(R_1')SB(s)a$:	1.0:	0.34	0.22	78.5				2	1111111000
033157−6631.7	CSRG 270	SB(r)ab	2.0				0.17	0.15	16.7:	2	0222000111
033204−1935.4	ESO 548−44	$SA(r)0^+$:	−1.0:				0.84	0.34			0111000110
033206−3626.0	NGC 1369	SB(rs)a	1.0				0.93	0.50	40.8		0111000111
033215−3053.9	ESO 418−11	(R′)SA(rl)b	3.0	1.40	0.95		0.38	0.29		m	1111110110
033221−3727.6	CSRG 271	$(RL)SB0^+$:	−1.0:	0.51	0.16	32.0					1101111000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
033252−2506.0	NGC 1371	(R′)SA(r′l)a	1.0	5.32	3.80	21.1	1.17	0.89	13.2		1111111111
033321−3246.0	ESO 358−22	(L)SA(l)0+?	−1.0?	1.05	0.93		0.56	0.56			1111110110
033324−3922.6	CSRG 272	(R′1)SB(s)a:	1.0:	0.29	0.19	83.4				2	1111111000
033338−3940.2	CSRG 273	(R′1)SB(s)0/a:	0.0:	0.34	0.27	85.5					1111111000
033406−4836.0	CSRG 274	(R)SA(l)0° p	−2.0	0.79	0.48		0.41	0.20:			1111110110
033419−5018.2	CSRG 275	(R′2)SB(s)a	1.0	0.56	0.27	26.6				2	1111111000
033424−3947.9	CSRG 276	(R)SAB(r)0/a:	0.0:	0.76:	0.73:		0.30	0.28			1111110110
033435−5248.9	IC 1971	(R′2)SB(s)a	0.7	0.59	0.29	13.7				2	3333333000
033528−3922.2	CSRG 277	(R′1)SB(r)b	3.0	0.51	0.38	67.8	0.27	0.19	1.1	2+1	1111111111
033540−4318.2	ESO 249−9	(R)SB0+: p	−1.0:	0.44	0.39	56.7					1101111000
033604−5124.8	ESO 200−53	SB(rs)0/a:	0.0:				0.68	0.32	10.3	2:	0111000111
033610−6219.3	CSRG 278	(R′1)SB(r)a	1.0	0.47	0.17	54.0	0.22	0.15	30.7	2	1111111111
033623−1835.4	NGC 1393	SA(rl)0°	−2.0				0.80	0.50			0111000110
033645−2629.9	NGC 1398	(R1R′2)SB(rs)ab	2.0	4.58	2.54	88.5	1.68	1.40	96.4		1111111111
〃	〃	〃		5.37	3.41	94.5					0000111000
033708−5432.4	CSRG 279	(R1R′2)SB0/a	0.0	0.45	0.41	7.7				2	2202222000
〃	〃	〃		0.70	0.42	6.1					0000111000
033713−3949.1	CSRG 280	(R′2)SB(s)a:	1.0:	0.45	0.18	26.1:				2	1111111000
033757−3951.3	CSRG 281	(R′)SB(s)0/a:	0.0:	0.30	0.23	1.5					1111111000
033801−7233.2	ESO 31−18	SA(r)c	5.0				0.37	0.28		4	0111000110
033820−3948.8	CSRG 282	(R)SAB0/a:	0.0:	0.28	0.27						1101110000
033846−2243.4	NGC 1415	(R)SAB(s)0/a	0.0	3.91	1.40	25.0					1111111000
033905−2359.8	ESO 482−35	SB(rs)ab	2.0				0.63	0.40	0.3		0111000111
033929−1825.6	IC 346	SB(r′l)0+	−1.0				1.40	1.06	22.7		0111000111
033952−6256.4	ESO 83−9	(R)SA(r)p		1.06	0.56		0.29	0.17			1110110110
034006−2801.5	ESO 419−3	(R′)SAB(rs)c	5.0	1.31	0.73		0.45	0.33			1222220220
034009−3003.1	NGC 1425	SA(rs)b p	3.0				1.77	0.61			0111000110
034027−4722.8	NGC 1433	(R′1)SB(rs)ab	2.0	5.81	4.58	85.6	3.13	2.24	1.3	2+2	1111111111
034144−3600.6	NGC 1437	(R′2)SAB(s)bc	4.0	1.62	1.04	22.5				2	1111111000
034248−1825.4	NGC 1440	(L)SB(rs)0+	−1.0	1.45	1.11	34.7	0.84	0.53:	24.2:		1111111111
034307−1847.4	NGC 1452	SB(r)a	1.0				1.21	0.93	82.4	2	0111000111
034312−3832.3	ESO 302−4	(R′)SAB(r)b p	3.0	0.64	0.51	86.3	0.28	0.22	20.7	4	1111111111
034351−4742.8	CSRG 283	SA(r?)a?	1.0?				0.28	0.28			0111000110
034351−5917.6	IC 1997	SAB(rs)c?	5.0?				0.34	0.18		2i,co	0111000110
034407−6623.0	CSRG 284	SAB(rs)bc	4.0				0.22	0.17		3	0112000110
034422−3651.0	NGC 1460	SB(rl)0°	−2.0				1.05	0.89	21.8		0111000111
034430−4148.3	CSRG 285	(R)SB0+	−1.0	0.38	0.29	25.4					1101111000
034503−6427.3	ESO 83−10	SA(r)bc	4.0				0.39	0.32		3	0111000110
034509−3351.9	IC 1993	(R′)SA(s)bc	4.0	1.51	1.45					3+1	1111110000
034518−5957.8	NGC 1463	(R:)SA(rl)a p	0.5	2.07	1.45		0.39	0.34			1222110110
034558−4910.1	CSRG 286	(R?)SAB?0+	−1.0	0.23	0.23						1101110000
034644−6647.5	CSRG 287	(R′1)SB(r)b:	2.7:	0.56	0.33	79.8	0.25	0.19	55.5	2	2333222333
034647−2217.0	ESO 549−23	(R′1)SB(l)a	1.0	0.86	0.56	86.4	0.44	0.34	0.0	2	1111111111
034700−5450.2	CSRG 288	(R)SB0°	−2.0	0.50	0.46	9.0:					1101111000
034751−5327.2	CSRG 289	(R′1)SB(s)a	1.0	0.54	0.39	17.4				2	1111111000
034839−6503.6	CSRG 290	(R)SA(r)0+	−1.0	0.51	0.29		0.30	0.08			1111110110
034952−3851.7	CSRG 291	SA(r)p					0.45	0.29			0110000110
034956−4036.9	CSRG 292	(R1)SB0+:	−1.0:	0.45	0.28	4.6					1101111000
035007−7147.1	ESO 54−21	SAB(rs)dm	8.0				0.73	0.61			0222000110
035033−6623.0	CSRG 293	(R′)SAB(s)b:	3.0:	0.37	0.23	26.4:					1111111000
035157−1835.6	CSRG 294	(R′2)SB(s)b	3.0	0.34	0.27	1.5				2	1111111000
035238−6425.5	CSRG 295	SAB(r)b	3.0				0.19	0.11		3	0111000110
035319−2818.3	IC 2007	SB(rs)c:	5.0:								0111000111
035328−3925.1	CSRG 296	SB(rs)p									0110000111
035400−8208.3	CSRG 297	(R′)SAB(s)a	1.0	0.44	0.35	35.3					1111111000
035408−4224.1	CSRG 298	(R′2)SB(rs)ab	1.5	0.46	0.37	13.2					2222222111
035422−1812.3	ESO 549−38	SA(r)bc?	4.0?								0111000110
035506−5409.3	CSRG 299	(R′2)SB(s)a	1.0	0.55	0.45	27.8					1111111000
035525−1921.6	NGC 1489	SB(r)b	3.0								0111000111
035530−4014.8	CSRG 300	(R)SAB(r)0+	−1.0	0.78	0.61:	15.6:					1111111111
035554−4621.2	NGC 1493	SB(rs)cd	6.0								0222000221
035602−5250.0	CSRG 301	SB(rs)d:	7.0:								0111000111
035609−6611.0	NGC 1503	(R′2)SB(s)0+	−0.5	0.72	0.59	26.5					2222222000
035615−4903.0	NGC 1494	SAB(rs)cd	6.0								0111000111
035636−5255.4	IC 2018	SAB(rs)b	3.0								0111000110
035645−4120.4	CSRG 302	SA:(r)b p	3.0								0111000110
035654−4442.2	CSRG 303	(R′)SAB(rs)ab	2.0	0.61:	0.50						2222110110
035654−5235.6	CSRG 304	SA(rl)0°	−2.0								0111000110
035656−5940.1	CSRG 305	(R1R′2)SB(s)0/a	0.0	0.56	0.34	26.9					2212222000
〃	〃	〃		0.78	0.34	30.4					0000111000
035705−5234.3	CSRG 306	(R?)SB(r)0+	−1.0	0.74	0.73:						1222110222
035708−5256.0	CSRG 307	SA(r)0+:	−1.0:								0111000110
035820−2519.3	ESO 483−6	(R′:)SB:(s)b	3.0	2.53	0.37	0.3:					1111111000
035824−4131.7	CSRG 308	SAB(r)0+	−1.0								0111000111
035824−8358.6	IC 2051	SA(r)c	5.0								0222000110
035834−4138.7	CSRG 309	(R1)SB0+	−1.0	0.34	0.25	72.2					1101111000
035851−5722.9	CSRG 310	SAB(rs)c	5.0								0221000110
035920−3135.5	CSRG 311	(R′:)SB(s)ab p	2.0	0.45	0.41	51.0					1111111000
035936−6148.5	CSRG 312	(R′2)SAB(rs)a	0.8	1.53	0.79	22.2					4444343442
040013−1941.5	CSRG 313	(R′1)SB(rl)a	1.0	0.45	0.36	88.2					1111111111
040049−5215.0	CSRG 314	SB(rl)a	1.0								0111000110
040109−6414.1	ESO 83−14	(R)SAB0/a p	0.0	0.53	0.28	27.1					1101111000
040121−5159.8	CSRG 315	(R′)SB(s)a	1.0	0.53	0.34	15.6					1111111000
040140−6732.6	ESO 55−7	SA(r)c	5.0								0111000110
040158−8925.4	CSRG 316	(R′2)SB(s)a	1.0	0.56	0.37	10.6					2212111000
040209−8112.1	ESO 15−5	(R′2)SB(rs)bc	3.5	1.62	1.48	7.3					2222221221
040216−4329.2	NGC 1512	SB(r)ab p	2.0								0222000222
040238−5415.1	NGC 1515A	(R′:)SB(rs)b	2.5	1.01	0.74	71.6					1222111222
040253−4805.1	ESO 201−17	(R1)SA(rs)a	1.0	1.63	0.67						3333330330
040302−4610.7	ESO 250−5	(L)SAB(s)0°	−2.0	0.96	0.76	7.7					1111111000
040309−5554.4	ESO 156−37	(R)SAB0/a: p	0.0:	0.61	0.46						1101110000
040316−3728.9	CSRG 317	(R′1)SB(s)a:	1.0:	0.36	0.13	42.6					1111111000
040337−6049.1	ESO 117−20	SB(rs)a	1.0								0333000222
040422−4253.3	CSRG 318	(R1)SB(s)0/a	0.0	0.40	0.29	61.3					1111111000
040449−3855.4	CSRG 319	(R)Im? p	10.0?	0.95	0.67						1101110000
040449−6558.5	NGC 1526	SA:(r:)c	5.0								0111000110
040500−3839.2	CSRG 320	(R1)SB0+:	−1.0:	0.34	0.23	72.0					1101111000
040502−5316.6	CSRG 321	SAB(rs)b: p	3.0:								0111000110
040516−8430.1	ESO 4−9	SAB(rs)b	3.0								0111000111
040546−2959.5	ESO 420−3	SA(rs)bc	4.0								0111000110
040552−1719.5	NGC 1519	SB(r)b:	3.0:								0111000111
040557−4011.4	CSRG 322	SAB(rs)b:	3.0:								0111000110
040557−4731.8	CSRG 323	(R′2)SB(s)a	1.0	0.38	0.37						1111110000
040601−5348.9	IC 2033	(R′)SA(s)a	1.0	1.05	0.63						1111110000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
040624−6246.3	CSRG 324	SAB(rs)b	3.0				0.37	0.17		2	0223000110
040656−4801.7	NGC 1527	SA(r)0°	−1.5				1.09	0.45			0222000220
040708−5411.0	ESO 156−44	(R)SB(r)0+	−1.0	0.73	0.64	79.2	0.39	0.32	5.7		1111111111
040712−5059.0	CSRG 325	(R′2)SB(rl)a	1.0	0.67	0.39	9.7	0.29	0.25	−5.9:	2	1111111111
040716−4942.8	ESO 201−21	(R)SAB:(r)ab:	2.0:	1.17	0.47		0.44	0.17			1111110110
040722−5848.2	CSRG 326	(R′)SB(r)b	3.0	0.55	0.31	53.1	0.31	0.22	35.1	2	3333333333
040808−5914.4	CSRG 327	(R1R′2)SAB(l:)0+	−0.5	0.52	0.46	19.3				2	3314331000
"	"	"		0.67	0.48	15.6					0000221000
040811−3949.1	IC 2036	(R′2)SB(s)b	3.3	0.78	0.48	8.3				2	3333333000
040813−6221.3	CSRG 328	(R′1:)SB(s)b: p	3.0:	0.40	0.18					2	1111110000
040832−5939.0	CSRG 329	SA(r)a	1.0				0.34	0.20		2	0222000220
040846−5615.0	NGC 1533	(L)SB(rs)0°	−2.0	1.90	1.57	35.6	1.01	0.78	11.7		2222111111
040858−8228.4	ESO 15−6	(R)SAB:(r)a	1.0	1.23	0.58		0.61	0.22			2222220220
040904−5453.4	CSRG 330	(R′2)SB(s)a	1.0	0.39	0.32	3.7				2	1111111000
040932−6309.0	CSRG 331	SB(rs)b p	3.0				0.39	0.29	86.9	2+2	0111000111
041114−6802.9	CSRG 332	SA(r)b p	3.0				0.34	0.22		1+1	0111000110
041143−4131.2	ESO 303−3	SB(r)0+: p	−1.0:				0.51	0.40	17.4		0111000111
041143−6025.0	CSRG 333	(R)SA0+	−1.0	0.50	0.23						1101110000
041144−5751.8	NGC 1543	(R)SB(l)0°	−2.0	5.70	5.07	53.0:	2.62	2.14	14.1:		3333333333
041146−6535.8	CSRG 334	SAB(r)ab:	2.0:				0.34	0.27	20.7	1+1:	0111000111
041154−3207.9	ESO 420−13	SA(r)a?	1.0?				0.29	0.21			0111000110
041237−3752.8	CSRG 335	SA(r)0+	−1.0				0.38	0.19			0111000110
041243−5336.0	IC 2050	SB(r)bc	4.0				0.29	0.23	8.6	4	0111000111
041250−6446.6	ESO 84−8	(R′2)SB(rs)0/a	0.0	1.07	0.86	67.2	0.37	0.29	3.9	2	1111111111
041252−5945.3	CSRG 336	(L)SAB0°	−2.0	0.54	0.29						1101110000
041303−6301.1	CSRG 337	SB(rs)m: p	9.0:				0.50				0111000100
041331−5905.2	ESO 118−14	RG?		0.64	0.18						1000110000
041342−3808.1	CSRG 338	(R)SAB0+ p	−1.0	0.56	0.40	50.1					1101111000
041346−2455.1	ESO 484−2	(R?)SAB:(rl)0+	−1.0	1.01:	0.67:		0.65	0.36			1111110110
041352−4047.1	CSRG 339	SA(r)0+: p	−1.0:				0.32	0.17:			0111000110
041416−6107.2	CSRG 340	SA(rs)bc	3.5				0.38	0.27		4	0112000110
041417−5250.1	CSRG 341	(R′2)SB(s)ab	2.0	0.39	0.27	85.9				2	2222222000
041434−3926.8	CSRG 342	(R′)SB(rl)b: p	3.0:	0.67	0.38	60.8	0.40	0.29	35.6	2	1111111111
041438−4909.8	CSRG 343	(R′)SAB(s)b:	2.5:	0.36	0.23	28.6				2	2212221000
041446−4921.2	CSRG 344	(R′2)SAB(s)b p	2.5	0.41	0.34					2	1222110000
041448−4918.9	ESO 201−29	(RL)SAB0/a: p	0.0:	0.44	0.27	44.8					2202221000
041457−5746.2	ESO 118−15	(R′1)SB(r)0/a	0.0	1.17	0.87	67.0	0.54	0.41	−0.2	2+1	2222222222
041505−5554.2	NGC 1553	SA(rl)0°	−2.0				1.18	0.62			0111000110
041526−3935.3	ESO 303−8	SAB(rs)c	5.0				0.39	0.29		4	0111000110
041535−6019.7	IC 2056	SAB(r)b	2.5				0.37	0.23	55.2		0222000111
041552−6049.0	CSRG 345	(R)SB(rl)0+	−1.0	0.95	0.50:	83.4	0.46	0.28	77.6		1111111111
041553−3739.2	CSRG 346	(R1)SB(s)ab: p	2.0:	0.34	0.25	52.9				2	1111111000
041604−4043.2	CSRG 347	(R′)SA(r)0/a:	0.0:	0.85	0.57		0.23	0.22			1111110110
041728−7008.7	ESO 55−18	(R′2)SAB(l)0/a	0.0	0.78	0.51		0.39	0.17		2	2222110110
041747−5714.2	CSRG 348	(R′)SB(s)bc	4.0	0.40	0.36	39.8				2	2222111000
041755−3917.4	ESO 303−11	RG		0.50	0.34						1000110000
041806−4824.2	CSRG 349	(R′)SA(r)b:	3.0:	0.37	0.29		0.17	0.11			1111110110
041830−3150.6	ESO 420−17	SA(r)0+	−1.0				0.56	0.14			0111000110
041840−6053.4	CSRG 350	SA(rs)0+	−1.0				0.25	0.16:			0111000110
041843−4509.0	NGC 1558	(R′)SA(rs)b	3.0	2.85	0.89		0.92:	0.28		2:	1222110220
041853−5503.4	NGC 1566	(R′1)SAB(rs)bc	4.0	7.49	6.93		3.35	2.85		2+1	2212110110
041932−5029.8	CSRG 351	SB(rs)a	1.0				0.32	0.26	28.5	2+1	0111000111
042032−6000.9	CSRG 352	(R)SA?0/a:	0.0:	0.28	0.22						1101110000
042038−4405.3	CSRG 353	SA(r)0+	−1.0				0.56	0.41			0222000220
042101−4042.9	NGC 1572	(R′1)SB(l)a	1.0	2.53	1.12	33.6	1.17	0.61	1.5	2	1111111111
042111−6153.8	ESO 118−22	(R)SAB(rl)0+	−1.0	0.92	0.37	8.3	0.52	0.13			2222221220
042117−6420.4	ESO 84−14	(R′)SAB(r)bc	4.0	0.73	0.67	52.6:	0.33	0.29	17.5:	2+	1222111221
042120−6514.1	CSRG 354	(R′)SAB(r)0/a:	0.0:	0.50	0.39	17.4	0.34	0.16	7.8	2	1111111111
042121−5620.5	ESO 157−23	(R′2)SAB(s)bc	3.5	0.80	0.48	3.0				2	2222222000
042147−4536.0	ESO 250−20	(R′)SB(r)ab	2.0	0.75	0.61	88.3	0.27	0.26	3.6		2222222221
042225−5450.9	IC 2066	(R′2)SAB(s)b	3.0	0.51	0.39	2.6				2	1111111000
042228−3756.2	CSRG 355	(R′1)SAB(s)a: p	1.0:	0.41	0.30	39.3				2:	1111111000
042232−6318.9	CSRG 356	(R′)SAB(r)0/a	0.0	0.78	0.78		0.41	0.37	11.4	2	1222110222
042310−4941.3	CSRG 357	(R1)SB0+	−1.0	0.63	0.23	9.0:					1101111000
042339−5805.6	IC 2070	SAB(rs)bc	4.0				0.29:	0.17:	11.6:	3+	0222000111
042354−4411.7	CSRG 358	SAB(rs)0/a	0.0				0.34	0.26			0111000110
042358−6320.1	CSRG 359	SAB(r)0/a:	0.0:				0.34	0.28			0111000110
042444−4045.9	ESO 303−16	(R′)SB(rs)0/a p	0.0	0.84	0.56	50.5	0.40	0.28	59.7	2:	1111111111
042457−4920.6	ESO 202−18	SB(rs)b	3.0				0.37	0.22	29.4	2	0111000111
042458−6353.9	CSRG 360	SA(l)0°	−2.0:				0.37	0.29			0111000110
042459−4212.2	IC 2068	(R′?)SA(rs)a p	1.0	1.79	1.17		0.83	0.67		1	2444220440
042508−3807.7	CSRG 361	(R′)SAB(s)cd?	6.0?	0.30	0.27					2	1111110000
042535−6237.8	CSRG 362	SA(l)0°	−2.0				0.50	0.50			0111000110
042543−6127.6	ESO 118−24	SB(rs)b	3.0				0.38	0.28	4.4	4	0111000111
042545−6755.5	ESO 55−23	(R′)Sab:	2.0:	0.95	0.28					2	1001110000
042634−4801.2	ESO 202−23	(PR?)SB(rl)p					1.06	0.94	38.3		1110000221
042637−4034.8	ESO 303−20	SAB(r)c	5.0				0.38	0.34	62.6	5	0111000111
042704−4246.8	CSRG 363	(R′)SB(r)ab	1.5	0.65	0.60	59.2	0.29	0.23	14.3	2+2	4444442444
042708−4753.4	NGC 1598	(R′)SAB(s)c	4.5	1.78	1.12		1.06	0.41		2+2	2222220110
042722−4704.4	ESO 251−5	(R′)SA(s)0/a	0.3	0.72	0.59					1+	3333330000
042849−4508.0	CSRG 364	(R′)SAB(s)0/a	0.0	0.34	0.29					2	1111110000
042944−5834.1	ESO 118−28	(R′2)SB(s)bc	3.7	0.66	0.58	6.3				2	3333222000
043008−6247.4	CSRG 365	Sp		0.68	0.39						0000110000
043025−5150.6	ESO 202−32	(R)SA(r)p		0.50	0.37		0.26	0.23			1110110110
043033−5442.4	NGC 1617	(R′)SAB(rs)a	1.0	3.21	1.49	11.1	1.77	0.65	10.2	2+	2222222222
043038−6325.7	ESO 84−21	SAB(r)b	3.0				0.31	0.23	83.9	2	0222000222
043046−3331.1	ESO 360−14	SAB(r)bc	4.0				0.30	0.28		2	0111000110
043118−3326.2	ESO 360−15	(R′1)SB(rs)b	3.0	0.78	0.63	82.0	0.36	0.26	0.0	2	1111111111
043123−4812.4	CSRG 366	(R′)SAB(r)0/a	0.0	0.68	0.51		0.29	0.29		2	1111110110
043201−6258.0	CSRG 367	(R)SA0°	−2.0	1.49	0.75						2202220000
043235−6250.5	CSRG 368	(R)S0+	−1.0	0.41	0.13						1001110000
043249−6317.2	CSRG 369	SA(rs)ab:	2.0:				0.41	0.29:		3:	0111000110
043324−4654.0	CSRG 370	(R1)SB0°	−2.0	0.56	0.45	53.0					1101111000
043405−5418.4	ESO 157−42	(R′)SAB(r)ab	1.5	1.36	0.80	45.2	0.70	0.39	33.0	2	2222221221
043409−3605.1	ESO 360−17	(R′1)SB(s)a	1.0	0.56	0.45	85.7				2	1111111000
043415−3605.9	ESO 360−18	SA(rs)c	5.0				0.29	0.22		2	0111000110
043418−7538.6	IC 2089	SAB(r)dm	8.0				0.28	0.19	10.0		0111000111
043447−6424.5	CSRG 371	(R′2)SB(s)a	1.0	0.56	0.37	42.6				2	1111111000
043458−4151.0	ESO 304−4	SA(r:)c p	5.0				0.26	0.11		1+1	0111000110
043508−3944.8	ESO 304−6	(R:)SAB(rs)b p	3.0	1.29	0.95:	0.3:	0.46	0.38	6.3	2	1111111111
043521−4755.1	ESO 202−39	(R′)SA(rs)bc	4.0	0.80	0.37		0.23	0.21		2	2222220220
043547−4948.1	CSRG 372	(R)S0+	−1.0	0.53	0.29						1001110000
043602−6514.5	ESO 84−26	SA(r)0+ p	−1.0				0.70	0.19			0122000220
043614−2044.8	NGC 1631	(R:)SA(rs)a	1.0	1.20	0.61		0.56	0.29		2	1111110110

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
043620−4721.1	ESO 251−14	SAB:(r)b: p	3.0:				0.37	0.22		1	0111000110
043640−4420.1	ESO 251−16	(R_2)SB0/a	0.0	1.17	0.51	12.4					1101111000
043711−2218.5	ESO 551−25	(R′)S(r)c	5.0	0.64	0.46		0.28	0.25			1011110110
043711−6445.6	CSRG 373	SA(r)a	0.5				0.28	0.23		2	0222000110
043717−6219.5	CSRG 374	SB(s)a p	1.0				0.48	0.16			0222000110
043719−6127.7	CSRG 375	(L:)SB(s)0$^+$	−1.0	0.41	0.34	9.7					1112111000
043744−5257.6	ESO 157−46	$(R_1'R_2')$SB(s)ab	2.0	0.78	0.37	61.5				2+	1222111000
〃	〃	〃		0.84	0.67	42.9					0000111000
043751−3710.9	CSRG 376	(R_1')S(r)bc	4.0	0.59	0.22						2022110000
043800−5939.0	CSRG 377	(R_1)SB0$^+$:	−1.0:	0.34	0.28	8.7:					1101111000
043802−6157.0	CSRG 378	SB(l)0$^-$	−3.0				0.37	0.37			0111000110
043817−6252.1	CSRG 379	(R_2')SB:(s:)ab	1.5	0.41	0.25	1.6					1112111000
043820−4423.1	ESO 251−18	(R_1')SB(s)0/a	0.0	0.93	0.56	21.6				2	1111111000
043828−6619.8	CSRG 380	(R′)SAB(s)b	3.0	0.51	0.28					2	1111110000
043830−5653.0	CSRG 381	(R_1)SB0°	−2.0	0.50	0.30	4.6					1101111000
043830−6308.2	ESO 84−32	SA(rs)bc	3.5				0.41	0.27		2+	0222000110
043830−6418.3	ESO 84−33	(R′)S(rs:)b	3.0	1.49	0.34						1011110000
043835−3314.4	CSRG 382	(R)S(r)p		0.84	0.28		0.26	0.18			1010110110
043914−3739.8	ESO 304−11	(R_2')SB(s)b	3.0	0.64	0.28	24.7					1111111000
044004−2031.7	NGC 1640	SB(r)b	3.0				1.01	0.80	1.6	2+	0111000111
044005−1830.3	ESO 551−28	(R_2')SB(s)bc	3.5	0.66	0.44	0.7:				2	2222111000
044006−6007.5	CSRG 383	(R′)SB(s)ab	2.0	0.40	0.17	26.2:					1111111000
044029−4706.7	CSRG 384	SA(r:)c	5.0				0.19	0.18		4:	0111000110
044032−5400.1	ESO 158−1	(R′)SB(s)b:	3.0:	0.73	0.19	26.4				2	1111111000
044057−6213.3	CSRG 385	(R:)SA(r:)a: p	1.0:	0.85	0.73:		0.38	0.22			1111110110
044058−4408.6	ESO 251−27	(RL)SB0°	−2.0	0.85	0.17	2.4					1101111000
044126−5237.8	CSRG 386	(R′)SAB(s)0/a:	0.0:	0.51	0.28					2	1111110000
044229−4353.7	ESO 251−29	SAB(rl)a p	1.0				0.34	0.28	14.0	1+1	0111000111
044235−6225.2	CSRG 387	(PR?)p		0.50:	0.21:						2000110000
044427−5439.8	CSRG 388	(R_1')SB(r)ab	2.0	0.73	0.39	49.5	0.26	0.18	15.1	2	1111111111
044455−5920.3	NGC 1672	$(R_1'$:)SB(r)bc p	4.0	5.10	3.70	58.2	2.18	1.43	6.4	4	2222222222
044510−4450.8	CSRG 389	(R′)SA(rs)ab	2.0	0.67	0.28		0.38	0.27		2	1111110110
044517−1741.1	ESO 552−4	SA(rl)0°	−2.0				0.87	0.66			0111000110
044522−5725.9	ESO 158−3	(R′)SB(rs)m	9.0	1.41	1.08	9.6	0.69	0.68		1	1222111220
044532−5641.9	ESO 158−4	(R)SB(s)0°	−1.5	0.74	0.51	72.0					2222222000
044542−5753.3	CSRG 390	(R_2')SB(rs)ab	2.0	0.57	0.29	24.6	0.21	0.12	22.1	2	1112111111
044548−4446.1	ESO 251−32	SAB(rs)b	3.0				0.34	0.21		3	0111000110
044548−5008.3	ESO 203−2	SB(rs)bc	4.3				0.36	0.28	13.7	5:	0333000332
044549−4707.6	CSRG 391	(R_2')SB(s)b	3.0	0.40	0.27	1.0				2	1111111000
044704−3212.7	ESO 421−18	SB(r)c:	5.0:				0.34	0.19	3.6	3+	0111000111
044710−4754.2	NGC 1680	(R:)SAB(rs)b	2.8	1.29:	0.39:	9.4	0.50	0.28	13.7		1334111221
044719−6241.9	ESO 85−4	(R:)SAB:(r)a:	1.3:				0.60	0.14			1233000330
044734−5359.9	ESO 158−6	(R_1')SB(s)a	1.0	0.63	0.22	70.8				2	1111111000
044739−5953.2	NGC 1688	SB(rs)dm	7.5				1.29	0.93	34.4	1	0222000222
044749−6333.0	ESO 85−5	SAB(rs)bc p	4.0				0.45	0.34	48.5	1+1	0111000111
044804−4208.8	ESO 304−21	(R′)SAB(r)bc	4.0	0.71	0.42	10.7	0.28	0.16		1+1	1222221110
044804−5744.7	ESO 119−8	(R′)SB(rs)a	1.0	0.72	0.70	19.9:	0.33	0.28	0.0	2	3333331331
044817−4201.7	ESO 304−24	(R′)SB(r)a	1.0	0.83	0.50	40.4	0.50	0.24	18.3	2	2122221221
044829−6342.4	CSRG 392	(R_2')SB(s)a	1.0	0.50	0.31	3.6				2:	1111111000
044830−5534.6	CSRG 393	(R′:)SB(r)0/a p	0.0	0.55	0.40	36.8	0.27	0.18	25.5		1111111111
044831−5359.8	ESO 158−7	SB(r)bc p	4.0				0.55	0.29	20.4	1	0111000111
044911−2114.2	CSRG 394	(R_2')SB(s)a:	1.0:	0.39	0.29	28.5:				2	1111111000
044926−3956.6	ESO 304−26	(R_1')SB:(r)ab	2.0	1.30	0.56	94.7	0.34	0.31	3.1:		1111111111
044931−3401.3	NGC 1687	SAB(rs)b	3.0				0.35	0.23		2	0111000110
044938−5545.7	CSRG 395	(R_2')SB(s)a:	1.0:	0.38	0.22	32.5				2	1111111000
044944−5802.3	CSRG 396	(R′)SB(s)a	1.0	0.40	0.34	43.4				2	1111111000
044950−6125.7	ESO 119−13	SAB(rs)c	4.5				0.37	0.25:	0.0:	3	0222000221
045013−3304.4	CSRG 397	SB(rs)0/a	0.0				0.45	0.37	42.5	2	0111000111
045023−6233.6	CSRG 398	SA(r)bc	4.0				0.34	0.18			0222000110
045023−6243.9	CSRG 399	(R)SB(l)0°	−2.0	0.78	0.58	86.5	0.34	0.28	0.0		1111111111
045136−4533.9	ESO 251−39	SAB:(rs)b	3.0				0.45	0.27			0111000110
045151−6239.2	CSRG 400	$(R_1$L)SB0°	−2.0	0.37	0.31	44.1					1101111000
045154−5957.0	ESO 119−18	(R_2')SB(s)a:	0.5:	0.98	0.48	14.4				2	2222222000
045156−3231.2	ESO 361−16	(R′)SB(rl)ab	2.0	0.95	0.85	1.0	0.45	0.34	0.0	2	1111111111
045159−3318.7	CSRG 401	(R)SB(l)0$^+$	−1.0	0.59	0.34	38.5	0.28	0.17	15.2:		1111111111
045202−5425.9	CSRG 402	SB(rs)a p	1.0				0.38	0.18	33.7		0111000111
045206−5252.8	ESO 158−10	SAB(rs)c	4.5				0.34	0.23	35.0	4	0222000111
045210−5247.4	CSRG 403	(R_1')SB(r)ab	2.0	0.40	0.23	57.0	0.17	0.16		2	1111111110
045219−4256.5	CSRG 404	(R)SAB0$^+$	−1.0	0.32	0.30	65.0					2202221000
045230−4259.2	CSRG 405	(R_1')SAB(r)a	0.5	0.60	0.36	74.5	0.23	0.22		2	2222221220
045242−2844.2	ESO 422−9	(R′)SB(s)dm:	8.0:	0.96	0.73	9.5				2	1111111000
045243−2042.4	CSRG 406	(R_1')SB(s)b p	2.5	0.48	0.31						2222110000
045310−5432.6	CSRG 407	SAB(rs)b	3.0				0.34	0.27		6	0111000110
045336−3153.4	ESO 422−10	SAB(rs)b	3.0				0.63	0.32	10.9:	2	0111000111
045338−5310.7	ESO 158−14	(R_2')SB(rs)a	0.5	0.84	0.43	45.0	0.28	0.15	27.4:	2	2222222111
045354−2957.7	NGC 1701	(R)SA(r)b	3.0	1.01	0.84		0.25	0.21			1111110110
045408−2003.3	CSRG 408	(R)SB0$^+$	−1.0	0.57	0.39	69.4					1101111000
045414−6252.7	ESO 85−14	SB(s)m	9.0				1.41:	0.63:	8.2:		0222000111
045435−2834.8	IC 2106	(R′)SB(r)ab	2.0	1.67	0.94	4.6	0.79	0.52	2.9		1111111111
045456−4606.5	CSRG 409	SB(rs)bc:	4.0:				0.26	0.22	13.5:	2	0111000111
045456−5414.1	CSRG 410	(R)SB0°	−2.0	0.67	0.29	7.9					1101111000
045504−6017.1	ESO 119−21	(R)SB(s)0$^+$	−1.0	1.17	0.59	28.5					1111111000
045744−5558.0	ESO 158−16	SAB(r)c	5.0				0.29	0.22		6:	0111000110
045746−1732.0	ESO 552−45	(R)SB(rl)a	1.0	1.62	1.02	41.2	0.44	0.39	9.7	2	1111111111
045752−6206.1	NGC 1765	SB(l)0°	−2.0				0.61	0.45	78.9		0111000111
045807−8158.7	CSRG 411	(R_2')SAB(s)a	1.0	0.53	0.45	49.4				2	2222221000
045821−5843.7	ESO 119−25	(R)SB(r)a	0.5	1.04	0.51	32.8	0.55	0.29	32.6	2	1222111222
045830−6322.3	NGC 1771	SAB(r)bc	3.5				0.53	0.19	5.0		0222000111
045838−2508.9	ESO 486−7	SA(r)b:	3.0:				0.38	0.29		2	0111000110
045852−4451.6	CSRG 412	SB(r)bc	4.0				0.28	0.22	0.5		0111000111
045916−6211.7	CSRG 413	(R_1)SB0$^+$	−1.0	0.42	0.28	31.4					1101111000
045919−4721.5	CSRG 414	(R)SB(s:)0$^+$	−1.0	0.64	0.34	18.3					1111111000
045923−4949.1	ESO 203−15	SA(rs)b	3.0				0.55	0.31		2:	0222000220
045924−4825.3	CSRG 415	SA(r)a?	1.0?				0.40	0.29			0111000110
045939−4614.7	CSRG 416	(R_1')SB(rs)b p	3.0	0.46	0.35	65.4	0.27	0.18	0.0:	2	1111111111
050002−6208.4	ESO 119−27	(R)SAB(rs)a	1.0	0.70	0.48	17.3	0.42	0.26	24.2	2	1333111111
050008−2004.3	ESO 552−53	SB(r)b	3.0				0.50	0.50		4?	0111000110
050022−3031.5	ESO 422−23	SB(rs)b p	3.0				0.56	0.37	13.3		0111000111
050040−4843.0	ESO 203−16	(R)SB(l)0°	−1.5	0.99	0.73	58.4	0.46	0.41	12.6		2222222222
050140−4826.2	CSRG 417	(R)SB(rl)0$^+$	−1.0	0.60	0.49	77.1	0.27	0.22	−2.4:		1111111111
050207−6112.5	NGC 1796	(R)SB(r)dm:	7.5:	1.06	0.56	2.9	0.84	0.40	−4.0		1222111222
050336−5535.5	ESO 158−17	SAB(rs)b	3.0				0.28	0.23	0.0	3	0111000111
050356−6338.9	ESO 85−38	(R_2')SB(s)c p	4.5	1.12	0.85:	49.6					2222111000
050417−4939.8	ESO 203−19	SAB(rl)0$^+$ p	−1.0				0.51	0.37	10.4		0222000221

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
050441−2024.7	ESO 553−5	(R)SB(r)b	3.0	0.95	0.47	64.3	0.45	0.25	67.9	2	1111111111
050441−4506.8	ESO 252−10	SB(rl)b	3.0				0.45	0.31	3.0	7:	0222000222
050510−5540.8	ESO 158−18	(R′)SA(s)c p	5.0	0.85	0.78					1	1111110000
050523−4815.5	ESO 203−20	(R′)SB(rl)b: p	3.0:	0.72	0.51		0.33	0.25:			1111110110
050541−6130.4	CSRG 418	(R_1)SB0°	−2.0	0.83	0.61	63.5					1101111000
050559−3734.6	NGC 1808	(R_1')SAB(s)b:	3.0:	6.48	4.47	21.1				2	2212111000
050615−7343.1	ESO 33−11	(R)SB(r)0$^+$	−0.5	1.09:	1.08		0.55	0.39	1.0		2222220222
050656−4624.6	ESO 252−12	(R′)SB(s)bc	3.5	1.07	0.35	3.4				2	1222111000
050753−6125.8	NGC 1796B	SAB(s)bc	4.0				0.32	0.25		3+	0222000110
050853−3139.5	ESO 422−41	SB(r)dm	8.0				0.89	0.89			0111000110
051017−4708.3	CSRG 419	SA(r)b p	2.8				0.26	0.20		2+2	0444000330
051403−5347.6	ESO 159−2	(R′)SAB(rs)c	5.0	2.50	1.68	3.3	1.01	0.56	9.6	2	1111111111
051403−6132.2	ESO 119−48	(R′)SA(l)0/a p	0.0	3.29	2.12:		0.59	0.40		2	1111110110
051422−6214.0	CSRG 420	SA:(rs)0/a:	0.0:				0.28	0.11			0111000110
051605−5407.2	ESO 159−4	(R)SAB(r)0$^+$	−1.0	1.14	0.68	81.0	0.44	0.38	52.5		3333333333
051642−5646.8	CSRG 421	SAB(rs)bc	4.0				0.33	0.26	79.8	2	0223000222
051659−6239.6	CSRG 422	(R′)SB(s)a:	1.0:	0.49	0.22	3.5				2	1111111000
051729−5759.7	ESO 119−51	(PR?)		0.96							1000100000
051735−2456.6	ESO 486−52	SA(r)a	1.0				0.35	0.29		2	0111000110
051736−4312.4	ESO 252−18	(L)SB0°	−2.0	0.84	0.50	38.0					1101111000
051857−5359.2	ESO 159−6	(R_1')SB(r)a	1.0	0.67	0.66	12.2	0.42	0.29	1.7	2	2222221222
051908−6147.3	ESO 119−53	(R_1R_2')SB(rl)0/a	0.0	1.12	0.84	58.4	0.54	0.39	19.8	2	6666666555
〃	〃	〃		1.45	1.04	31.9					0000222000
051931−6310.5	CSRG 423	(R_1')SB(rs)a	1.0	0.96	0.65	87.5	0.49	0.39	2.5	2	2222222222
051946−6118.5	ESO 119−54	(RL)SB(r)0$^+$	−1.0	1.39	0.86	52.8	0.72	0.47	12.9		4444333444
052041−6106.4	ESO 119−58	SB(rl)a: p	0.5:				0.48	0.20	45.6	3	0222000222
052051−4602.1	ESO 252−20	(R_1')SAB(s)b	3.0	0.70	0.16	75.0				2	2222221000
052238−4957.0	ESO 204−4	(R_1)SB(s)a	1.0	0.89	0.50	53.4				2	1111111000
052239−2835.5	ESO 423−12	(R′)SB:ab	2.0	0.96	0.28						1101110000
052257−4647.4	ESO 253−1	SB(rs)cd	6.0				0.39	0.30	32.9	2+	0333000111
052326−6121.5	CSRG 424	(R)SAB0/a?	0.0?	0.31	0.23	51.4				2	1101111000
052331−4829.9	ESO 204−6	(R)SA(r)a	0.5	0.87	0.31		0.40	0.12			2112220110
052359−6124.5	ESO 120−1	SB(rs)cd	6.0				0.48	0.33	6.7	3:	0222000222
052409−3957.0	ESO 305−25	SAB(rs)b	3.0				0.54	0.28	26.5		0111000111
052442−3153.1	ESO 423−16	(R)SB(s)0/a	0.0	0.72	0.56	80.6					1111111000
052500−2850.9	CSRG 425	(RL)SAB0°	−1.5	0.40	0.39						2202110000
052534−4551.4	CSRG 426	SAB:(rs)b p	3.0				0.27	0.22:		2	0111000110
052541−4549.0	CSRG 427	(R_1')SAB(r)a	1.0	0.75	0.50	15.5	0.40	0.17	6.8	2	1111111111
052545−4606.6	ESO 253−5	SAB(rs)c	5.0				0.27	0.17		3	0111000110
052608−3005.4	CSRG 428	SA(r)ab:	2.0:				0.34	0.22			0111000110
052617−2914.8	CSRG 429	(R′:)SB(s)a	1.0	0.61	0.55:	70.6				2	1111111000
052729−1936.1	ESO 554−4	(R_1)SB(s)0/a: p	0.0:	0.64	0.39	61.2					1111111000
052730−3000.4	CSRG 430	(R_1)SB(l)0$^+$	−1.0	0.54	0.42	50.1					1111111000
052750−5658.4	ESO 159−12	(R)SAB(rl)0°	−1.5	0.91	0.64	23.8:	0.42	0.28	4.7:		2222221221
052841−5347.5	ESO 159−13	(R)S(r)0/a:	0.0:	0.89	0.39		0.34	0.10			1011110110
052850−3325.5	ESO 363−3	SAB(rs)b p	3.0				0.49	0.39:	69.7	2	0111000111
052907−4509.3	ESO 253−8	(R_1)SB0/a p	0.0	0.78	0.39	2.1					1101111000
053007−4211.9	ESO 306−9	(R′)SA(r)a	1.0	1.96	1.84		0.87	0.85		1	1222110220
053037−5548.7	CSRG 431	(R_1)SB0$^+$	−1.0	0.37	0.25	70.0					1101111000
053050−3259.7	ESO 363−6	SB(rl)0$^+$	−1.0				0.73	0.40	1.5		0111000111
053127−1814.4	CSRG 432	(R_1')SB(s)a	1.0	0.40	0.28	81.0				2	1111111000
053149−4537.6	CSRG 433	(R?)SAB(rl)0$^+$	−1.0	1.17:	0.95:	6.6:	0.38	0.28	−9.1		1111111111
053157−4843.7	NGC 1998	(R)SA(r)0$^+$	−1.0	0.92	0.52		0.45	0.19			2112220110
053209−2829.9	ESO 423−20	SAB(rs)c	5.0				0.61	0.47		m	0211000110
053217−2333.9	IC 2138?	SAB(r)ab	2.0				0.76	0.39	9.6		0111000111
053229−5953.1	ESO 120−4	(R_2')SB(rl:)b	3.0	0.88	0.34	79.0:				2	1111111000
053241−4153.7	CSRG 434	SAB:(r?)0$^+$	−1.0				0.30	0.25			0111000110
053246−2830.8	ESO 423−25	(R′)SB(s)ab	2.0	0.89	0.21	22.7					1111111000
053256−5233.2	CSRG 435	(R_1)SB?p		0.63	0.18	42.6					1100111000
053309−3154.1	ESO 423−26	(R′)Sab:	2.0:	0.56	0.28					2	2002110000
053322−5554.8	ESO 159−20	SAB(rs)d	6.5				0.34	0.28	65.7:	2+	0222000221
053332−4839.8	CSRG 436	(R′)SAB(r)0/a	0.0	0.51	0.48		0.22	0.20			1211110110
053347−5057.2	NGC 2007	SB(rs)bc	4.0				0.67	0.28	8.4	2:	0222000111
053349−8625.6	ESO 4−19	SA(rs)cd	6.0				0.39	0.34		m	0222000110
053357−7954.6	ESO 16−6	SA(rs)c:	5.0:				0.22	0.20		2	0111000110
053424−3200.9	ESO 424−2a	(R_1')SB(s)a	1.0	0.67	0.45	12.4				2	1111111000
053433−4549.9	CSRG 437	SB(rs)a	1.0				0.40	0.29	2.0	4	0111000111
053446−4757.3	CSRG 438	SAB(r)p					0.29	0.21		1:	0110000110
053558−7730.3	ESO 16−8	(RL)SB0°	−2.0	0.82	0.48	6.2					2202222000
053648−3425.1	ESO 363−12	SB(r)b p	3.0				0.40	0.30	29.5		0111000111
053738−4800.5	ESO 204−27	SB(rs)bc	4.0				0.44	0.34	4.7	4	0111000111
053813−1807.4	CSRG 439	(RL)SB0$^+$	−1.0	0.66	0.38	36.8					1101111000
053831−4741.4	CSRG 440	(RL)SAB0°	−1.5	0.46	0.20	81.9					2202221000
053908−1818.1	ESO 554−24	SAB(rs)c	5.0				0.50	0.36		2i,6o	0111000110
053914−5836.6	ESO 120−12	(R′)SB(rs)d	6.5	1.84	1.37	5.2	0.96	0.73	12.1	2	2222222222
054203−1907.5	CSRG 441	SAB(rs)cd: p	6.0:				0.30	0.23			0221000110
054237−4816.7	ESO 204−31	SAB(r)0/a p	0.0				0.51	0.28	6.5	1?	0111000111
054238−4806.1	CSRG 442	SAB(r)b	3.3				0.25	0.19	3.5	3+	0333000331
054250−4954.6	ESO 204−32	SA(rs)b:	3.0:				0.40:	0.34			0111000110
054308−3242.1	ESO 363−20	(R_2')SB:(s)b	3.0	0.61	0.17	78.7:					1111111000
054312−4804.4	CSRG 443	SAB(r)bc	4.0				0.22	0.16	15.8	3+1	0333000332
054319−5533.2	NGC 2087	SAB(rs)ab:	2.0:				0.51	0.39		2	0111000110
054321−2548.6	ESO 488−6	SA(rs?)0$^+$?	−1.0?				0.55	0.42		2	0111000110
054329−3254.7	ESO 363−21	(R_2')SB(s)a	1.0	0.84	0.38	10.8				2	1111111000
054334−5540.9	ESO 159−27	(R′)SAB:(r:)a	1.0	0.89	0.36						1111110000
054339−2533.3	ESO 488−10	(R′)SAB(r)ab	2.0	0.94	0.83	43.0:	0.42	0.35	22.7:	2:	1111111111
054359−7731.2	CSRG 444	(R_1')SB(rs)a	1.0	0.70	0.56	37.5	0.29	0.22:		2	1222111110
054402−1802.4	ESO 554−32	(RL)SAB(r)0$^+$	−1.0	0.75	0.61:	4.8:	0.35	0.30	0.6:		1111111111
054418−4654.8	CSRG 445	(R_1')SB(s)a	1.0	0.51	0.18	23.4				2	1111111000
054442−1844.7	IC 2143	(R_2')SB(s)bc:	4.0:	1.34	0.61	6.0				2	1111111000
054448−2539.5	CSRG 446	(R)SB0$^+$	−1.0	0.50	0.41	53.6					1102221000
054456−4843.0	ESO 204−37	(R_2')SB(s)b p	2.7	0.75	0.64	41.2				2	3333333000
054505−4708.0	CSRG 447	(R′)SB(s)a:	1.0:	0.50	0.40	46.3				2:	1111111000
054514−3416.1	NGC 2090	SA:(rs)b	3.0				1.24	0.45		f	0111000110
054524−2507.3	ESO 488−18	SB(r)bc	4.0				0.35	0.26	5.6	3+1	0111000111
054554−3031.0	IC 2147	SB(rs)dm	8.0				0.78:	0.68	23.7:	2	0111000111
054624−2519.0	ESO 488−25	(R_1')SB(rl)ab	2.0	0.67	0.51	49.6	0.34	0.20	28.5	2	1111111111
054625−1841.2	ESO 554−38	(RL)SAB:(r?)0$^+$	−1.0	1.51	0.39	12.1					1111111000
054643−3246.2	ESO 363−28	SAB(rs)bc	4.0				0.29	0.22:	50.6	3	0111000111
054651−2507.7	CSRG 448	(R)SA0$^+$	−1.0	0.44	0.32						1202110000
054652−4530.4	CSRG 449	(R_1')SB(s)a p	0.5	0.50	0.42	78.0				2	2222222000
054701−3645.1	ESO 363−29	SB(rs)b:	3.0:				0.28	0.17	36.0:	2	0111000111
054722−1933.9	ESO 555−1	SA(r)b p	3.0				0.43	0.23			0111000110
054738−3246.2	ESO 363−30	(R′)S(rs)b?	3.0?	0.70	0.18:		0.36	0.15:			1011110110

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
054739−3304.6	ESO 363−31	(R_1?R'_2?)SA0/a	0.0	0.96	0.84						1101110000
〃	〃	〃		1.77	1.13						0000110000
054742−4710.9	ESO 253−29	(R'_1)SB(r)b p	2.8	1.02	0.59	86.6	0.49	0.33	−15.0	2	3444444444
054745−6617.0	CSRG 450	(R)SA(r)0$^+$:	−1.0:	0.74	0.63		0.26	0.25			1111110110
054751−2424.2	ESO 488−37	(R)SA0$^+$?	−1.0?	0.77	0.64						1101110000
054757−4644.6	CSRG 451	(R'_1)SB(s)a	1.0	0.39	0.15	75.2:				2	1111111000
054801−2439.1	ESO 488−38	SB(r)0/a	0.0				0.50	0.30	41.7		0111000111
054822−4324.8	ESO 253−30	SA(rl)0$^+$	−1.0				0.34	0.29			0111000110
054834−4245.3	CSRG 452	(R'_1)SB(r)0/a	0.0	0.60	0.39	47.4	0.32	0.22	8.4	2	1111111111
054835−2209.3	CSRG 453	SB(r)b	3.0				0.28	0.22	33.7	2	0112000111
054839−2134.8	NGC 2106	(L)SB(s)0°	−2.0	1.34	0.67	70.4					1111111000
054839−3345.3	ESO 364−2	(R'_1)SAB(rl)ab	2.0	0.84	0.73	39.8	0.45	0.25	15.4	2	1111111111
054849−1922.7	CSRG 454	(R′)SB(s)a:	1.0:	0.54	0.18	9.7				2	1111111000
054938−3819.9	IC 2150	SB(r:)bc:	4.0:				0.96	0.22	13.1:		0111000111
055002−7234.1	ESO 33−30	(R′)SB(s)a:	1.0:	0.75	0.40	2.5				2	1111111000
055014−3027.7	ESO 424−34	SB?(r)0/a	0.0				0.30	0.21	28.5?		0111000111
055024−1747.9	IC 2151	(R′:)SB(s)c	5.0	1.01	0.61	19.5				3	1111111000
055051−4759.9	CSRG 455	(R)SB0°	−2.0	0.50	0.41	82.4					1101111000
055124−3932.0	CSRG 456	SB(r)bc	4.0				0.28	0.22	0.0		0111000111
055149−1742.7	CSRG 457	SB(rs?)ab?	2.0?				0.34	0.28	39.9		0111000111
055159−3246.9	ESO 364−11	(RL)SA0$^+$	−1.0	0.73	0.27						1101110000
055221−5938.9	ESO 120−20	SAB(rs)bc	4.0				0.26	0.18	1.1	2+2?	0111000111
055306−5159.0	ESO 205−7	SAB(rs)bc	4.0				0.29	0.27		4+	0222000220
055403−5141.9	CSRG 458	(R′)SB(r)0$^+$	−0.5	0.68	0.49	72.9	0.34	0.27	37.2		2222221111
055416−1813.4	CSRG 459	SA(r)0$^+$	−1.0				0.34	0.29			0111000110
055419−6001.2	CSRG 460	SB(r)ab: p	2.0:				0.40	0.31	25.2	2	0111000111
055427−3809.6	ESO 307−5	SB(r)a	1.0				0.60	0.26	13.3		0111000111
055438−3406.4	ESO 364−17	SAB(r)c	5.0				0.32	0.18	0.0	3	0111000111
055442−6136.5	CSRG 461	SA(r)0° p	−2.0:				0.39	0.32			0111000110
055548−2311.1	IC 2152	(R:)SAB(l)ab:	2.0:	1.06	0.89:		0.54	0.42:			1111110110
055600−3447.8	CSRG 462	(R_1)SAB(r)0$^+$	−1.0	0.82	0.38		0.36	0.15			1111110110
055612−6933.9	NGC 2150	(R_1)SAB(r)a	0.5	0.74	0.62	79.4	0.38	0.22	−3.3:		2222221221
055626−4551.7	ESO 254−6	(R_1)SB(r)0$^+$	−1.0	1.06	0.84	76.8	0.61	0.43	−0.7		2222222222
055633−5158.3	ESO 205−11	(R′)SB(r)a	1.0	1.19	0.80	47.6	0.50	0.39	7.3	2+2	2222222222
055648−2320.5	ESO 488−51	SAB(r)a	1.0				1.12	0.61		2	0111000110
055725−5951.8	CSRG 463	SA(rs)cd	5.5				0.56	0.38			0112000110
055742−5229.3	CSRG 464	(R)SB(r)a p	0.7	0.82	0.64	67.7	0.41	0.28	21.2		3333333333
055744−7655.5	IC 2160	(R′:)SB(rs)bc	3.7	1.63	0.78	31.0	0.63	0.49	27.2	3	1333111322
055804−3532.0	ESO 364−21	SB(r)b	3.0				0.34	0.12	10.6	2	0111000111
055804−5907.7	NGC 2148	SA(rs)ab p	1.5				0.41	0.29		2	0222000110
055811−6003.6	CSRG 465	(R)SB(s)0$^+$	−0.5	0.62	0.51	76.5				2	2212222000
055825−5222.0	CSRG 466	SB(rl)0°	−2.0				0.41	0.35	53.9		0111000111
055843−5224.5	ESO 205−14	(R)SB(s)0/a:	0.0:	1.29	0.26	0.9				2	1111111000
055900−6004.4	ESO 120−26	SA(rs)c	4.5				0.33	0.31		2	0222000220
055912−2014.0	CSRG 467	(R_1)SB(s)0$^+$	−1.0	0.89	0.50:	38.7					1111111000
055920−2009.9	CSRG 468	(R′)SB(r)b:	3.0:	0.64	0.50	61.0	0.26	0.23			1111111110
055934−5756.4	CSRG 469	(R)SAB(l)0°	−1.5	0.85	0.65	83.0	0.30	0.24	1.9		2222222222
055936−5610.9	CSRG 470	SA(r?)0/a?	0.0?				0.46	0.39			0111000110
055943−5044.3	NGC 2152	SB(l)a	1.0				0.51	0.28	11.9	3+	0111000111
055950−6009.3	ESO 120−27	(R′)SA(r)0/a	0.0	1.23	0.28		0.45	0.12		2	1111110110
060059−4453.7	ESO 254−9	($R_1R'_2$)SABa	0.5	0.68	0.23	2.2				2?	2202222000
〃	〃	〃		1.02	0.28	2.0					0000222000

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
060110−1736.8	CSRG 471	SAB(r)0/a	0.0				0.41	0.23	81.9		0222000111
060122−5836.5	ESO 121−2	(R'_1)SB(r)ab	2.3	1.04	0.73	86.9	0.47	0.40	−3.5	4	3333333333
060148−3208.6	ESO 425−4	SB(r)a	1.0				0.39	0.37	75.5:	2	0111000111
060150−5518.5	CSRG 472	SAB(r)b	2.5				0.29	0.29		2	0212000110
060220−1911.2	CSRG 473	(R)SAB(r)0$^+$	−1.0	0.73	0.73		0.44	0.28	0.0		1111110111
060225−6450.3	ESO 86−52	SAB(rs)bc	4.0				0.31			4:	0111000100
060240−6506.5	CSRG 474	(R′)SAB(s)0/a	0.0	0.63	0.45					2	2222110000
060241−4432.4	ESO 254−11	SB(rs)a p	1.0				0.31	0.28		4	0111000110
060319−2751.1	IC 2158	SB(rs)ab	2.0				0.45	0.35	19.2		0111000111
060338−5836.0	CSRG 475	SB(r)0/a:	0.0:				0.28	0.17	45.8:		0111000111
060341−6341.7	ESO 86−56	SAB(r)ab	1.5				0.84	0.35	0.8	2:	0222000222
060357−4549.2	ESO 254−12	SAB(r)c	5.0				0.30	0.17	13.6	2	0222000222
060406−4221.0	CSRG 476	(R_1)SB0/a:	0.0:	0.49	0.34	19.4				2	1101111000
060409−3250.2	CSRG 477	(RL)SB(r)0$^+$	−1.0	0.73	0.67	0.0:	0.39	0.37	0.0:		1111111111
060412−3557.4	ESO 364−30	(R′)SB(s)ab	2.0	0.84	0.27	8.9				2	1111111000
060436−4901.7	ESO 205−19	($R'_1R'_2$)SB(l)a	1.0	0.70	0.49	85.9	0.28	0.21	9.6	2	1111111111
〃	〃	〃		0.78	0.74	68.0:					0000111000
060513−4343.4	ESO 254−16	(R'_2)SB(s)b	2.5	0.74	0.32	11.8				2	2222222000
060544−4510.4	ESO 254−19	SA(r)0$^+$	−1.0				0.30	0.28			0111000110
060555−2144.3	NGC 2179	(R)SA(r)0$^+$?	−1.0?	0.95	0.58		0.61:	0.34:			1111110110
060555−7323.7	NGC 2199	($R_1R'_2$)SAB(r)a	1.0	1.31	0.76		0.72	0.29		2	2222220220
〃	〃	〃		1.90	0.83						0000110000
060624−4724.5	ESO 254−22	SA(r)c p	5.0				0.27	0.21		6:	0111000110
060643−4508.4	ESO 254−24	(R)SB(r)0/a	0.0	0.74	0.26	75.8	0.38	0.11	70.0		1111111111
060647−3604.0	ESO 364−32	SB(r)0/a	0.0				0.32	0.28	69.0	2	0111000111
060715−3342.0	CSRG 478	SA(r)b	3.0				0.32	0.17		f	0111000110
060716−1936.2	CSRG 479	(R'_2)SAB(s)a	1.0	0.60	0.34					2	1212110000
060749−3334.6	CSRG 480	(R′)SB(s)a	1.0	0.61	0.40	26.4				2+	2212111000
060805−3340.3	CSRG 481	SB(r)ab:	2.0:				0.30	0.23	35.7	2	0111000111
060810−5423.8	ESO 160−16	(R)SB(r)0/a	0.0	0.95	0.94		0.38	0.37		2	1111110110
060833−7521.4	IC 2164	SA(rs)b p	2.5				0.73	0.62		1	0222000220
060853−6130.4	ESO 121−8	(R)SB0°	−2.0	0.68	0.34	46.6					1101111000
060902−3352.3	ESO 364−39	SA(r)ab:	2.0:				0.48	0.35			0111000110
060913−4739.0	ESO 205−29	SB(r)c p	5.0				0.34	0.22	2.6	3+	0222000222
060933−5411.1	CSRG 482	(R)SB0°	−2.0	0.50	0.48						1101110000
060935−4931.6	CSRG 483	SB(r)0$^+$:	−1.0:				0.28	0.18	53.5		0111000111
061003−2147.6	NGC 2196	(R′:)SA(rs)ab	2.0	1.62	1.41		1.19	0.70			1111110110
061012−4328.0	CSRG 484	(R_1)SB(l)0/a:	0.0:	0.60	0.39	71.0	0.22	0.17	6.4	2	1111111111
061014−6048.6	ESO 121−10	SA(rs)c	5.0				0.20	0.19		5:	0111000110
061046−5807.3	CSRG 485	(R_1)SB(l)0°	−2.0	0.48	0.34	76.5	0.28	0.19	9.0		1111111111
061053−3340.0	CSRG 486	(R'_2)SB(s)0/a	0.0	0.35	0.29	9.5				2	1111111000
061130−5928.7	ESO 121−11	(R'_1)SA(r)a	1.0	0.74	0.39		0.39	0.15		2	1111110110
061132−4309.6	ESO 254−38	RG?		0.67	0.45						1000110000
061147−4338.9	NGC 2200	SB(rs)c	4.5				0.30	0.23	18.8	5	0222000221
061150−5743.9	CSRG 487	SA(rs)bc: p	4.0:				0.19	0.17		2	0111000110
061202−4341.4	NGC 2201	SB(r)bc p	3.5				0.95	0.50	8.0	2+	0222000222
061232−4250.4	ESO 254−43	(R′)SA(rs)bc	3.5	0.95	0.50		0.45	0.22		4?	1222110220
061248−5808.0	ESO 121−16	(R)SA(l)0°	−2.0	0.75	0.49		0.31	0.20			1111110110
061304−4753.2	ESO 205−36	(R'_2)SB(s)b p	3.0	0.70	0.30	0.8				2	2222222000
061328−5355.5	ESO 160−20	(R_1)SB(r)0/a	0.0	1.01	0.50	78.5	0.38	0.31	56.0	2	2222222222
061411−5739.3	ESO 121−19	(R'_1)SB(r)0/a	0.3	0.68	0.42	87.7	0.29	0.26	91.4	2	3333333332
061441−4439.5	ESO 254−45	(R)SB0$^+$	−1.0	0.45	0.27	25.4					2202222000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
061504−5844.5	CSRG 488	SA?(r)0$^+$:	−1.0:				0.29	0.11			0111000110
061536−4818.0	ESO 206−4	(R)SB(l)0/a:	0.0:	0.79	0.43	7.8	0.38	0.12		2	2212222110
061543−3657.0	CSRG 489	SB(r)a	1.0				0.28	0.28			0111000110
061620−5531.8	ESO 160−22	(R′)SB(r)b	3.0	0.96	0.50	33.6	0.36	0.30	16.3	2+2	3333333333
061650−5635.4	ESO 160−23	(R)SB(r)0/a p	0.0	1.05	0.84	61.4	0.40	0.30	5.6		1111111111
061706−6402.6	CSRG 490	(R′)SB(s)b p	3.0	0.54	0.45	68.4				2	1111111000
061732−5457.1	CSRG 491	(R′)SA(s)a:	1.0:	0.41	0.17					2	1111110000
061816−6559.7	ESO 87−3	(R'_2)SAB(rs)ab	2.0	1.41	0.40	3.3				2	2333222000
061922−5833.0	CSRG 492	(R'_1)SB(s)a	1.0	0.55	0.39	44.0				2	1111111000
061940−2712.5	NGC 2217	(R)SB(rs)0/a	0.0	3.24	2.96	91.2	1.34	1.19	5.0	2	1111111111
061940−5728.3	ESO 161−1	(R)SB(s)cd	6.0	1.01	0.46	1.1				3:	1212111000
061950−4429.1	CSRG 493	(R′)SAB(r)0/a p	0.0	0.61	0.37	90.2	0.30	0.29	17.2:		1222111221
062007−4441.0	ESO 255−5	SAB(rs)ab: p	2.3:				0.48	0.30	7.9	3	0333000331
062019−5101.1	CSRG 494	(R'_2)SB(s)a	1.0	0.60	0.41	18.8				2	1111111000
062036−4213.4	CSRG 495	(R′)SB(s)ab	2.0	0.50	0.22	19.4				2	1222111000
062059−5942.8	ESO 121−26	SB(rs)c	4.5				0.69	0.50	39.7	6	0222000222
062122−6523.3	ESO 87−10	SA(r)ab?	2.0?				0.34	0.34			0111000110
062154−3211.3	ESO 426−2	($R_1R'_2$)SB(r)0/a	0.0	1.07	0.84	87.2	0.50	0.38	6.0	2	1111111111
〃	〃	〃		1.45	1.23	40.0					0000111000
062200−4324.7	CSRG 496	(R'_2)SAB(s)0/a	0.0	0.40	0.29	18.4				2	1111111000
062201−6442.1	ESO 87−12	(RL)SAB0°	−2.0	0.67	0.51						1101110000
062230−2248.6	NGC 2223	SB(rs)bc p	4.0				1.01	0.89	71.1:	4+	0111000111
062237−3729.0	ESO 365−15	(R'_2)SB(s)ab	2.0	0.96	0.18	8.0					1111111000
062306−3719.6	CSRG 497	RLSAB0$^+$	−1.0	0.56	0.39	60.9					1101111000
062312−6056.9	ESO 121−28	SB(l)0/a? p	0.0?				0.34	0.31		1	0111000110
062327−3718.6	ESO 365−16	(R)SB(r)ab	2.0	1.17	0.48	67.2	0.50	0.22	56.7		1111111111
062330−4116.9	CSRG 498	(R'_1)SB(r)a	1.0	0.39	0.27	72.5:	0.18	0.12	0.0:		1111111111
062335−3746.3	ESO 308−5	SB(rs)0$^+$	−1.0				0.49	0.27	20.1		0111000111
062340−4127.6	CSRG 499	SAB(rs)ab:	2.0:				0.35	0.28:	49.9:		0111000111
062401−2658.1	ESO 489−54	SAB(rs)bc	4.0				0.37	0.26	13.2	2	0111000111
062430−3145.7	ESO 426−9	SB(r)bc	4.0				0.44	0.27	7.2	m	0111000111
062613−5343.9	CSRG 500	(R′)SAB(s)a	1.0	0.50	0.17	18.7				2	1111111000
062629−5152.4	CSRG 501	(R'_2)SA(r)b:	3.0:	0.53	0.38		0.22	0.12		2	1111110110
062708−4918.5	ESO 206−13	SAB(rs)b	3.0				0.39	0.17	11.3	3:	0222000221
062713−2627.7	ESO 490−6	SA(r)0/a	0.0				0.75	0.63			0111000110
062723−4437.9	ESO 255−11	(R′)SAB(s)a	1.0	0.86	0.34	1.4				2	2212221000
062727−4720.0	CSRG 502	(R′)SAB(s)0/a	0.0	0.55	0.51					2	1111110000
062738−4859.1	CSRG 503	(R)SB0$^+$	−1.0	0.41	0.39						1101110000
062741−4417.3	CSRG 504	(R)SAB0$^+$	−0.5	0.67:	0.29						2202110000
062756−2850.9	ESO 426−17	(R′)SA(s)b	3.0	0.78	0.59					2	1111110000
062829−3214.6	ESO 426−18	(R′)SB(s)b	3.0	0.82	0.64	81.0					1111111000
062837−6327.5	ESO 87−22	(R)SB0$^+$	−1.0	0.65	0.39	1.6					1101111000
062902−5750.8	ESO 121−34	(R)SAB0°	−2.0:	0.96	0.85	4.9:					1101111000
063034−5456.2	CSRG 505	(R)SAB0$^+$:	−1.0:	0.45	0.28						1101110000
063051−2541.0	ESO 490−12	SB(rl)0$^+$	−1.0				0.66	0.55	6.9		0111000111
063058−5854.4	ESO 121−35	(R)S(r)0/a:	0.0:	1.12:	0.34		0.49	0.15			1011110110
063100−3405.4	ESO 365−27	SAB(rs)bc	4.0				0.38	0.28	45.0	4?	0111000111
063115−2759.2	ESO 426−22	(R'_2)SB(rl)ab	2.0	0.67	0.61	26.6	0.28	0.17:	1.6	2	1111111111
063117−5935.9	ESO 121−36	SB(r)d: p	7.0:				0.37	0.28	1.9:	1	0111000111
063206−5806.7	ESO 121−37	SAB(r:)c:	5.0:				0.12	0.12		2	0111000110
063208−4217.9	ESO 308−14	(RL)SAB:0$^+$	−1.0	0.66	0.17						1101110000
063211−3446.4	NGC 2255	SA(r:)c:	5.0:				0.48:	0.34			0111000110
063227−6736.5	ESO 58−4	SB(rs)b p	3.0				0.40	0.32	5.7	4	0333000222
063230−6751.4	ESO 58−5	(R)SAB(l)0$^+$	−1.3	0.79	0.64	9.0	0.44	0.32			3333221110
063328−3526.8	ESO 365−33	(R'_1:)SB(s)a	1.0	0.89	0.45:	62.0:					1111111000
063421−5507.8	ESO 161−16	(R′)SAB(r)ab:	2.0:	1.06	0.61		0.45	0.30		2	1111110110
063426−5424.8	ESO 161−17	SA(rs)ab	2.0				0.61	0.27		2	0111000110
063458−3501.7	ESO 365−35	($R_1R'_2$)SAB(l)0/a	0.0	0.84	0.60	49.7	0.42	0.34	28.5	2	1111111111
〃	〃	〃		1.05	0.84	41.2					0000111000
063556−2409.3	ESO 490−18	SB(r)a	1.0				0.37	0.34		2	0111000110
063557−5620.5	CSRG 506	(R′)SAB(r)b	2.5	0.67	0.50	36.5	0.28	0.22	27.1	2	1112111111
063608−5519.9	CSRG 507	(R'_2)SB(s)0/a: p	0.0:	0.34	0.28	51.9:				2	1111111000
063619−5519.0	ESO 161−19	(R′)SB(r)b	3.0	1.29	0.95:	15.5:	0.40	0.31	−4.1	2+1	1222111222
063620−7450.9	ESO 34−9	SB(r)c	4.5				0.45	0.31	8.1	6:	0222000222
063625−2448.1	NGC 2263	(R'_2)SB(r)ab	2.0	2.91	1.71	3.6	1.12	0.61	3.4	2	1111111111
063639−6629.1	ESO 87−32	(R′)SB(rs)bc	3.5	1.30	0.52	52.3	0.48	0.34	10.0:	3+1	1222111111
063658−3512.8	ESO 366−4	SB(r)cd	6.0				0.56	0.21	16.3		0111000111
063719−1922.7	CSRG 508	SB(rs)b:	3.0:				0.41	0.36	0.0:	2	0111000111
063745−5948.5	ESO 121−43	SA(rs)c:	4.5:				0.32	0.18:		2+:	0222000210
063750−4154.9	ESO 308−21	(R′)SA(s)b	3.0	0.65	0.34					2	1111110000
063751−6005.5	CSRG 509	(R′)SAB(s)b:	3.0:	0.45	0.22	13.3				2	1111111000
063837−4544.8	CSRG 510	SAB(r)a	1.0				0.27	0.27		2	0222000220
063900−3226.0	NGC 2267	SB(rl)0°	−2.0				1.06	0.95	47.5:		0111000111
063957−5828.6	ESO 122−1	(R′)SAB(s)bc	4.0	2.80	0.86					f,2o	1111110000
064008−6600.3	CSRG 511	(R'_1)SB(l)a	1.0	0.70	0.38	57.9	0.27	0.17	9.6:	2	1111111111
064011−5121.8	ESO 206−19	(R'_2)SAB(s)ab	2.0	0.66	0.38	16.0				2	1111111000
064020−4302.0	CSRG 512	(R′)SAB(s)a	1.0	0.53	0.51					2:	1111110000
064038−6006.8	CSRG 513	SA(r)0/a	0.0				0.34	0.27		2	0111000110
064103−3531.2	ESO 366−9	(R'_2)SAB(s)c	5.0	1.57	0.68	16.3				2	1111111000
064111−3258.8	ESO 366−10	SA(r:)ab	2.0				0.48	0.22			0111000110
064132−3506.4	ESO 366−11	SB(r)0/a:	0.0:				0.45	0.16			0111000110
064138−6101.2	ESO 122−4	SB(r)a p	1.3				0.51	0.38	9.1	2+	0333000333
064159−4926.3	ESO 206−21	SB:(r)0$^+$	−1.0				0.50	0.18	65.4		0111000111
064212−4055.9	ESO 308−26	SB(r)a	1.0				0.50	0.28	13.0		0111000111
064221−2603.4	ESO 490−37	SA(r)0/a	0.0				0.74	0.46			0111000110
064236−5849.7	ESO 122−5	(R?)SA(r)a p	1.0	1.01			0.30	0.17		3:+1o	1111100110
064247−4908.8	CSRG 514	(R′)SB0/a:	0.0:	0.32	0.23	43.6					1101111000
064327−6832.2	CSRG 515	(R?)SAB0°	−2.0:	0.40	0.34						1101110000
064339−4623.7	ESO 255−18	RGp	:	0.89	0.63		0.55	0.50			1010110110
064404−6339.8	NGC 2297	(R'_1)SAB(rs)b	3.0	1.73	1.34	79.3	0.80	0.56	−20.1	4i+2o	1222111222
064420−2603.2	ESO 490−41	(RL)SB(s)0/a	0.0	1.86	0.67	2.4				2	1111111000
064425−5040.6	CSRG 516	(R_1)SB0$^+$:	−1.0:	0.44	0.11	2.3					1101111000
064425−7411.1	ESO 34−11	RG		1.42	0.84						1000110000
064427−7232.5	ESO 34−12	SAB(rs)c	4.7				0.41	0.25		4+	0333000330
064447−4751.8	CSRG 517	(R'_1)SB(s)a	1.0	0.44	0.35	63.9				2	2222222000
064458−7337.3	ESO 34−13	SA(rs)c p	4.5				0.54	0.31		4:	0222000220
064518−4902.1	CSRG 518	(R'_2)SB(s)a:	1.0:	0.45	0.38	5.1				2	1111111000
064642−8732.6	CSRG 519	(R'_2)SB(s)ab	2.0	0.78	0.38	63.6				2	1111111000
064659−4214.4	CSRG 520	(R′)SB(s)ab	1.5	0.59	0.38	79.7					1222111000
064731−4353.1	CSRG 521	SA(r)0$^+$	−1.0				0.31	0.30			0222000220
064739−6830.6	CSRG 522	(R'_1)SB(r)a	1.0	0.54	0.45	85.0	0.30	0.24	13.7	2	2222111111
064741−4716.9	ESO 256−2	(R′)SAB(s)bc: p	3.7:	0.75	0.23	77.0				2	3333332000
064752−5238.8	CSRG 523	SAB(r)b	3.3				0.33	0.27	0.6	2	0223000221
064821−1955.9	CSRG 524	(R'_1)SB(s)a:	1.0:	0.59	0.35	53.5				2	1111111000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
064833−6416.5	NGC 2307	SB(rs)ab	2.0				0.80	0.73	15.2	5+	0333000333
064857−6306.6	CSRG 525	(R'_1)SB(s)a	1.0	0.59	0.37	70.2				2	1111111000
064915−3021.3	ESO 427−13	SA?(rs)b	3.0				0.28	0.25		m	0111000110
064924−2931.9	ESO 427−14	(R′?)SB(s)ab?	2.0?	0.78	0.22	70.5					1111111000
065001−4400.1	ESO 256−3	SB(rs)cd:	6.0:				0.74	0.42	24.4	2	0111000111
065048−6405.1	ESO 87−48	(RL)SAB0°	−2.0	1.01	0.70	2.7					1101111000
065122−3912.4	ESO 309−5	SAB(r)b:	3.0:				0.48	0.28	9.2		0111000111
065202−3224.8	ESO 427−17	SB:(rs:)c	5.0				0.32	0.27	24.0?		0111000111
065249−6451.2	ESO 87−49	(R'_1)SAB(rs)b	3.0	0.63	0.38		0.34	0.25		2	1111110110
065346−6333.6	ESO 87−51	(R)SA(r)0$^+$	−1.0	1.14	0.46		0.38	0.17			1111110110
065357−4702.8	ESO 256−7	(R'_1)SB(r)b	2.5	0.93	0.74	80.8	0.59	0.39	−2.6	2	3444222444
065517−6525.8	ESO 87−54	(R′)SAB(r)a	1.0	1.40	0.62	13.6	0.68	0.39	5.8	2	2222221222
065540−4528.8	ESO 256−10	(R'_2)SAB(s)a	1.0	0.73	0.46	44.4				2	2222222000
065657−7458.1	CSRG 526	(R)SB(r)0/a	0.0	0.98	0.98		0.45	0.40	2.8		2222220222
065711−4400.3	CSRG 527	(R)SB(r)a	1.0	0.56	0.45	49.7	0.27	0.22	4.4		1111111111
065719−2549.8	ESO 491−13	(R)SAB(r)0/a	0.0	1.17	0.61		0.56	0.22			1111110110
065822−3005.5	IC 456	SB(rs)0$^+$	−1.0				1.17:	0.84	82.4		0111000111
065910−6937.5	CSRG 528	(R)SAB(r)0$^+$	−1.0	0.59	0.47	75.4	0.25	0.19	10.0		2222111111
065913−4942.4	CSRG 529	(R′)SAB(s)a	1.0	0.64	0.37	46.8					1111111000
065917−7551.5	ESO 34−14	(R′)SA(rs)a	1.0	1.00	0.67		0.34	0.29		2	1111110110
070006−4916.7	ESO 207−14	SAB(rs)bc:	4.0:				0.32	0.19		2:	0111000110
070011−4341.5	CSRG 530	(R)SB0$^+$	−1.0	0.37	0.34	80.6					1101111000
070056−5519.3	CSRG 531	(R?)SA0°	−1.5	0.48	0.37						2202220000
070222−5418.1	CSRG 532	(R)SB0°	−2.0	0.55	0.55						1101110000
070257−4238.6	ESO 256−14	SB(r)m: p	9.0:				0.34	0.23	25.9	1+1?	0111000111
070307−4902.1	CSRG 533	(R'_1)SB(s)a	1.0	0.61	0.50	45.4				2	1111111000
070354−4908.6	ESO 207−20	(R)SB(r)a	1.0	0.86	0.75	19.7	0.41	0.30	22.7		1111111111
070805−5012.0	CSRG 534	(R'_2)SB(s)a	1.0	0.45	0.45					2	1111110000
070820−4846.7	CSRG 535	(RL)SAB0$^+$	−0.5	0.55	0.18						1102110000
070824−5040.7	CSRG 536	(R'_2)SB(s)0/a	0.0	0.51	0.34	3.5				2	1111111000
070938−7059.3	CSRG 537	(R'_2)SB(rs)0$^+$	−1.0	0.66	0.49	24.2					2222222000
070939−2637.2	ESO 492−2	SA(r)b p	3.0				0.38	0.37		2	0111000110
070940−5143.3	ESO 207−25	(R'_1)SB(r)0/a	0.0	0.87	0.47	24.4				2	2222222000
071111−7102.8	ESO 58−24	SA(rs)d	7.0				0.22	0.19			0111000110
071204−5138.1	ESO 207−26	(R′)SAB(r)a	0.5	0.82	0.73	81.1	0.33	0.29	79.2	2:	2222222222
071253−4147.2	CSRG 538	SB(r)0/a:	0.0:				0.40	0.30	42.9		0111000111
071356−5028.9	ESO 207−31	(R′)SB(rs)ab p	2.0	0.89	0.53	80.5	0.32	0.31		4+	2222222220
071433−2914.0	ESO 428−14	SA:(l)0$^+$	−1.0				1.01	0.57			0111000110
071433−3524.7	ESO 367−7	SB(r)0$^+$	−1.0				0.93	0.73	74.7		0111000111
071450−3517.0	ESO 367−8	SB(rl)0°	−2.0				1.29	0.67	22.4		0111000111
071546−5842.9	CSRG 539	(RL)SB0° p	−2.0:	0.67:	0.50						1101110000
071605−4540.8	ESO 257−3	(R′:)SB(r)ab	2.0	1.23	0.45	83.8	0.52	0.27	85.4	4	1222111222
071605−6215.2	NGC 2369	(R'_2)SAB(s)b	2.7	3.20	0.79	10.8				4+i,2o	3333333000
071738−3533.8	ESO 367−17	(R′:)SB(rl)a	1.0	2.74:	1.84:	35.5:	1.40:	0.59:	3.0:	2	1111111111
071800−5015.1	CSRG 540	(RL)SAB0°	−2.0:	0.41	0.34	3.0:					1101111000
071809−7528.4	ESO 35−4	(RL)SAB0$^+$	−1.0	0.74	0.48	15.9					1101111000
071813−6250.5	NGC 2369A	SA(rs)b	3.0				0.76	0.36		2	0333000330
071927−6258.3	NGC 2381	($R_1R'_2$)SAB(rl)a	1.0	0.95	0.72	77.2	0.37	0.29	−0.8	2	3333333222
〃	〃	〃		1.17	1.08	10.8					0000332000
071954−6157.5	NGC 2369B	(R′:)SB(rs)b p	2.7	1.23	1.23:		0.64	0.55	16.9	3+1	1333110333
072011−2908.3	ESO 428−23	(R′:)SB(rl)a	1.0	2.24:	1.30	50.6	0.84	0.46	16.4	2	1111111111
072118−6901.2	NGC 2397A	SAB(rs)c	4.5				0.40	0.28			0222000110
072130−6854.3	NGC 2397	SAB(rs)b	2.5				0.94	0.51	2.5	2:	0222000221
072132−4529.3	ESO 257−13	(R'_2)SB(s)0/a:	0.0:	0.84	0.72	16.2				2	1111111000
072144−2933.2	ESO 428−29	SA(r)ab	2.0				0.36	0.28		2	0111000110
072215−6155.8	ESO 123−9	SA(r)bc p	4.3				0.57	0.26		3:	0333000330
072226−6024.1	ESO 123−10	SAB(rs)b:	3.0:				0.28			4	0111000100
072226−7517.3	ESO 35−5	SAB(r)b:	3.0:				0.50	0.32	10.9	3+	0111000111
072455−4614.8	ESO 257−15	SB(r)ab:	2.0:				0.40	0.32	9.2	1+	0111000111
072556−5116.1	ESO 208−15	(R_1)SB(r)a p	1.0	1.07:	0.64	66.1	0.46	0.41	37.6	2:	1222111222
072742−5310.2	CSRG 541	(R'_2)SB(s)a	0.5	0.74	0.37	1.1				2	2222222000
072742−6214.8	IC 2200	(R)SAB(s)a:	1.0:	0.80	0.51	21.4					3313332000
072851−6647.5	ESO 88−17	SAB(rs)bc p	4.0				0.53	0.19		2:	0222000110
072935−6208.7	NGC 2417	SAB(rs)bc	4.0				0.62	0.46		2i+mo	0333000330
073124−7216.4	ESO 59−2	SAB(r)b p	3.0				0.29	0.10			0212000110
073400−4955.8	ESO 208−26	(R′)SAB(r)0$^+$	−0.5	1.03	0.51	5.1	0.42	0.14		2:	2212221110
073510−6614.5	ESO 88−23	($R_1R'_2$)SB(r)b p	3.0	0.90	0.58	78.0	0.46	0.38	25.4	2	3333333333
〃	〃	〃		1.18	0.87	21.6					0000333000
073524−4802.7	ESO 208−28	SB(r)b p	3.0				0.34	0.30	59.3	2:	0111000111
073554−6129.4	ESO 123−18	(R_1)SB(s)0/a:	0.0:	0.75	0.19	10.5				2	1111111000
073606−5237.6	ESO 163−9	SA(r)0/a	0.0				0.67	0.51		2	0111000110
073624−6940.9	ESO 59−7	SAB(rs)0/a	0.0				0.88	0.49	5.3		0222000222
073633−7035.8	ESO 59−9	(R′)SA(rs)dm p	7.5	1.57	1.23		0.45	0.44			1222110110
073647−5504.1	ESO 163−10	SB(rs)c	5.0				0.49	0.29	4.4		0111000111
073652−5213.6	ESO 208−32	(R′)SAB(s)0/a	0.0	0.61	0.43	29.6				3?	2222221000
073704−8355.8	ESO 5−9	SB(r)cd	6.0				0.39	0.30	43.6	2+:	0111000111
073705−7648.2	ESO 35−11	SB(r)a	0.5				0.75	0.63	3.5	2	0222000222
073734−8359.8	CSRG 542	SA(r)0$^+$	−1.0				0.37	0.11			0111000110
073834−6839.3	ESO 59−12	(R′)SAB(s)a	1.0	1.68	1.01					2	1222110000
073903−5913.3	CSRG 543	SAB:(rs)b:	3.0:				0.27:	0.19		2+1	0111000110
073916−6625.8	CSRG 544	SAB(r)0/a:	0.0:				0.29	0.18		2:	0111000110
074110−5857.7	ESO 123−19	SB(r)b: p	3.0:				0.39:	0.29		2+:	0111000110
074214−5133.7	ESO 208−34	SB(r)ab:	2.0:				0.54	0.27	0.0		0111000111
074221−6511.9	ESO 89−1	(R′)SA(s)a p	1.0	0.83	0.65					1	1111110000
074236−6003.9	ESO 123−21	S(r?)c p	5.0				0.27	0.22			0011000110
074521−6740.6	ESO 59−17	SA(r)c p	5.0				0.29	0.26		4	0222000110
074609−6025.3	CSRG 545	SB(r?)p					0.34:	0.27			0110000110
074717−6229.8	CSRG 546	(R′)SA(r)0/a p	0.0	0.58	0.51		0.26	0.23			2222110110
074811−7146.4	CSRG 547	(R′)SB(rl)0/a	0.0	0.74	0.65	41.8	0.35	0.28	15.3	2	1111111111
074816−6622.1	ESO 89−3	SB(rs)a	1.0				0.51	0.40	18.1	1+2	0111000111
074934−7801.4	ESO 17−6	SB(rs)b	3.3				0.46	0.37	32.7:	4	0333000333
075024−7230.4	CSRG 548	SAB(r)b: p	3.0:				0.26	0.20:			0221000110
075056−7244.6	ESO 35−17	(R'_2:)SB(s)bc	3.5	0.85	0.41	3.3	0.51	0.23		2	1222111110
075434−5210.4	NGC 2502	SB(rs)0$^+$ p	−1.0				2.03	1.74:	1.6:		0222000211
075559−6808.6	ESO 59−23	SAB(r)c	4.5				0.29	0.17		4	0222000110
075650−5310.8	CSRG 549	(R'_2)SB(s)a: p	0.5:	0.54	0.48	85.4				2	2222222000
075722−5043.3	CSRG 550	SB(r)m? p	9.0?				0.39	0.34			0111000110
075727−7300.3	ESO 35−19	(R)SAB(rl)0/a	0.0	0.76	0.63	68.0:	0.40	0.28	5.1:		1111111111
075845−5031.3	ESO 209−10	SA(r)0/a:	0.0:				0.33	0.26			0111000110
075947−6701.9	ESO 89−8	SA(rs)b:	3.0:				0.22	0.18		3	0111000110
075950−6107.6	ESO 124−7	SA(r)b	3.0				0.59	0.33		4	0222000220
080048−1833.6	ESO 561−9	(R′)SB(r)a	1.0	1.10	0.41	77.4	0.41	0.23	81.9	2	1111111111
080248−2250.0	ESO 494−19	(RL)SB(s)0°	−2.0:	1.01:	0.89:	33.3					1111111000
080255−7216.9	ESO 59−24	(R′)SB(s)a	1.0	1.40	0.17	6.6				2	1111111000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
080355−2715.1	ESO 494−25	SA?(r:)0$^+$:	−1.0:				0.55:	0.37			0111000110
080401−4842.2	ESO 209−16	(R$'_2$)SB(s)a	0.5	0.77	0.64	14.1				2	2222222000
080401−5326.0	ESO 164−3	SAB(r)0$^+$	−1.0				0.39	0.39			0111000110
080449−8211.5	CSRG 551	(R′)SAB(rs)0/a	0.0	0.62	0.43	10.2	0.29	0.15			3333222110
080500−2222.9	ESO 561−13	(R)SB0/a:	0.0:	0.63	0.56	87.3:					1101111000
080830−6720.0	CSRG 552	(R′)SA(r?)0/a?	0.0?	0.49	0.30		0.16:	0.11:			1111110110
080927−6447.2	ESO 89−12	(R′)SB(s)b	3.0	2.85	0.28	3.0				2	1111111000
081158−6731.3	CSRG 553	(RL)SA(r)0$^+$	−1.0	0.74	0.39		0.28	0.16			1111110110
081417−6621.1	ESO 89−13	SB(rs)d	7.0				0.50	0.49		2	0111000110
081536−2934.5	ESO 431−1	SA(rs)bc	4.0				0.84	0.83		2+	0111000110
081541−2958.5	ESO 431−2	SB(rs)c	5.0				0.89	0.88		4	0111000110
081638−2520.4	NGC 2566	(R′)SB(r)ab	2.0	4.19:	2.68:	64.6	2.07	1.29	−19.8	2	2222222222
081748−6725.2	ESO 89−15	SAB(rs)c	5.0				0.39	0.22	39.5	2	0111000111
082000−7027.6	CSRG 554	SA(rs)a:	1.0:				0.45	0.28		2	0111000110
082124−6742.2	CSRG 555	SA(r)c:	5.0:				0.17	0.15		3	0111000110
082155−1836.7	IC 2367	SB(r)b	3.0				0.69	0.67		5	0111000110
082221−7807.6	ESO 18−3	(R$_1$)SABa:	1.0:	1.01	0.36	6.2					1101111000
082234−6936.7	ESO 60−4	(R′:)SB(r)ab	2.0	1.68:	1.05	3.4	0.80	0.33	10.5	2	1222111222
082444−7741.3	ESO 18−7	SB(rs)bc	3.7				0.61	0.28	69.9	2i,fo	0333000333
082452−7739.3	ESO 18−8	(R′)SB(s)a	1.0	0.68	0.31	59.0				2	1111111000
082510−6757.2	NGC 2601	(R′L)SAB(rs)a p	1.0	1.31	0.78	2.7	0.58	0.46	−32.3		1233111221
082654−6718.7	CSRG 556	(R)SAB0$^+$:	−1.0:	0.50:	0.34						1101110000
082806−8448.8	ESO 6−2	(R′)SAB(r)b	3.0	1.07	0.39	25.6:	0.56	0.28	19.0:	2	1111111111
082824−5526.0	ESO 164−11	(R)SB0$^+$	−1.0	0.50	0.31	45.0					1101111000
083036−5936.9	ESO 124−18	SB(rs)bc	3.5				0.82	0.57:	40.0	2	0222000111
083223−3139.0	ESO 431−17	SA(rs)ab	2.0				0.39	0.25			0111000110
083327−5453.3	CSRG 557	SAB(r)0/a	0.0				0.34	0.31			0111000110
083336−5728.4	ESO 165−1	(R′)SAB:(r)a	0.6	1.83	0.30	15.0	0.73	0.22	10.7	2	5555552552
083512−6328.9	ESO 90−3	SB(rs)cd	6.0				0.37	0.35		2	0222000110
083907−1759.2	CSRG 558	SB(rs)b: p	3.0:				0.29:	0.23	62.1:	2	0111000111
083926−7458.7	ESO 36−6	SAB(rs)m	9.0				1.62	0.84			0111000110
083930−6101.2	CSRG 559	(R$_1$)SB(l)0$^+$	−1.0	0.64	0.28	54.3:	0.23	0.13	34.8:		1111111111
084213−6738.0	ESO 60−11	(R′)SB(r)b	3.0	1.29	0.84:	58.5	0.53	0.34	50.8	3+	1222111222
084303−3109.3	ESO 432−8	SB(rl)0$^+$	−1.0				0.78	0.73	21.4:		0111000111
084345−1907.2	NGC 2665	(R$'_1$)SB(r)a	1.0	1.84	1.23	87.2	0.89	0.65	−1.1	2	1111111111
084745−1933.1	ESO 563−25	SB(rs)ab: p	2.0:				0.67	0.51	61.8		0111000111
085455−2023.0	ESO 563−36	SA(rs)ab	2.0				0.69	0.60			0111000110
085702−5826.6	CSRG 560	(R′?)SB?(r)	?				0.39	0.22			1110000110
085917−2606.2	ESO 497−2	SB(rs)d	7.0				0.60	0.51	26.7		0111000111
085926−2435.6	ESO 497−3	(R$_1$)SB(s)a:	1.0:	0.45	0.28	17.0					1111111000
090057−5842.9	ESO 125−8	(RL)SB0°	−2.0	0.88	0.32	10.1					1101111000
090112−6442.4	ESO 90−15	SAB(r)b	3.0				0.56	0.11	20.7		0122000221
090701−7536.3	ESO 36−19	(R′)SAB(rs)c	5.0	1.29	0.39	2.0	0.56:	0.17:		2:	1212111110
091216−6034.9	ESO 126−2	(R$'_2$)SB(rs)b	2.7	0.72	0.71		0.25	0.17	0.0:	2	3333330111
091228−6325.2	ESO 91−3	SA(r)ab	2.0				0.96	0.60		6	0222000220
091255−2803.2	ESO 433−10	SAB(rs)bc	4.0				0.63	0.56	33.3	4+	0111000111
091323−6013.5	ESO 126−3	SB(rs)bc	3.5				0.82	0.29:	10.6	4i	0222000111
091333−3526.3	ESO 372−12	(R$_1$)SAB(rl)a	1.0				0.67	0.22			1111000110
091355−1726.8	CSRG 561	SB(rs)b	3.0				0.30	0.23	4.6	3	0111000111
091405−2325.5	NGC 2815	(R′)SB(r)b	3.0	2.86	0.74	80.1	1.17	0.48	74.8		1111111111
091429−6251.7	NGC 2842	(R$_1$)SAB(rs)0$^+$ p	−0.7	0.96	0.85	46.5	0.49	0.19			3323332110
091537−2208.7	NGC 2835	SAB(rs)c	5.0				1.06	0.65	81.2	4	0222000222
091553−1813.9	ESO 564−36	SB(rs)c	5.0				0.35	0.28		4	0222000220
091622−6240.4	ESO 91−7	SB(rs)c	5.0				0.50	0.22	27.7	2:	0111000111
091637−3748.0	NGC 2845	SA(rs)a	1.0				1.00	0.60			0111000110
091653−3832.6	ESO 314−11	SA(rs)0/a	0.0				0.50	0.37			0111000110
092002−2047.5	CSRG 562	(R$'_1$)SB(s)ab	2.0	0.56	0.28	54.6				2	1111111000
092054−3214.1	IC 2469	SAB:(rs)ab	2.0				2.68	0.39		2i	0111000110
092116−3047.4	ESO 433−18	SB(r)0/a	0.0				0.40	0.22	46.2		0111000111
092229−3732.2	ESO 315−6	SA(l)0/a	0.0				0.75	0.75			0111000110
092321−6301.7	ESO 91−12	SAB(rs)b:	3.0:				0.53:	0.31	81.0	3+	0111000111
092455−1918.9	ESO 565−6	(R$_1$)SB(s)a	1.0	0.84	0.40	30.1				2	1111111000
092500−2742.9	ESO 434−3	(R$'_1$)SB(r)a	1.0	0.68	0.34	68.6	0.30	0.18	44.6	2	1111111111
092526−2401.0	CSRG 563	SA(rs)c	5.0				0.26	0.18		2:	0111000110
092614−2408.9	ESO 498−10	(R$'_2$)SAB(s)b	2.5	0.73	0.29	6.5				2	2222222000
092658−2009.6	ESO 565−11	(R′)SB(rs)a p	1.0	2.24:	1.90:	17.7:	1.32	1.06	−64.5	2	1222111222
092739−2536.1	CSRG 564	(R$'_1$)SB(rs)ab	2.0	0.60	0.40	87.7	0.31	0.22	−15.2	2	1111111111
092829−2540.5	CSRG 565	SB(r)0/a:	0.0:				0.27	0.22	0.0:		0111000111
093028−2046.3	CSRG 566	SB(r)b	3.0				0.29	0.15	61.4	3	0111000111
093112−2537.8	CSRG 567	(R:)SAB(r)0$^+$	−1.0	0.68	0.30	34.5:	0.33	0.13	35.0:		2222221221
093119−2534.0	ESO 498−13	SB(r)bc:	3.5:				0.31	0.16	32.5		0222000222
093119−2534.0	ESO 498−13B	(R$'_2$)SB(rl)b	2.5	0.67	0.52	24.6	0.25	0.21	24.4	2	2222222222
093125−3247.7	ESO 373−9	(R′)SA(s)a	1.0	0.73	0.27					2	1111110000
093154−2145.2	ESO 565−16	(R$_1$)SB(r)0/a	0.0	0.78	0.50	85.0	0.29	0.22	56.4	2	1111111111
093213−2041.9	NGC 2921	SAB(r)b	3.0				0.71	0.38	33.0	4+	0111000111
093317−1709.7	MCG −3−25−10	(L)SB(s)0°	−2.0	0.63	0.53	74.8					1111111000
093426−2054.2	NGC 2935	(R$'_2$)SAB(s)b	3.0	2.85	2.24	36.0				2	2222222000
093446−1758.1	ESO 565−24	(R′:)SB(r)a p	1.0	0.61	0.45	76.7	0.28	0.28:		2	1111111110
093504−2048.1	ESO 565−27	(R$'_1$)SB(s)a	1.0	0.65	0.40	76.6				2	2222222000
093514−2510.3	CSRG 568	(L)SB0°	−2.0:				0.41	0.34	2.4:		1101000111
093531−3341.6	ESO 373−11	SA(r)a	1.0				0.55	0.40		2	0111000110
093532−2210.8	ESO 565−29	SB(rs)d	6.5				0.78	0.45	76.6	2	0222000111
093535−7759.5	CSRG 569	(R$_1$)SB(s)0$^+$	−0.5	0.74	0.51	56.6				2	2212111000
093542−2038.1	ESO 565−31	(R$'_2$)SB(s)b	2.5	0.65	0.34	8.5				2	2222222000
093545−1746.1	CSRG 570	(R)SB0$^+$	−1.0	0.96	0.53	22.0					1101111000
093620−2338.1	CSRG 571	SB(r)a p	0.5				0.29	0.22	47.5:		0222000222
093644−1736.1	CSRG 572	(R′)SA(s)ab	2.0	0.39	0.39					2	1111110000
093657−1852.5	NGC 2956	(R$'_1$)SB(rs)a	1.0	0.67	0.25	26.5	0.34	0.11	20.4:	2	2222222111
093717−6342.4	ESO 91−17	SAB(rs)b:	3.0:				0.78	0.53	12.3:		0111000111
093751−2449.9	ESO 498−20	SAB(r)bc p	3.5				0.45	0.36	28.2	3	0222000222
093809−1915.5	ESO 566−1	(R)SA0$^+$	−1.0	0.87	0.46						2202220000
093854−2852.6	ESO 434−20	(R$'_1$)SB(s)a	1.0	0.85	0.15	9.4				2	1111111000
093908−2844.0	ESO 434−21	(R′?)SAB(s)0/a:	0.0:	0.54	0.34	80.3:				2	1111111000
093911−2441.0	CSRG 573	(R)SB(r)0$^+$	−1.0	0.64	0.57	87.3	0.32	0.27	5.3		1111111111
094014−2634.8	CSRG 574	SA(rs)bc:	4.0:				0.29	0.22		2:	0111000110
094049−4149.6	ESO 315−21	SA(rs)c	5.0				0.29	0.22		2	0111000110
094121−2014.9	NGC 2983	(RL)SB(s)0$^+$	−1.0	1.62	0.95	56.3					1111111000
094303−2710.5	ESO 499−1	(R$'_1$)SB(s)a	1.0	0.98	0.38	2.3				2	2333222000
094345−2359.2	ESO 499−3	SB(rs)dm	8.0				0.61	0.45	26.6		0111000111
094406−2854.1	ESO 434−37	SB(r)a	0.5				0.81	0.34	6.9		0222000222
094407−3012.4	NGC 3001	SAB(rs)c	4.5				0.45	0.34		4+	0222000210
094456−2436.4	ESO 499−5	SA(rs)c	5.0				0.39			2	0111000100
094528−3043.0	ESO 434−40	(RL)SA(l)0°	−2.0	1.17	0.37		0.61	0.34			1111110110
094533−3236.3	IC 2510	(R)SAB(r)a	1.0	1.64	0.75		0.61	0.36	8.2		1222110221

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
094715−3236.5	IC 2511	(R′)Sa	1.0	2.71	0.39					2	2002220000
094742−2446.5	ESO 499−8	SB(rs)bc: p	4.0:				0.67	0.45	51.4	4:	0111000111
094800−2247.4	ESO 499−9	SAB(r)b	3.0				0.57	0.29	20.5	7:	0222000221
094808−2134.1	ESO 566−18	SB(rs)c p	5.0				0.60	0.50	36.9	3+	0111000111
094823−4512.0	CSRG 575	(R_1)SB(rs:)0^+:	−1.0:	0.51	0.34	80.4	0.26	0.17:			1111111110
094905−3231.2	NGC 3038	SA(rs)b	3.0				0.56	0.39		3+	0222000110
094938−7341.2	NGC 3059	SB(rs)c	5.0				1.76	1.76		2i,mo	0222000220
094947−3250.4	ESO 374−3	SA<u>B</u>(rs)cd	5.5				0.73	0.34	0.8	3+	0222000221
095042−3054.9	CSRG 576	(R′)SAB(r)b:	3.0:	0.61	0.55	85.5:	0.28	0.22	20.0	3	1111111111
095056−1824.6	NGC 3045	SB(<u>rs</u>)ab:	2.0:				0.67	0.26	0.9	2	0111000111
095102−2450.3	ESO 499−14	SA?(r)0^+	−1.0				0.34	0.17			0111000110
095112−1920.8	ESO 566−24	(R_1')SB(r)b	3.0	1.17	0.58	89.0	0.45	0.42		4	1111111110
095206−1824.1	NGC 3052	S<u>A</u>B(<u>rs</u>)c	5.0				0.50	0.28		3+	0111000110
095212−2527.9	NGC 3054	SA<u>B</u>(r)bc	3.5				0.73	0.45	15.2	6+	0222000222
095214−1939.3	ESO 566−27	SB(r)c	5.0				0.35	0.30	39.5	2+	0111000111
095218−2803.6	NGC 3056	SA(<u>rl</u>)0°	−2.0				1.17	0.68			0333000330
095239−1829.7	ESO 566−28	SAB(r?)0/a:	0.0:				0.48	0.22			0111000110
095249−3349.5	ESO 374−9	(R_2')SA(r)a	1.0	0.97	0.73		0.61	0.36		2	1111110110
095348−2145.1	ESO 566−30	SA(s)bc	4.0				0.56	0.39			0111000110
095358−3731.9	ESO 316−4	SA<u>B</u>(rs)bc	4.0				0.29	0.29			0111000110
095409−3103.7	ESO 435−10	(R_2')SAB(s)c	5.0	1.23	0.44	0.0				2	1111111000
095530−1906.0	CSRG 577	SB(r)d	7.0				0.27	0.27			0221000110
095549−3237.8	ESO 374−14	SB(<u>rs</u>)c	5.0				0.63	0.50		2	0111000110
095650−2653.3	NGC 3084	(R_1')SB(rs)a	0.5	1.43	1.18	84.0	0.75	0.56	−6.0	2+2	2222222222
095704−2441.2	CSRG 578	(R_1)SB0^+	−1.0	0.51	0.28	24.2					2202222000
095710−2235.1	NGC 3081	(R_1)SAB(r)0/a	0.0	2.26:	2.05	57.2:	1.12	0.74	0.9		3333222222
095712−2637.4	ESO 499−32	SB(r)ab p	1.5				0.75	0.60	6.0	1?	0222000222
095713−2040.5	CSRG 579	(R_1')SB(rs:)a	1.0	0.56	0.37	71.0	0.26	0.19	0.0:	2	1111111111
095721−2805.4	NGC 3089	S<u>A</u>B(rs)b p	3.3				0.73	0.55	66.6	3+1	0333000331
095741−2151.6	CSRG 580	(R_1R_2')SB(s)b	3.2	0.40	0.35	−64.4				2	3444111000
〃	〃	〃		0.51	0.45	9.6					0000222000
095753−3118.7	NGC 3095	SB(<u>rs</u>)c	5.0				1.30	0.65	20.9	5+	0111000111
095754−3359.3	IC 2532	SB(<u>rs</u>)0/a	0.0				1.12	0.84	5.5	2	0111000111
095822−2007.6	ESO 566−43	(R)SB(r)0^+	−0.5	1.57:	1.29:	27.5:	0.74	0.56	9.0		1222111222
095826−3207.5	ESO 435−29	SB(<u>rs</u>)c	5.0				0.50:	0.34		3:	0222000110
095828−3125.3	NGC 3100	SAB(r)0° p	−2.0				1.18	0.73:	28.4:		0112000111
095847−1912.1	ESO 567−3	(R_2')SB(s)ab p	1.5	0.61	0.42	32.1				2	2222222000
095919−3352.2	IC 2534	(R′)SA(s)0/a	0.0	3.35	2.18						1111110000
100038−4515.4	ESO 262−15	(R′)SB(rs)b	3.0	1.06	0.84	16.1	0.28	0.12		3	1122111110
100108−4234.6	ESO 262−16	(R′)SAB(rs)bc	4.0	1.16	0.53	39.7	0.34	0.31		2	3333331330
100125−2647.1	ESO 499−37	(R′)SA(s)b	3.0	3.35	1.51						1111110000
100136−2719.7	IC 2537	S<u>A</u>B(<u>rs</u>)c	5.0				0.86:	0.51		6	0111000110
100145−3433.9	IC 2538	SA:(r)c	5.0				0.40	0.22		2+	0111000110
100149−3146.8	CSRG 581	SA(r)0/a:	0.0:				0.39	0.30		2:	0111000110
100151−2507.4	CSRG 582	(R_1)SAB(l)a	1.0	0.74	0.45	47.1	0.27	0.19:	22.6		2122111111
100155−6443.5	ESO 92−6	SB(r)b	3.0				0.81	0.36	46.1	2	0222000222
100210−2812.0	NGC 3113	SB(rs)d	7.0				0.62	0.18	23.9	3+	0111000111
100255−6634.4	CSRG 583	SB(r)0^+	−1.0				0.74	0.67	58.6		0111000111
100305−2131.5	CSRG 584	(R_1')SB(s:)a	1.0	0.51	0.40	23.6				2	1111111000
100324−1711.4	IC 2541	SA:(r)b	3.0				0.37	0.17		3	0111000110
100325−1800.2	ESO 567−13	SA(<u>rs</u>)c	5.0				0.22	0.19		2	0111000110
100327−2101.2	ESO 567−14	SB(rs)cd:	6.0:				0.39	0.18	57.4		0111000111
100336−2248.8	ESO 499−41	(R_1)SB:(r)0^+	−1.0	0.90	0.37		0.29	0.24			3233330220
100347−7514.1	ESO 37−10	S<u>A</u>B(rs)c	5.0				0.74:	0.39:			0222000110
100414−2150.3	ESO 567−16	(R)SA<u>B</u>(rl)a:	0.5:	0.56	0.28	10.8	0.32	0.11:		1?	2212221110
100417−1858.7	NGC 3124	SB(r)c	4.5				0.74	0.61	78.2	4+5	0222000111
100421−8010.7	NGC 3149	(R′)SA(rs)b	3.0	1.70	1.54		0.75	0.64:		m	2222220220
100422−3236.7	ESO 374−34	(R′)SB(s)a p	1.0	0.87	0.50	19.4				3	1111111000
100433−5000.0	CSRG 585	SA(r)b:	3.0:				0.29	0.29		2	0111000110
100447−4727.2	ESO 263−4	(R_2')SB(r)a	1.2	1.29	0.74	89.0	0.56	0.42	62.1	2	1444111444
100454−4448.2	ESO 263−5	SA<u>B</u>(<u>rs</u>)bc: p	4.3:				1.06	0.34			0333000110
100505−2113.9	ESO 567−18	SB(r)0/a	0.0				0.67	0.28	30.2	2	0111000111
100540−4105.3	ESO 316−29	(R′)SB:(r)a	1.0	1.41	0.37	35.5:	0.28:	0.20:	19.2:		1111111111
100544−3459.1	IC 2548	(R_1')SB(r)b	3.0	1.73	1.34:	72.8:	0.84	0.61	6.9	2+2	1111111111
100633−3950.9	ESO 316−30	(R)SA0^+	−1.0	0.73	0.38						1101110000
100657−1945.4	CSRG 586	(RL)SB(s)0^+	−1.0	0.56	0.50	2.5				2	1111111000
100657−3809.8	ESO 316−32	SB(r)0^+ p	−1.0				1.19	0.74	63.0		0111000111
100743−2405.0	ESO 500−5	(R′)SAB(r)b	3.0	1.17	0.64:	25.5:	0.44	0.32	−2.1:	3:	1222111221
100812−3747.0	ESO 316−40	(R_1')Sa	1.0	0.72	0.40						1001110000
100821−3853.8	ESO 316−42	(R)SB(<u>rl</u>)0/a	0.0	1.51	1.06	72.0	0.73	0.47	61.8		1111111111
100930−6624.0	ESO 92−14	SAB(r)0^+	−1.0				0.88	0.34	4.5		0222000222
100931−3740.7	ESO 316−46	(R)SAB(<u>rl</u>)0°	−2.0	1.29:	0.84:	61.0:	0.63	0.39	60.6		1111111111
101000−3838.2	ESO 316−47	SAB(r)b	3.0				0.39	0.37			0111000110
101003−2531.3	ESO 500−10	SB(<u>rs</u>:)b: p	3.0:				0.41	0.19	18.8:	2+:	0111000111
101025−3428.9	IC 2556	(R′)SAB(<u>rs</u>)d	7.0	1.62	0.78		0.49	0.36			1111110110
101037−1758.2	CSRG 587	(R_1')SB(s)a	1.0	0.40	0.30	22.6					1111111000
101052−1840.8	CSRG 588	(R)SA0/a	0.0	0.56	0.30					1	1101110000
101108−3544.1	ESO 374−44	(R_2')SB(s)ab	2.0	1.06	0.53	8.4				2	1111111000
101126−4334.2	ESO 263−19	S<u>A</u>B(r)b	3.0				0.49	0.29	19.3	1+	0222000221
101221−2709.7	ESO 500−17	(R_2')SB(s)b	3.0	0.78	0.34	37.8					1111111000
101233−2248.1	ESO 500−18	(RL)S0^+	−1.0	0.66	0.34						1001110000
101238−3933.5	ESO 317−5	SA<u>B</u>(<u>rl</u>?)0^+:	−1.0:				0.67	0.61	13.9		0111000111
101305−2710.4	ESO 500−19	(R_1)SAB(r′l)0/a	0.0	0.77	0.48	75.7	0.28	0.20	32.6		1111111111
101322−2002.7	ESO 567−32	(R)SB(rs)0/a	0.0	1.96:	1.40:	54.1:	0.89	0.50	25.6		1111111111
101329−4453.0	ESO 263−24	(R)SB0°	−1.5	1.06	0.84	3.8					2202222000
101405−3318.9	IC 2560	(R′:)SB(r)bc	4.0	2.35:	1.51	4.5	1.20	0.51	0.6		1111111111
101408−1937.5	CSRG 589	(R_2')SAB(s)b:	3.0:	0.50	0.39	70.4				2	1111111000
101419−4159.8	ESO 317−8	(R′)SA<u>B</u>(s)b	2.7	0.66	0.50	28.7				2	3333333000
101612−1743.9	NGC 3200	SA(rs)bc	4.0				1.12	0.29		6+	0111000110
101614−1804.8	CSRG 590	(R_1')SB(rs)ab	2.0	0.51	0.17	47.5:	0.22	0.09	33.5:		1111111111
101652−2053.4	ESO 567−47	(R)SB(r)a	1.0	1.01	0.63	29.6	0.48	0.29	3.2	2	1111111111
101715−1811.2	CSRG 591	SB(rs)a p	1.0				0.28			2	0111000100
101721−2533.7	NGC 3208	S<u>A</u>B(rs)bc	4.0				0.37	0.34		2+	0111000110
101826−1703.9	MCG −3−27−5	(R′)SAB:(r)ab p	2.0	0.56	0.34		0.31	0.22			1111110110
101905−4545.5	ESO 263−29	(R)SA<u>B</u>(rs)0^+	−0.5	2.35	0.63	34.3:	1.20	0.27	31.4		2222221221
101908−3932.9	ESO 317−17	$(R_1'R_2')$SAB(rl)a	1.0	1.06	0.73	35.7	0.50	0.45	−27.3		1111111111
〃	〃	〃		1.17	0.96	14.7					0000111000
101921−1809.6	ESO 567−56	(R_2')SB(s)a	1.0	0.97	0.64	20.1				2	1111111000
101921−3400.8	NGC 3223	SA(r)bc	4.0				0.78	0.51			0111000110
101924−1914.6	ESO 567−57	SB(rl)0/a	0.0				0.56	0.20	2.1		0111000111
101935−2200.9	NGC 3233	(R_1')SB(r)a	0.5	2.00	1.70	33.0	1.23	0.68	−2.6	1+1	2222222111
102032−1747.3	CSRG 592	(R_2')SB(s)b	2.5	0.39	0.27	4.2				2	2222111000
102051−3854.8	ESO 317−19	(R_1')SAB(rl)a	1.0	1.12	0.73	7.1	0.61	0.39	4.0		1111111111
102057−3922.2	ESO 317−21	SA(l)0°	−2.0				0.89	0.59			0111000110

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
102109−4705.1	ESO 263−31	SA<u>B</u>(<u>r</u>l)a:	1.0:				0.48	0.22	0.0		0111000111
102110−4913.0	ESO 214−2	(R′:)SB(r)a	1.0	1.62:	1.04	29.9	0.73	0.39	7.0		2222222222
102125−2053.3	CSRG 593	(R_1)SB(s)0/a	0.0	0.58	0.45	41.4					1111111000
102126−1702.1	MCG −3−27−8	SA(r)a	1.0				0.35	0.17		2	0111000110
102128−1702.4	MCG −3−27−9	(R′)SB(r)a	1.0	1.06	0.60	39.6	0.53	0.34	33.2	3+1?	1111111111
102201−3213.7	NGC 3241	SA(r)b	3.0				0.55	0.45		2:	0111000110
102208−2132.2	NGC 3240	SA<u>B</u>(<u>rs</u>)b	3.0				0.35	0.28		4	0111000110
102210−2318.0	ESO 500−34	(R_1)SB(s)0/a	0.0	0.77	0.41	16.3					1111111000
102228−2626.2	ESO 500−37	(R_1)SB(l)0$^+$	−1.0	0.97	0.28	45.0:	0.35	0.17	35.0:		1111111111
102231−3903.1	ESO 317−23	(R_1')SB(<u>rs</u>)a	1.0	1.20	0.61	15.8	0.67				1111111100
102408−4528.9	ESO 263−35	SA(rs)bc p	3.5				0.32	0.17		3	0222000110
102435−2350.1	ESO 500−41	(R)SA(r)ab	2.0	1.30	0.72		0.60	0.51			1111110110
102515−4252.9	ESO 263−37	SA(<u>rs</u>)b p	3.0				0.45	0.38		2?	0222000220
102531−3944.8	NGC 3250C	(R′:)SAB(s)a	1.0	1.12	0.38	8.7					1111111000
102540−2300.0	ESO 500−44	SAB(rs)c	5.0				0.48	0.26	80.5:	4:	0111000111
102552−4151.3	ESO 317−32	(R′)S<u>A</u>B:(r)b	2.7	1.51	0.50		0.49	0.18		2:	1333110330
102601−3115.8	IC 2580?	SA<u>B</u>(<u>rs</u>)c	5.0				0.48	0.28	1.2	4+	0111000111
102614−5015.5	ESO 214−7	SB(r)0/a:	0.0:				0.48	0.34	62.6		0111000111
102652−3005.3	IC 2582	SAB(r)c	5.0				0.42	0.30	4.4	4+	0111000111
102654−4424.0	NGC 3261	SB(rs)bc	4.0				0.78	0.64	47.9	7:	0222000221
102658−4354.3	NGC 3262	SAB(<u>rs</u>)a	1.0				0.50	0.39	53.2		0222000111
102733−3504.0	NGC 3267	(R)SA(s)0$^+$	−1.0	1.07	0.61						1111110000
102733−3805.5	ESO 317−38	(R)SBa: p	1.0:	1.06	0.26	4.2					1101111000
102742−3458.0	NGC 3269	(R_2')SAB(s)a	1.0	1.68	0.63					2	1111110000
102837−3628.8	NGC 3275	SB(r)a p	1.0				0.95	0.67	9.3	2	0111000111
102844−3418.4	IC 2587	SB(l)0$^-$	−3.0				0.67	0.48:	27.5		0111000111
102853−1817.2	ESO 568−13	(R_1')SB(s)a	1.0	0.75	0.35	10.7				2	1111111000
102857−4847.3	ESO 214−13	SA<u>B</u>(rs)c	5.0				0.48	0.22	58.1		0222000221
102909−3457.8	NGC 3258C	SB(r)ab p	2.0				0.29	0.26	2.0	2?	0111000111
102931−3007.7	IC 2588	$(R_2'?)$SB(r)a	1.0	1.40	1.17	29.9	0.82	0.63	20.1		1111111111
102943−3456.4	NGC 3281A	SB(<u>rl</u>)0°	−2.0				0.48	0.35	0.0		0111000111
102959−2202.6	NGC 3282	(R)SA(r)0/a	0.0	1.27	0.37		0.53	0.17			1111110110
103031−3000.7	ESO 436−35	SA<u>B</u>(r)dm	8.0				0.48	0.28	50.2		0111000111
103139−2704.7	ESO 501−16	SB(<u>rs</u>)ab	2.0				0.39	0.31	20.5	2	0111000111
103216−2723.7	NGC 3285B	SB(rs)b	3.0				0.64	0.52	31.7		0111000111
103230−2819.5	ESO 436−46	SB(rs)b	3.0				0.79:	0.74	38.6	2	0111000111
103258−4326.0	NGC 3366	SB(<u>rs</u>)bc	4.0				0.84	0.39:	69.0?	5	0111000111
103301−7258.9	IC 2596	SB(r)0/a	0.0				0.81	0.51	2.6		0222000222
103303−2803.4	ESO 437−4	SB(r)b p	3.0				0.51	0.26	4.4	2	0111000111
103304−2407.5	ESO 501−24	(R:)SAB:(r)0$^+$	−1.0	1.06:	0.51:		0.45	0.28			1111110110
103423−1750.8	ESO 568−19	(R′)SB(r)a p	1.0	1.57	0.94	58.0	0.94	0.39	47.6	2	1111111111
103425−4235.6	ESO 264−12	(R)SAB(r)0$^+$	−1.0	1.17	1.01	7.6	0.51	0.35	5.6		1111111111
103500−4252.0	CSRG 594	SAB(r?)a?	1.0?				0.56	0.34	8.2		0111000111
103501−2717.1	CSRG 595	RG		0.40	0.18						1000110000
103503−2503.5	NGC 3313	SB(r)b	3.0				1.44	1.07	10.7	2	0222000222
103507−2603.4	ESO 501−51	(R′)SA(r)a	1.0	2.07	1.15		1.12	0.66			2222220220
103515−2707.6	ESO 501−52	(R)S0$^+$	−1.0	0.67	0.22						1001110000
103526−2354.3	ESO 501−57	(R_2')SB(s)a	1.0	0.89	0.64	8.0				2	1111111000
103536−2838.9	ESO 437−19	SB(r)0$^+$	−1.0				0.78	0.63	8.0		0111000111
103631−4559.3	ESO 264−20	SB(r)a	1.0				0.40	0.29	3.6	2	0222000222
103632−4538.9	ESO 264−21	SB(r)b	3.0				0.45	0.22	11.6	2+1	0111000111
103655−3002.3	ESO 437−30	SB(rs?)b?	3.0?				1.19	0.25	2.6		0111000111
103702−2919.5	ESO 437−31	SA<u>B</u>(rs)d	7.0				0.30	0.21	45.1		0111000111
103708−4444.3	ESO 264−25	SA<u>B</u>(r)bc	4.0				0.50	0.22	4.9		0111000111
103711−2339.7	NGC 3335	SAB(<u>rl</u>)0$^+$	−1.0				0.61	0.45	3.4		0111000111
103734−4604.6	ESO 264−26	(R′)SAa	1.0	0.70	0.34						1101110000
103736−4556.0	CSRG 596	(R)SAB(rl)0$^+$	−1.0	0.80	0.63	39.0	0.45	0.22	11.5		1111111111
103738−2956.0	ESO 437−33	(R_1')SAB(rl)a	1.0	1.12	0.70	23.6:	0.39	0.26:	5.6:	2	1111111111
103755−2730.9	NGC 3336	SA(rs)c p	5.0				0.67	0.52		3+	0222000220
103756−4551.2	ESO 264−28	SB(r)0$^+$	−1.0				0.61	0.24	10.2		0222000222
103811−4818.5	ESO 214−17	SB(rs)d	6.5				1.68	0.95	71.5	2	0222000222
103829−4603.3	ESO 264−32	(R′)SB(r)a	1.0	1.19	0.95	58.3	0.48	0.45		2	1222111220
103836−1714.9	MCG −3−27−24	SA<u>B</u>(r)bc	4.0				0.35	0.32		2+2	0111000110
103842−2414.1	ESO 501−76	SB(r)ab:	2.0:				0.39	0.28	24.2	2	0111000111
103850−2045.7	ESO 568−21	(R′)SB(rs)b p	3.0	0.67	0.63		0.56	0.35	44.6	2	1111110111
103854−1658.8	CSRG 597	(R′)SB(s)a	0.5	0.56	0.41	13.1				2:	2212111000
103953−7306.4	ESO 38−5	S<u>A</u>B(rs:)b:	3.0:				0.30	0.22			0111000110
104116−3608.9	NGC 3358	(R_2')SAB(l)ab	2.0	2.91	1.34	38.6	0.84	0.45	30.3		1111111111
104134−4214.4	ESO 318−5	SB(r)a:	1.0:				0.55	0.18	6.4		0111000111
104154−2233.8	ESO 501−88	(R_2')SAB(rs)ab	1.5	1.31	0.89	7.3	0.67	0.40	0.0	6+	1222111111
104209−4022.7	ESO 318−7	SB(rs)a	1.0				0.48	0.28	2.0	2	0111000111
104317−2909.5	ESO 437−60	SA(r)b:	3.0:				0.25	0.23		2	0111000110
104348−4650.0	CSRG 598	(R_1')SB(s)0/a	0.0	0.56	0.34	78.8				2	2212222000
104353−4503.8	ESO 264−39	(R′)SB(rs)a	1.0	1.68	1.40	51.0	0.84	0.65	−8.9	2+2	1222111222
104455−2410.5	NGC 3383	SB(r)b:	3.0:				0.50	0.45	26.3	2	0111000111
104536−4231.0	CSRG 599	(R_1')SB(s)a:	1.0:	0.45	0.28	49.0				2	1111111000
104538−2035.1	NGC 3450	SB(<u>rs</u>)b	3.0				1.00	0.95		5	0111000110
104600−2453.8	NGC 3393	(R′)SB(s)ab	1.5	1.37	1.20	54.3				2i,4o	2222222000
104614−7209.9	CSRG 600	SB(<u>rl</u>)0$^+$	−1.0				0.63	0.39	23.7		0222000111
104624−1925.3	ESO 569−10	SAB:(r)b p	3.0				0.49	0.15			0111000110
104652−3102.4	ESO 437−65	SB(r)b p	3.0				0.61	0.44	1.7	2	0111000111
104804−3835.2	ESO 318−19	(R_1R_2')SAB(s)ab	2.0	0.72	0.27	15.4					1111111000
〃	〃	〃		1.01	0.39	4.9					0000111000
104910−1651.6	CSRG 601	(R?+PR?)		1.41	0.73						1000110000
104955−3224.3	ESO 437−67	(R_1')SB(r)ab	2.0	2.46	2.01	92.0	1.17	0.84	12.4	2	1111111111
105012−4606.1	ESO 264−46	(R_1')SB(s)bc	3.5	1.17	0.68	88.1				2+2	2222222000
105024−4453.9	ESO 264−47	(R_1R_2')SAB(rl)a	0.5	0.78	0.72	51.9	0.40	0.29	15.4	2	1222111222
〃	〃	〃		1.06	0.86	45.0					0000222000
105051−2203.1	ESO 569−16	(R_1R_2')SB(s)0/a	0.0	1.01	0.67	18.5				2	1111111000
〃	〃	〃		1.34	0.74	8.4					0000111000
105151−4533.0	ESO 264−49	SAB(r)0$^+$	−1.0				0.61	0.37	10.2		0222000222
105153−1755.9	ESO 569−20	SA(rs)d: p	7.0:				0.50:	0.26		2:	0111000110
105214−2047.9	NGC 3464	SA<u>B</u>(<u>rs</u>)c	5.0				0.67	0.52	4.9	5+	0111000111
105215−4556.7	ESO 264−50	SB(r)ab	2.0				0.50	0.22	6.4		0111000111
105329−7338.0	CSRG 602	(R)SA(r)0$^+$	−1.0	0.89:	0.65:		0.50	0.22			1222110220
105337−4805.2	ESO 215−6	SB(r)a	1.0				0.34	0.26	73.7	2	0111000111
105410−5017.5	ESO 215−7	(RL)S(r)0$^+$:	−0.5:	1.03	0.36						2012220000
105412−2020.6	CSRG 603	SB(rs)d p	6.5				0.51	0.39	50.1	2	0222000111
105417−4820.5	CSRG 604	SB(r)0$^+$:	−1.0:				0.41:	0.40			0111000110
105436−4723.4	ESO 264−51	(R_2')SB(rs)ab	1.5	0.73	0.26	15.6	0.39	0.11	28.7	2	2222222111
105515−4504.7	ESO 264−54	SB(r)a:	1.0:				0.58	0.42	72.2	3	0222000222
105524−1944.0	ESO 569−27	(R_1')SB(r)0/a	0.0	1.40	0.85	38.4	0.76	0.40	28.9	2	1111111111
105533−1809.6	ESO 569−29	SA(<u>rs</u>)b: p	3.0:				0.50	0.46		2i+1o	0111000110
105548−2602.3	ESO 502−7	(R_1')SB(s)0/a	0.0	0.89	0.61	61.6				2	1111111000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
105619−4619.0	NGC 3482	($R_1R'_2$)SB(r)a	1.0	1.48	1.20	24.9	0.78	0.39	13.2	2	2222222222
"	"	"		2.24	1.34	15.0					0000222000
105636−2812.5	NGC 3483	(R)SA(rl)0/a	0.0	1.89	1.40		1.01:	0.84			1111110110
105636−8519.5	ESO 7−2	(R'_2)SB(s)c	5.0	0.61	0.28	14.1				2	1111111000
105644−4310.4	ESO 264−57	SA(rs)bc	4.0				0.44	0.34		2	0222000220
105650−4306.5	ESO 264−58	SA(rs)c	4.5				0.25	0.21		2	0222000110
105707−5110.4	ESO 215−14	SB(rs)b: p	3.0:				0.73	0.50	0.5	2	0111000111
105733−6603.9	ESO 93−3	SAB(r)0/a:	0.0:				0.89	0.44	0.0:		0111000111
105901−4938.2	ESO 215−15	(R_1)SB0/a:	0.0:	0.74	0.13	27.7					1101111000
105943−4019.9	ESO 318−31	(R'_1)SB(r)a	1.0	0.74	0.49	76.5	0.38	0.28	−10.5	2+1	1111111111
110024−2319.3	ESO 502−12	(R:)SA:(s)ab	2.0	1.30	0.63					2	1111110000
110204−1834.2	CSRG 605	SA(rs)b:	2.5:				0.34	0.23		2	0222000110
110322−2031.3	ESO 570−2	SB(r)bc	4.0				0.56	0.11	44.0	3:	0111000111
110416−4746.2	ESO 215−21	(R')SAB(rs)a	1.0	1.08	0.87	10.8:	0.76	0.26	0.0:	2	2333221221
110445−3654.1	NGC 3533	(R')SAB(r)ab	2.0	2.74	0.60		1.06	0.29			1111110110
110451−1917.1	NGC 3529	(R'_1)SB:(r)ab p	2.0	0.85	0.61		0.42	0.38		2	1111110110
110558−3721.1	ESO 377−12	SB(r)ab	2.0				0.64	0.48	5.4	2:	0222000221
110604−4302.4	ESO 265−8	(R)SB(r)0/a	0.0	0.75	0.63	86.0	0.37	0.26	2.6	2?	1111111111
110652−4746.6	CSRG 606	SA(rs)bc	3.5				0.28	0.20		3:	0222000110
110726−2327.3	IC 2627	SAB(rs?)bc	4.0				0.44:	0.39:		2i	0111000110
110818−4849.9	ESO 215−31	(R'_1)SB(r)b	2.5	3.58:	2.35	83.7	1.45	1.12	5.1	2	2222222222
110822−2813.7	ESO 438−9	(R'_1)SB(rl)ab p	2.0	0.68	0.52	43.8	0.34	0.23	−9.5	2	1111111111
110833−3542.6	ESO 377−21	SAB(r)b: p	3.0:				1.34	0.40	16.3		0111000111
110901−1801.0	NGC 3571	(R)SAB:(rs)a	1.0	2.57	0.84		1.45:	0.47			1111110110
110905−4744.8	ESO 215−32	(L)SA0°	−2.0	0.82	0.41						1202110000
111237−2807.1	ESO 438−15	SB(rs)bc	4.0				0.73	0.27	33.5	4:	0111000111
111317−4829.2	ESO 215−37	SA(r)bc	4.0				0.96	0.77		5	0222000220
111423−7556.5	NGC 3620	(R'_1)SB(s)ab	2.0	2.60	1.37	13.9				2	2222222000
111458−4810.1	ESO 215−40	SA(rl)0°	−2.0				0.39	0.18			0111000110
111507−3014.9	ESO 438−19	(R'?)SA(r)0/a p	0.0	1.06	0.73		0.48	0.28			1111110110
111556−4828.4	ESO 216−3	(R)SB(r)0+	−1.0	1.50	1.26:	5.7	0.64	0.46	0.8		2222222222
111608−2743.6	CSRG 607	SA(rl)0+	−1.0				0.38	0.37			0121000110
111622−4624.3	ESO 265−22	($R_1R'_2$)SB(s)a	0.5	1.01	0.85	73.2				2	1222111000
"	"	"		1.31	1.03	2.5					0000222000
111635−3558.3	ESO 377−38	(R'_2)SB(s)b	3.0	0.75	0.63	2.9					1111111000
111711−5205.9	ESO 216−5	(R')SB(s)a	1.0	1.17	0.47	22.5				2	2222222000
111825−4259.4	ESO 265−23	(R)SAB0+: p	−1.0:	0.39	0.34	35.4					1101111000
111943−3747.4	ESO 319−16	SAB(rs)c	5.0				0.67	0.40	24.1	3	0111000111
112018−2518.2	CSRG 608	S(r)b:	3.0:				0.30	0.13		2	0011000110
112026−2007.9	CSRG 609	(R)SABa: p	1.0:	0.34	0.20	45.6					1101111000
112150−1947.4	ESO 570−22	(R')SA(s)ab:	2.0:	0.30	0.29					2	1111110000
112226−7653.1	ESO 38−12	SAB(rs)bc:	4.0:				0.32	0.17			0111000110
112232−4455.4	CSRG 610	SA(rs:)b p	3.0				0.39	0.22			0111000110
112244−2627.7	NGC 3673	SB(r)b	3.0				1.40	0.77	7.7	5+	0111000111
112247−3507.6	ESO 377−43	(R)SB(r)0/a	0.0	0.73	0.59	45.8	0.37	0.28	3.2		1111111111
112323−4752.0	ESO 216−8	SAB(r)b:	3.0:				1.06	0.18	0.0:		0111000111
112333−4632.3	CSRG 611	(R')SAB(r)0/a:	0.0:	0.61	0.47:		0.39	0.17			1111110110
112349−5357.6	ESO 170−3	(R:)SB:(r:)a:	1.0:	0.95:	0.34:		0.58	0.13			1111110110
112437−2842.2	IC 2764	(R)SA(r)0/a	0.0	1.51	1.29		0.73	0.67			1111110110
112455−2859.0	ESO 439−9	(R)SB(r)a? p	1.0?	1.08	0.34	4.3	0.61	0.16	7.0		1111111111
112458−7452.5	CSRG 612	(R'_2)SB(s)ab:	2.0:	0.63	0.45	21.5				2	1111111000
112501−4203.7	ESO 319−21	SB(r)c	5.0				0.25	0.22		2	0111000110
112529−4120.3	ESO 319−22	(R'?)SB(r)a	1.0				0.59	0.28	27.1	2	1111000111
112630−2212.4	ESO 571−3	(R)SAB(r)0+	−1.0	0.84	0.62	12.0	0.50	0.44	−13.3		2222221221
112729−3129.5	ESO 439−14	SA(r?)0/a:	0.0:				0.87	0.39			0111000110
112900−3709.8	ESO 378−9	SAB(r)c	5.0				0.22	0.18		2+1	0111000110
112900−4417.5	CSRG 613	(R'_1)SAB(r)a	1.0	0.39	0.34		0.18	0.11			1111110110
112922−3008.0	IC 2913	SA(r)0+:	−1.0:				0.28	0.27			0111000110
113032−3253.6	CSRG 614	(R)SAB(r)0+	−1.0	0.56	0.40	24.3:	0.27	0.19	2.9		1222111111
113043−4535.8	ESO 266−2	SA(r)b: p	3.0:				0.34	0.17		5	0111000110
113104−2529.1	ESO 503−23	(L)SA(rl)0°	−2.0	0.86	0.75		0.41	0.35			1111110110
113128−2351.6	CSRG 615	(R')SB(s)0/a	0.0	0.63	0.34	11.4				2	2222222000
113228−3814.5	ESO 320−5	SAB(r)0/a	0.0				0.59	0.39	4.4		0111000111
113230−2314.0	ESO 503−26	(R'_1)SB(rl)a	1.0	0.61	0.49	90.0	0.31	0.22	−8.7	2+	1111111111
113252−3245.5	CSRG 616	(R)S0/a	0.0	0.60	0.36						1001110000
113300−2452.2	ESO 504−1	(R)SA0/a? p	0.0?	0.96	0.84						1101110000
113305−3740.9	NGC 3742	(R')SAB(rl)a	1.0	1.51	1.38	16.0	1.06	0.49			1111111110
113346−2502.3	CSRG 617	(R)SB(s)0/a	0.0	0.55	0.28	22.0					2212111000
113514−4427.7	CSRG 618	(R')SAB(r)0/a	0.0	0.78	0.67	89.1	0.31	0.29	−17.7:	3	1111111111
113519−4854.1	ESO 216−24	(R'_2)SAB(s)bc p	3.5	0.73	0.67	9.4				2	2212221000
113523−4430.2	CSRG 619	SB(r)0°	−2.0				0.59	0.17	77.6		0111000111
113531−3202.9	ESO 439−18	SAB(r)b	3.0				0.39	0.27	0.0	2	0111000111
113546−2927.1	ESO 439−20	SAB(r)b	3.0				0.74	0.27	8.2:	2:	0111000111
113551−2049.1	ESO 571−11	SAB(rs)a p	1.0				0.34	0.27	40.1:	2	0111000111
113602−4625.5	CSRG 620	(R)SB0°	−2.0	0.61	0.61						1101110000
113633−3727.7	NGC 3783	(R')SB(r)a	1.0	2.85	2.29	18.7	0.54	0.49	−16.4	2	1111111111
113645−4908.3	ESO 216−28	(R')SAB(r)b p	3.0	1.07	1.06		0.52	0.41	65.6	2+2	1222110222
113722−4417.0	ESO 266−12	(R'_2)SAB(s)bc	3.5	0.95	0.56	53.1				2	2222221000
113810−4414.9	ESO 266−13	(R)SB(r)0+	−1.0	1.03	0.73	84.5	0.42	0.28	−8.7		2222222222
113843−5003.0	ESO 216−33	(R')SB(r)ab:	2.0:	0.75	0.39	19.0	0.44	0.18	7.2	2	1222111222
113904−2033.3	CSRG 621	SAB(r)ab	2.0				0.29	0.23	9.0	2:	0111000111
114042−1807.4	CSRG 622	(R'_2)SB(s)b	2.5	0.61	0.39	1.6				2	2222222000
114051−1854.7	ESO 571−19	(R'_1)SB(s)a:	1.0:	0.61	0.19	12.4				2	1111111000
114146−1755.4	ESO 571−20	SB(rs)b	3.0				0.23	0.21	65.6	3+1	0111000111
114148−1709.0	CSRG 623	SB(rs)b:	2.5:				0.28	0.23	72.9	2	0222000111
114225−4349.3	ESO 266−20	(R'_2)SB(r)a	1.0	0.73	0.39	46.8	0.32	0.16	52.9		1111111111
114225−5016.0	ESO 216−37	SA(r)bc p	4.0				0.48	0.27		3	0111000110
114228−5137.7	ESO 216−38	SB(r)ab	1.5				1.06	0.65	2.0	2	0222000222
114259−5018.9	ESO 216−39	(R')SAB(r)ab:	2.0:	0.95	0.73		0.50	0.28			1111110110
114301−4317.8	ESO 266−23	SB(r)ab	2.0				0.56	0.45	21.2	5+	0222000222
114301−4336.5	CSRG 624	SA(r)0+	−1.0				0.45	0.45			0111000110
114342−1720.0	CSRG 625	SA(rs)ab: p	2.0:				0.25	0.18		2:	0222000110
114351−4353.4	CSRG 626	SA(rl)0°	−2.0				0.39	0.21			0111000110
114415−2738.7	NGC 3885	SAB(r:)0/a:	0.0:				0.78	0.28			0111000110
114446−2854.4	CSRG 627	(R')SB(r)a:	1.0:	0.84	0.39	3.0:	0.45	0.19	9.5:	2	1111111111
114446−3716.4	ESO 378−20	SAB(rl?)	?				0.72:	0.39:			0110000110
114528−4555.4	ESO 266−26	SB(rs:)a p	1.0				0.28	0.15	15.0		0111000111
114534−5208.5	ESO 217−2	(R)SB0°	−2.0	0.89	0.48	68.0					1101111000
114658−3321.9	ESO 378−25	(R':)SB(s)a	1.0	0.59	0.58					2	1111110000
114702−2106.8	CSRG 628	(R'_2)SAB(rl)a	1.0	0.74	0.63	30.8:	0.25	0.19	−1.7	2	1111111111
114714−2112.0	ESO 572−3	SA(r)c	5.0				0.21	0.17		2	0111000110
114755−1818.1	ESO 572−5	(R'_2)SB(s)a	1.0	0.87	0.32	7.1				2	1111111000
114911−3059.4	CSRG 629	(R'_2)SB(s)ab:	2.0:	0.63	0.29	9.4					1111111000
114914−4643.2	ESO 266−30	SAB(rs)b	3.0				0.48	0.37	18.0	2	0222000111

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
114920−3112.0	ESO 440−19	SB(r)bc	4.0				0.28	0.26	6.6:	2	0111000111
114921−5145.3	CSRG 630	(R_1')SB(s)a	1.0	0.55	0.45	79.7				2	1111111000
114931−3218.3	ESO 440−21	(R':)SB(rs)b	3.0	0.95	0.41:	85.0	0.39	0.38	74.8:	2	1111111111
114953−3106.2	ESO 440−22	SAB:(r)bc:	4.0:				0.34	0.15		2	0111000110
115040−3851.1	ESO 320−30	(R_1')SAB(r)a	1.0	1.96	1.27		0.78	0.39		2	1111110110
115048−3222.3	ESO 440−26	SB(r)a	1.0				0.40	0.31	3.0:	2	0111000111
115107−3119.5	CSRG 631	(R'?)SB(s)bc	4.0	0.31	0.17	61.9					1112111000
115119−3116.7	CSRG 632	(R_2')SB(s)b:	3.0:	0.34	0.30	29.5?				2	1111111000
115145−5353.0	ESO 171−2	SAB(r)b	3.0				0.25	0.22		m	0111000110
115207−4039.2	ESO 320−32	(R')SB(r)b	3.0	0.74	0.39	22.4	0.28	0.22	8.6	2+1	1111111111
115222−2146.6	CSRG 633	SB(r)0/a	0.0				0.28	0.23	79.9	2:	0111000111
115222−2658.3	ESO 504−28	SB(r)d:	7.0:				0.22	0.17:	1.7:	2+	0111000111
115236−1838.9	NGC 3969	SA(r)0°	−2.0				0.75	0.39			0111000110
115318−1755.0	ESO 572−18	SB(rs)c:	5.0:				0.65	0.34	39.7	2	0111000111
115414−3754.8	ESO 320−35	SAB(rs)bc	4.0				0.73:	0.73:		3+	0111000110
115415−3210.2	ESO 440−33	SB(r)0/a	0.0				0.44	0.17	35.7		0111000111
115442−2725.3	ESO 504−30	SB(r)d:	7.0:				0.39	0.34	27.6	2	0111000111
115500−2616.8	CSRG 634	(R)SB0$^+$	−1.0	0.47	0.28	25.0					1101111000
115530−5136.3	ESO 217−15	(R)SB0°	−2.0	0.84	0.73	43.5					1101111000
115545−5051.4	ESO 217−16	SAB(r)b p	3.0				0.44	0.22	63.0	2	0222000222
115633−3428.9	ESO 379−16	SAB(r:)b:	3.0:				0.30	0.22:	6.0:		0111000111
115651−4614.6	ESO 267−4	(R)SB(r)0$^+$	−1.0	0.89	0.64	18.2	0.40	0.30	2.5		1111111111
115658−3626.4	ESO 379−19	(R')SAB(r)ab	2.0	1.04	0.73		0.28	0.23		2	1111110110
115710−2157.9	CSRG 635	(R')SB(r)a	1.0	0.94	0.67	39.0	0.39	0.29	−58.3	2	1111111111
115758−2102.6	ESO 572−41	SB(r)0/a	0.0				0.41	0.40			0111000110
115843−2013.8	ESO 572−46	SB(rs)ab	2.0				0.50	0.37	48.4	2i,2o	0111000111
115909−3125.5	ESO 440−38	SB(l)0$^-$	−3.0				1.01	0.54	10.5		0111000111
115929−3646.2	ESO 379−23	(R_2')SAB(s)b	3.0	0.51	0.19	8.8				2	1111111000
120049−4709.7	CSRG 636	(R)SAB0$^+$:	−1.0:	0.38	0.28:						1101110000
120054−5118.3	CSRG 637	SB(r)a	1.0				0.29	0.25	31.0	2	0111000111
120218−4327.2	ESO 267−13	(R_1')SAB(rl)a	1.0	1.68	1.62		0.93	0.56	1.0	2	1222110222
120230−2824.8	CSRG 638	SAB(r)b:	3.0:				0.26	0.21	63.2	2	0111000111
120232−2347.8	CSRG 639	(R?)SB(r)0/a	0.0				0.61	0.37	23.1		1222000111
120312−3834.4	ESO 321−5	SB(rs)c	5.0				0.36	0.30	3.6	2:	0111000111
120344−2755.1	CSRG 640	(R_2')SB(s)b p	3.0	0.56	0.39	23.2					2222111000
120353−2753.8	CSRG 641	SA:(rs)bc	3.5				0.28	0.23			0222000110
120403−4704.0	ESO 267−17	(R_2')SB(r)b p	2.5	0.83	0.56	14.5	0.30	0.22	0.0	3:	1222111222
120434−3955.7	NGC 4112	SAB(rs)a	1.0				0.69	0.34	8.5	2	0111000111
120509−3144.5	ESO 441−5	SB(r)b	3.0				0.45	0.45		4	0111000110
120522−3003.7	IC 3010	(R_2')SAB(s)0/a	0.0	1.40	1.16	3.4					1111111000
120530−4601.0	CSRG 642	(R)SA(r)0$^+$	−0.5	0.80	0.45		0.48	0.17			2222220220
120544−4602.0	ESO 267−18	(R?)SAB(r)0/a	0.0	1.03	0.63	55.0	0.34	0.24	10.4	2	2222111222
120625−4602.1	ESO 267−20	(R_1)SB0$^+$:	−1.0:	0.76	0.27	2.8					1101111000
120650−4702.5	ESO 267−21	(R')SB(s)a	1.3	1.06	0.42	8.6				2	1333111000
120652−2400.4	ESO 505−22	SB(rs)b	3.0				0.32	0.28	16.5	2+	0111000111
120714−4704.1	ESO 267−22	SB(r)a	0.8				0.53	0.18	46.8	2	0444000444
120722−4632.5	CSRG 643	(RL)SA0°	−1.5	0.68	0.36						2202220000
120728−4619.8	CSRG 644	(R':)SAB(rl)a	0.5	0.95	0.45	23.9	0.46	0.24	8.6	2	1222111222
120739−4252.3	CSRG 645	SB(r)b: p	3.0:				0.36	0.27	80.6	2	0111000111
120754−2042.3	CSRG 646	SA(r)a: p	1.0:				0.29	0.27		1+	0221000110
120850−4640.0	CSRG 647	(R)SAB(r)0$^+$	−0.5	0.54	0.38	89.6	0.26	0.22	85.7	2	1222111221
120946−5211.0	ESO 217−30	SA(r)b	3.0				0.50	0.39		4+	0444000440
121012−4957.9	CSRG 648	(R')SA(r)ab	2.0	0.61	0.60		0.28	0.27		2	1111110110
121019−3410.8	CSRG 649	(R)S0$^+$	−1.0	0.49	0.11						1001110000
121111−3249.7	CSRG 650	SB(r)b:	3.0:				0.28	0.22	45.8	3:	0111000111
121135−4656.9	ESO 267−30	SA(rs)ab	1.7				0.52	0.31		2	0333000220
121208−3513.9	ESO 380−1	SB(rs)b	3.0				2.35	1.41	1.5	2	0111000111
121211−3052.5	CSRG 651	(R')SB(s)ab	1.5	0.56	0.41	81.6				2	1112111000
121250−3751.9	ESO 321−16	SB(rl)bc:	4.0:				0.76	0.28	33.8	2+2	0111000111
121257−3521.1	ESO 380−6	(R_2')SAB(rs)ab	2.0	3.21	1.17	26.5	1.19	0.50	18.3	2	1111111111
121427−3846.4	ESO 321−19	SAB(rl)0°	−2.0				0.63	0.45	4.4		0111000111
121514−4653.6	CSRG 652	(R_1)SAB0$^+$	−1.0	0.45	0.39						1101110000
121607−2409.1	CSRG 653	(R_2')SAB(rl)0/a	0.0	0.44	0.35	6.9	0.19	0.12	0.0		1111111111
121617−5102.8	CSRG 654	(R)SAB(rl)0°	−2.0	0.84:	0.84:		0.49	0.39			1111110110
121711−2117.0	CSRG 655	(R_1')SB(s)a	1.0	0.54	0.45	88.7				2	1111111000
121730−1746.7	CSRG 656	(R_1')SB(s)a	1.0	0.39	0.35	87.8:				2	1111111000
121802−1823.3	ESO 573−12	(R_2')SAB(rs)bc	4.0	1.12	0.39		0.40	0.22		2	2222110110
121814−1822.5	CSRG 657	(R)SB0$^+$	−1.0	0.53	0.45	78.9					1101111000
121838−1739.6	ESO 573−13	(R')SA(r)ab:	2.0:	1.62	0.42		0.89	0.22		2	1111110110
121905−3929.6	ESO 321−25	SB(r)d	7.0				1.01	0.36	18.0	2	0221000122
121913−2353.5	ESO 506−4	SB(rs)ab	2.0				0.96	0.38	13.7	1+3?	0222000222
121923−4556.3	ESO 267−43	(RL)SB(l)0°	−2.0	0.98	0.61	85.6	0.53	0.34	77.0		2222222222
121935−3312.4	NGC 4304	(R':)SB(rs)bc	4.0	2.68	2.35:	83.6	1.23	1.06	14.0		1111111111
121941−1742.7	ESO 573−15	(R_2')SB(rs)0/a	0.0	0.64	0.51	68.0	0.34	0.29		2	1111111110
121948−2055.0	ESO 573−16	S(r)ab:	2.0:				0.63	0.12			0011000110
121953−2204.1	ESO 573−17	(R)SAB(l)0/a	0.0	1.29	0.64	59.5:	0.50	0.28	50.8:	2:	1111111111
121955−5820.4	ESO 130−12	S(r)a:	1.0:				0.68	0.20			0021000220
122019−2304.2	ESO 506−5	(R')SA(r)b? p	3.0?	0.41	0.23		0.17:	0.15:		2+1?	1111110110
122040−3644.2	ESO 380−22	SAB(r:)0$^+$	−1.0				0.50	0.22	20.1		0111000111
122137−4454.9	ESO 267−45	(R':)SAB(r)a	0.5	1.30	0.56	6.7	0.39	0.20	6.8		1222111222
122153−2121.3	ESO 573−18	(R_2')SB(s)ab	2.0	0.96	0.89	61.9:				2	1111111000
122211−3823.3	CSRG 658	SAB(r:)ab	1.5				0.38	0.22	19.8:		0112000111
122311−2128.1	ESO 573−21	(R')SB(rs)ab	2.0	1.06	0.96	24.0	0.55	0.40	−2.2	2	1222111222
122330−3850.9	ESO 322−9	SB(rs)b p	3.0				0.69	0.46	4.0	2	0222000222
122445−1738.0	ESO 573−24	SAB(r)ab	2.0				0.39	0.22	69.9		0111000111
122445−3315.0	ESO 380−30	SA(r)a?	1.0?				0.51	0.39			0111000110
122537−3542.1	CSRG 659	(R_1')SAB(rs)ab	2.0	0.50	0.47		0.39	0.20		2	1111110110
122545−3738.2	CSRG 660	(R_1')SB(s)a	1.0	0.47	0.26	88.2				2	1111111000
122555−4259.1	NGC 4444	SAB(rs)bc	3.7				0.74:	0.64:	87.0:		0333000111
122556−2157.8	ESO 574−1	SA(r)c	5.0				0.44	0.18		6	0111000110
122559−2213.3	ESO 574−2	SAB(rs)b	3.0				0.40	0.23	36.5	2+	0111000111
122559−2514.1	CSRG 661	SB(r)ab: p	2.0:				0.29	0.28		2	0111000110
122632−4025.0	ESO 322−20	SB(rs)d	7.0				0.46	0.44		4+	0111000110
122644−2253.4	NGC 4462	SB(r)ab	2.0				1.18	0.41	20.8	3:	0222000222
122646−4627.5	ESO 268−11	SB(r)a	1.0				0.51	0.23	56.7	2+1	0111000111
122700−1806.7	ESO 574−3	SB(r)ab	1.5				0.30	0.24	14.7	2+1	0222000222
122758−2319.5	CSRG 662	(R_1')SB(s)0/a	0.0	0.50	0.34	55.4					1111111000
122800−2227.3	ESO 574−5	SB(r)ab	2.0				0.29	0.18	68.8:	2	0111000111
122824−2604.0	CSRG 663	(RL)SAB0°	−2.0	0.31	0.28	66.7:					1101111000
122834−2132.4	CSRG 664	(R')SAB(s)a:	1.0:	0.41	0.22						1111110000
122839−2600.7	ESO 506−15	(R_1)SB(r)ab	2.0	1.06	0.78	50.4	0.53	0.29	−36.0		1111111111
122919−4430.3	ESO 268−15	SB(rs)bc	4.0				0.44	0.30	2.6	4	0222000222
122924−3942.4	NGC 4499	SB(rs)b	3.0				0.51:	0.42	26.0	2:	0111000111
122940−2242.3	ESO 506−16	SA(rs)b	3.0				0.39	0.22		2+4	0111000110

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
123107−2246.5	CSRG 665	(R)SA<u>B</u>0/a	0.0	0.49	0.29	3.2				2:	2202222000
123108−3450.4	ESO 380−42	(R′:)SB(r:)a: p	1.0:	0.89	0.73	26.8:	0.50	0.39	77.2	2	1111111111
123126−3452.1	ESO 380−44	(R)SA0$^+$	−1.0	0.82	0.32						1101110000
123132−2046.8	ESO 574−9	S<u>A</u>B(r)0/a p	0.0				0.32	0.23		2	0111000110
123132−2520.5	ESO 506−20	SAB(rs)dm:	8.0:				0.35	0.30			0111000110
123201−4001.5	ESO 322−27	(R)S<u>A</u>B(rl)0°	−2.0	1.23	0.95		0.53	0.40			1111110110
123204−4215.4	ESO 322−28	(R)Sa	1.0	0.95	0.39						1002110000
123209−2220.1	ESO 574−11	SAB(r)b: p	3.0:				0.45	0.10	83.3	2	0111000111
123304−3306.8	CSRG 666	SB(r)bc	4.0				0.37	0.16	72.7	2:	0111000111
123315−4244.5	ESO 268−24	(R_1)SAB(r)0/a	0.3	1.24	0.50	53.3	0.43	0.28	33.0	1	3333333333
123326−3909.8	NGC 4553	(RL)SA(r)0$^+$	−1.0	2.01:	1.07:		1.01	0.39			1111110110
123406−4151.9	ESO 322−31	SB(r)0$^+$	−1.0				1.23	0.76	3.5		0333000333
123500−4320.7	NGC 4573	(R_1R_2')SB(rl)0$^+$	−1.0	1.73	1.40	85.7	0.70	0.53	−2.4		2222222222
〃	〃	〃		1.96	1.96						0000110000
123509−4015.7	NGC 4575	SAB(r<u>s</u>)bc	4.0				0.82	0.47	1.5	3:	0111000111
123529−3659.0	CSRG 667	SA(r)b:	3.0:				0.49	0.26			0222000110
123539−3520.5	ESO 380−50	SB(r)ab	2.0				0.85	0.50	68.5		0111000111
123546−4235.3	ESO 268−27	SA(rs)ab	2.0				0.54	0.33		3	0333000220
123547−2234.0	CSRG 668	(R)SB(s)0$^+$	−0.7	0.59	0.49	66.5					3323222000
123550−2322.0	ESO 506−25	(R′)SA(r)a p	1.0	0.61	0.39		0.38	0.28		1?	1111110110
123557−2840.4	CSRG 669	(R_2')SB(s)a	1.0	0.50	0.37	16.6					1111111000
123557−4156.4	ESO 322−42	SB(r)bc:	4.0:				0.78	0.34	9.1	f	0333000333
123610−4159.1	CSRG 670	SB(r:)p					0.40	0.26	9.4		0110000111
123632−3954.7	CSRG 671	SAB(r)0$^+$	−1.0				0.49	0.32	4.9		0111000111
123703−4801.1	ESO 218−13	SA(r<u>s</u>)b	3.0				0.53	0.19		2:	0222000220
123707−4050.0	CSRG 672	(RL)SB0°	−2.0	1.15	1.06	7.0					1101111000
123803−4037.1	NGC 4601	SA:(r)0/a	0.0				0.78	0.22		2	0111000110
123812−4042.1	NGC 4603	SA(r<u>s</u>)bc	4.0				0.63	0.51		m	0111000110
123816−3627.5	ESO 381−9	SB(r?)d	7.0				0.74	0.65	72.6	2	0111000111
123924−4032.8	NGC 4603D	SA(r)b	3.0				0.67	0.46			0111000110
123931−1704.5	IC 806	(R)SB(r<u>s</u>)a p	1.0	1.07	0.85	76.1	0.54	0.45	63.5:		1111111111
123932−3950.0	CSRG 673	SAB(r)cd	6.0				0.40	0.34	33.7	4	0222000111
123943−4717.0	ESO 268−33	SB(r)bc:	4.0:				0.89	0.26	5.8		0111000111
123954−4028.2	NGC 4622	SA(r)ab	2.0				0.78	0.74		2	0111000110
124010−3008.1	ESO 442−15	(R_1R_2')SB(r)a	1.0	0.55	0.47	26.0	0.28	0.18	3.0	2	1111111111
〃	〃	〃		0.80	0.66	17.7					0000111000
124021−4105.1	NGC 4645A	SA?(r)0°	−2.0				0.62	0.25			0111000110
124055−2034.1	ESO 574−24	($R_1'R_2'$)SB(l)ab	2.0	1.07	0.74	16.8	0.67	0.28	3.7	2	1111111111
〃	〃	〃		1.51:	0.74	1.4:					0000111000
124115−3907.0	ESO 322−65	(R′)SA(s)b	3.0	0.75	0.28					2	1111110000
124136−4027.5	NGC 4650	SB(rs)a p	1.0				1.23	1.01	1.0	2	0111000111
124146−4247.7	CSRG 674	(R_1)SB0°	−2.0	0.59	0.41	89.5					1101111000
124152−3338.0	ESO 381−17	SB(r<u>s</u>)d	7.0				0.40	0.34	56.0		0111000111
124205−4026.5	NGC 4650A	(PR)		1.01	0.16						1000110000
124329−3132.1	ESO 442−20	(R_1')SB(s)a	1.0	0.66	0.26	33.1				2	1111111000
124343−2927.1	ESO 442−21	SB(rs)b:	3.0:				0.61	0.13	71.6:	2	0111000111
124358−3945.1	ESO 322−76	SB(r)ab: p	2.0:				0.51	0.28	1.3		0111000111
124407−2107.1	ESO 574−31	(R′)SA(r)a	1.0	1.25	0.51		0.40	0.17		2	1111110110
124458−1913.8	CSRG 675	(R_1)SB0$^+$	−1.0	0.58	0.29	22.6					1101111000
124519−2159.7	ESO 574−33	SB(rs)bc	3.5				0.56	0.35	18.6:	3+	0222000221
124525−2718.3	ESO 507−13	SB(r?)b?	3.0?				1.17	0.21	4.9	2	0111000111
124640−4113.0	ESO 322−99	(L?)SB0$^-$:	−3.0:	0.96	0.51	70.6					1101111000

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
124700−2453.3	ESO 507−16	(R_1R_2')SAB(r<u>l</u>)0/a	0.0	0.89	0.65	52.6	0.39	0.26	12.4	2	1111111111
〃	〃	〃		1.30	0.78	30.4					0000111000
124722−2538.9	IC 3813	S<u>A</u>B(r)0$^+$	−1.0				0.53	0.40	40.1		0111000111
124757−2257.2	CSRG 676	(R′)S<u>A</u>B(s)a:	1.0:	0.42	0.22						1222110000
124805−2206.3	CSRG 677	(R′L)SA0/a	0.0	0.73	0.45						2202110000
124817−4722.6	ESO 268−47	(R′)SA(r)ab	2.0	0.73	0.67		0.25	0.17		2	1111110110
124839−2226.4	CSRG 678	SB(r)a	1.0				0.36	0.36		2	0111000110
124846−2632.1	ESO 507−24	(R)SB(l)0°	−2.0	1.51	1.31	65.3	0.86	0.74	37.6		1111111111
124851−2730.7	IC 3829	SA(r)c	5.0				0.42	0.26		2	0111000110
124852−2758.4	ESO 442−25	SB(r)bc	4.0				0.29	0.27	86.2:	2:	0111000111
124859−3833.5	ESO 323−15	SA(l)0$^-$	−3.0				0.53	0.28			0111000110
124905−2549.1	ESO 507−28	SB:(r)0/a	0.0				0.56	0.28	89.9?	1?	0111000111
124911−1926.7	CSRG 679	(R_1')SB(s)0/a	0.0	0.45	0.30	76.4					2212111000
124933−4047.3	NGC 4744	(L)SB(l)0$^+$	−1.0	2.35	1.12	22.5:	1.17	0.59	15.2		1222111222
124942−2241.5	ESO 507−34	(R′?)S<u>A</u>B(r<u>s</u>)a	1.0	0.84	0.50		0.29	0.18		2	1222110110
124953−3845.4	ESO 323−25	(R)SA(r<u>s</u>)b	3.3	2.06	0.73		0.41	0.20		2	2223220220
125004−4010.8	ESO 323−27	S<u>A</u>B(r)bc	4.0				0.45	0.34		3+1	0111000110
125033−4121.8	ESO 323−32	(R)S<u>A</u>B(l)0$^+$	−1.0	0.78	0.65	45.5	0.46	0.34	0.0:		2212222111
125036−4828.7	NGC 4785?	(R′)SAB(r)ab	2.0	1.71	0.73		0.58	0.29		2	1222110220
125043−2225.0	ESO 575−18	SB(r)0/a	0.0				0.31	0.25	80.0	2	0222000222
125114−2057.1	CSRG 680	(R?)SA(r<u>s</u>)0/a:	0.0:	0.82:	0.74:		0.38	0.34			1111110110
125126−1954.7	ESO 575−21	SB(r)a	1.0				0.60	0.55	13.2	2	0111000111
125154−1919.4	CSRG 681	SB(r)0/a: p	0.0:				0.36	0.22	75.1		0111000111
125158−1802.3	ESO 575−23	(R′)SB(rs)ab	2.0	1.20	0.91	90.0	0.45	0.41	7.7	2	1111111111
125211−4538.1	ESO 269−6	(R′)SA(s)b: p	3.0:	0.87	0.72					2?	1111110000
125213−1742.2	CSRG 682	SA:(r<u>s</u>)cd	6.0				0.22	0.19			0111000110
125238−4948.0	IC 3896A	SB(rl)c p	4.5				0.53	0.46	0.0	1+1	0222000221
125248−4344.6	ESO 269−10	S<u>A</u>B(r)b p	3.0				0.40	0.34		5	0111000110
125307−1952.4	ESO 575−28	(R_2')SB(s)b	3.0	0.65	0.45	2.7				2	1111111000
125311−2116.3	CSRG 683	(R_1')SB(s)ab	2.0	0.63	0.28	44.5				2	1111111000
125358−3426.0	ESO 381−30	SAB(r)bc	4.0				0.36	0.26	72.6	m	0111000111
125403−2147.0	CSRG 684	(R)SBab: p	2.0:	0.49	0.34	1.6					1101111000
125403−4251.4	ESO 269−13	(R)SB(r)0$^+$	−1.0	2.01	1.49	29.8	1.15	0.75	9.8		2333222333
125404−4131.6	NGC 4811	SAB(rl)0$^+$	−1.0				0.76	0.70	43.0		0111000111
125417−2233.7	ESO 507−49	(RL)SB(r)0$^+$	−1.0	1.17	0.98	25.1	0.65	0.49	10.4		2222222222
125423−1914.9	ESO 575−35	SAB(r)c:	5.0:				0.40	0.27		m:	0111000110
125426−1806.4	ESO 575−36	SA(rs)bc	4.0				0.31	0.25		2	0111000110
125443−4928.8	ESO 219−14	S<u>A</u>B(r)a	1.0				0.60	0.16	38.3		0111000111
125445−5307.3	ESO 172−12	SA(rs)c:	5.0:				0.35	0.22		3+	0111000110
125447−2756.1	ESO 443−16	SB(rs:)c:	5.0:				0.62	0.30	1.5		0111000111
125502−2929.8	ESO 443−17	(R)SB(r′l)0/a	0.0	0.85	0.51	40.2	0.47	0.29	33.1		1111111111
125513−2025.7	CSRG 685	(R?)SB(r)0$^+$	−1.0	0.89:	0.56:	2.7	0.56	0.22	2.5		1222111111
125526−2134.8	CSRG 686	(R)SB0$^+$	−1.0	0.39	0.22	9.3					1101111000
125548−3717.3	ESO 381−32	(R)SB(rl)0$^+$	−1.3	1.40	1.40		0.71	0.50	3.6		1333110332
125553−1802.6	ESO 575−40	SB(rs)c	5.0				0.35	0.25	6.7	2	0111000111
125554−1926.4	CSRG 687	(R_1')SB(s)a:	1.0:	0.36	0.29	86.6				2	1111111000
125632−1806.5	CSRG 688	(R_1')SB(s)a	0.7	0.41	0.34	87.8				2	3333211000
125641−4411.1	ESO 269−25	(R)S<u>A</u>B(r)ab	1.5	1.00	0.56		0.60	0.30			2222220220
125645−1809.5	CSRG 689	(R_1)SB0$^+$	−0.5	0.53	0.23	88.3					2202111000
125654−1907.9	CSRG 690	(R)SAB(l)0$^+$	−1.0	0.63	0.51	2.1	0.27	0.27:			1111111110
125654−2049.7	ESO 575−42	SAB?(r)a	1.0				0.67	0.18		1+f	0111000110
125714−1923.0	CSRG 691	(R′)SA(s)ab	2.0	0.47	0.25					2	1111110000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
125717−5038.8	ESO 219−19	SB(r)0$^+$ p	−0.5				0.66	0.50	1.0		0222000222
125740−2144.2	CSRG 692	(R$'_2$)SB(s)c p	5.0	0.55	0.50	50.5				2	1111111000
125749−2150.5	ESO 575−45	(R$_1$)SB(s)0$^+$	−1.0	0.85	0.40	6.3					1111111000
125756−2155.2	ESO 575−46	(R′)SAB(r)a	1.0	0.83	0.50	43.3	0.43	0.23	39.5		3333222222
125830−1755.7	ESO 575−47	(R$'_1$)SB(rs)ab	2.0	1.63	1.17	84.5	0.77	0.64	2.0	2+2	1111111111
125836−3207.9	ESO 443−29	SA(r)c	5.0				0.20	0.18			0111000110
125839−3039.9	NGC 4903	SB(rs)c	5.0				0.52	0.44:	30.5	3	0111000111
125847−1941.7	ESO 575−48	SB(rs)b:	3.0:				0.34	0.23	4.2	1	0111000111
125902−4108.0	ESO 323−66	SAB(r)b	3.0				0:26	0.25		2	0111000110
125912−4230.2	NGC 4909	(R$_1$R$'_2$)SAB(l)a	1.0	1.19	0.84					4	1111110000
〃	〃	〃		1.57	1.26	6.0	0.51	0.46	6.5	4	0000331331
125922−3231.1	ESO 381−50	SB(r)bc p	4.0				0.34	0.28	77.2	3+	0111000111
125932−3229.5	ESO 443−37	(R$'_1$)SB(s)a	1.0	1.12	0.51	8.0					1111111000
125950−3402.9	ESO 381−52	(R$'_2$:)SAB:(s)a	1.0	1.17	0.61	14.6:				4	1111111000
130022−3858.8	ESO 323−71	(R$'_1$)SB(s)a	1.0	1.40	0.42	22.6				2	2222222000
130038−5249.3	ESO 173−3	(R)SAB0$^+$:	−1.0:	1.06	0.60	8.1					1101111000
130039−3158.0	ESO 443−41	(R′)SAB?(r)ab	2.0	1.34	0.41		0.67	0.26			1111110110
130115−4108.6	NGC 4930	SB(rs)bc	3.5				1.45	1.35	40.6	m	0222000222
130127−2202.1	CSRG 693	SB(r)a p	1.0				0.38	0.25	1.0	1	0111000111
130146−2027.5	CSRG 694	(R$'_2$)SB(s)a	1.0	0.36	0.28	21.6				2	1111111000
130206−3013.3	ESO 443−55	SA<u>B</u>(r)0/a:	0.0:				0.84	0.84:			0111000110
130224−2807.7	ESO 443−57	SB(rl)a	1.0				0.49	0.23	0.6	2	0111000111
130234−3504.2	NGC 4947	SA(r)bc p	4.0				0.84	0.39		2+	0111000110
130251−1929.0	CSRG 695	(R$'_1$)SB(s)a:	1.0:	0.64	0.26	29.6				2	1111111000
130324−3113.1	ESO 443−65	(R$'_2$)SB(rl)c	5.0	0.94	0.73	6.7	0.35	0.20	0.6		1111111111
130329−2953.6	ESO 443−67	SAB(rl)0/a:	0.0:				0.74	0.45:	2.4:		0111000111
130337−4008.8	ESO 323−77	(R)SB(l)0°	−1.5	1.63	0.81	76.6	0.58	0.49	40.2		2222222222
130347−2052.0	CSRG 696	SB(r)a	1.0				0.35	0.18	0.0	2	0111000111
130352−3800.5	ESO 323−79	(R)SB0°	−2.0	1.06	0.68	76.4					1101111000
130409−2817.4	ESO 443−69	SB(rs)d	7.0				0.57:	0.49:	13.6?	3	0111000111
130414−2339.0	IC 4180	SB(rl)0/a:	0.0:				0.63	0.54	8.1	2	0111000111
130426−4005.0	CSRG 697	SB(r)0/a	0.0				0.61	0.29	53.6	2	0111000111
130440−4444.8	ESO 269−49	SB(r)c p	5.0				0.42	0.31	5.9	1:	0222000221
130445−2707.3	ESO 508−8	(R)SB0$^+$	−1.0	1.57	0.96	42.0					1101111000
130520−1748.9	CSRG 698	SB(<u>rs</u>)bc:	4.0:				0.34	0.25	32.3:	2:	0111000111
130539−3721.0	ESO 382−13	(R$'_2$)SB(s)a	1.0	0.74	0.26	4.3				2	1111111000
130548−4111.6	ESO 323−85	SB(<u>rs</u>)c	4.5				0.68	0.57	5.4	5	0222000222
130613−2223.1	CSRG 699	(R′)SB(r)a p	1.0	0.74	0.51	65.6	0.35	0.29	18.2	2	2222111111
130710−4610.2	ESO 269−57	(R$'_2$)SA<u>B</u>(r)b	3.0	2.71	2.24	69.5	0.69	0.67	67.2	2	2222222221
130728−5121.4	ESO 219−37	(R′:)SA(r)a	1.0	1.12:	0.78	79.4:	0.22	0.16	68.8:	2	1222111221
130742−2125.2	ESO 576−1	(R$'_2$:)SB(r)bc	4.0	0.73	0.39	54.9	0.31	0.19	42.0	2	1111111111
130746−3920.4	ESO 323−89	(RL)SA(l)0°	−2.0	1.82	1.09		1.01	0.55			2222220220
130747−4117.6	ESO 323−90	SB(<u>rs</u>)0$^+$	−0.5				0.89	0.70	36.2		0222000222
130748−3702.0	ESO 382−14	(R′)SB(s)b	3.0	0.85	0.22	4.4				2	1111111000
130753−1709.6	CSRG 700	(R$'_1$)SB(r)a	1.0	0.73	0.50	84.5	0.34	0.28	7.0	2	1111111111
130905−1900.2	NGC 5006	(R′)SB(r)a p	1.0	1.32	1.19	87.4	0.56	0.50	5.6	3+	1111111111
130911−2130.1	CSRG 701	(R$_1$R$'_2$)SB(l)ab	2.0	0.45	0.34		0.17:	0.12:			1111110110
〃	〃	〃		0.51	0.47						0000110000
131024−4319.2	ESO 269−69	(R′)SB(r)a	1.0	0.84	0.49	1.4	0.51	0.19	2.2		1111111111
131035−4307.1	ESO 269−70	SAB(r)0$^+$?	−1.0?				0.48	0.17	78.5:		0111000111
131040−1840.1	ESO 576−12	SA(rs)c:	5.0:				0.40	0.22		2	0111000110
131100−4912.9	ESO 219−41	(R$'_1$)SB(s)ab	1.5	2.74	0.92	9.0	0.67	0.28	4.5	2	2222222111

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
131114−3732.0	CSRG 702	(R$_1$)SA<u>B</u>(r)0$^+$	−1.0	0.68	0.58	33.0	0.32	0.24	0.6:		2222221221
131121−4241.8	NGC 5026	(RL)SB(r)0$^+$	−0.7	3.16	1.98	60.5	1.13	0.71	44.4	2	2333222333
131123−4436.6	CSRG 703	(R)SB0/a	0.0	0.67	0.49	35.0				2	1101111000
131126−4551.3	ESO 269−74	(R)SAB(r)0$^+$	−1.0	1.12	0.92	3.0					2112221000
131146−3324.5	ESO 382−22	SB(r)bc	4.0				0.28:	0.28		2+1	0111000110
131147−4224.7	ESO 323−99	SA<u>B</u>(rs)c p	5.0				0.72	0.49	2.5	7:	0333000222
131217−3652.7	ESO 382−23	S<u>A</u>B(r)ab	2.0				0.45	0.41	18.3	2	0222000221
131227−3159.3	ESO 443−85	SB(rs)d	7.0				0.73:	0.51	10.8	2:	0111000111
131335−2801.3	NGC 5051	SA(<u>rs</u>)b	3.0				0.51	0.28		2	0111000110
131407−3135.6	CSRG 704	SA(r)0/a:	0.0:				0.28	0.15			0111000110
131432−1659.5	IC 863	SAB(r)a	0.5				0.50	0.38			0222000110
131456−3150.3	IC 4214	(R$'_1$)S<u>A</u>B(r)a	1.0	1.93	1.21	34.4	0.89	0.46	6.5	2	2222221221
131457−3723.9	ESO 382−33	(R′)SA(s)0/a	0.0	1.39	0.50					2:	2222220000
131507−3901.7	ESO 324−2	SB(r)b:	3.0:				0.29	0.12	27.7	2	0111000111
131512−3641.2	ESO 382−34	SAB:(r)0°	−2.0				0.35	0.29			0111000110
131512−3905.0	ESO 324−3	(R)SA(r)0$^+$	−1.0	0.74:	0.50:		0.34	0.29			1111110110
131535−3143.2	CSRG 705	(R$'_2$?)SB(s)b?	3.0?	0.28	0.26					2	1111110000
131537−3505.4	NGC 5063	(R′:)SA(r)a	1.0	2.40	2.18		1.12	0.95		2:	1111110110
131542−3122.1	IC 4219	SA(r)c	5.0				0.45	0.34		2+	0111000110
131542−3158.0	ESO 444−7	(R$_1$R$'_2$)SB(rl)a	1.0	0.69	0.47	86.2:	0.25	0.18	0.0:	2	2222221111
〃	〃	〃		0.75	0.68	41.0:					0000221000
131602−4738.9	NGC 5064	(R′:)SA(s)ab	2.3	1.65	0.50						1223110000
131615−2721.9	IC 874	SB(<u>rs</u>)0°	−2.0				0.62	0.51	28.1		0111000111
131631−3312.4	CSRG 706	(R′)Sa?	1.0?	0.50	0.17						1001110000
131701−4701.2	ESO 269−85	S<u>A</u>B(<u>rs</u>)c	5.0				0.45			2+1:	0333000200
131709−2201.0	ESO 576−32	SB(rs)c p	5.0				0.70	0.51	17.2	4+	0111000111
131722−4336.2	NGC 5090B	SAB(rs)ab	2.0				0.61	0.32	65.1	2	0222000221
131742−3038.1	CSRG 707	(R′)SB(s)a	1.0	0.45	0.30	29.6				2	1111111000
131745−4326.4	NGC 5082	SB(r)0$^+$	−1.0				1.55	0.84	54.5		0222000222
131814−3536.1	ESO 382−47	(R$'_1$)SB:(rs)ab	2.0	0.78	0.22	40.5:	0.23	0.17:	25.0:	2	1112111111
131817−3531.4	CSRG 708	(R′)SB:(s)bc:	4.0:	0.42	0.11	28.6?					1111111000
131841−4540.2	ESO 270−5	(R$'_1$)SB(rs)ab	2.0	1.40	0.63	74.4	0.68	0.40	28.4	2	2222222222
131901−2710.2	NGC 5101	(R$'_1$R$'_2$)SB(rl)0/a	0.0	4.05	3.32:	60.9	1.76	1.38	1.3	2	1111111111
〃	〃	〃		5.17	4.50	5.4					0000111000
131911−3707.5	ESO 382−51	SAB?(rs)c	5.0				0.37	0.26			0111000110
131958−3307.5	CSRG 709	(R′)SA<u>B</u>a	1.0	0.51	0.15	8.8				2:	1101111000
132000−1749.4	CSRG 710	(R)SAB0°	−1.5	0.51	0.50						2202110000
132001−3310.8	ESO 382−53	(R)SBb	3.0	0.89	0.22	4.4					1101111000
132005−3224.5	ESO 444−16	(R′:)SB(s)c? p	5.0?	0.50	0.48						1111110000
132006−1741.4	CSRG 711	(R′)SA(s)a p	1.0	0.61	0.54					1	1111110000
132008−3128.6	ESO 444−17	(R$'_2$:)SB(r)a	1.0	1.06	0.72	44.4	0.35	0.27	18.0	2	1111111111
132018−3159.0	ESO 444−19	(L)SA(rl)0$^+$	−1.0	0.98	0.75		0.40	0.31			2222220220
132020−4317.0	ESO 270−7	(R)SB(rs)0$^+$	−1.0	1.45	1.01	17.9	0.68	0.44	19.6		1222111222
132030−3204.8	NGC 5108	(R′)SB(s)b:	3.0:	1.06		6.0				2	1111101000
132058−1846.7	ESO 576−45	SB(r)a:	1.0:				0.56	0.18	8.7:	2:	0111000111
132138−3125.7	CSRG 712	(R)SB0$^+$?	−1.0?	0.40	0.23						1101110000
132141−1704.1	CSRG 713	(R′)Sb	3.0	0.84	0.16					2	1002110000
132150−2052.6	IC 4237	SB(r)c p	5.0				0.61	0.39	36.9	4	0111000111
132151−3151.0	CSRG 714	(R$_1$)SB(rl:)0$^+$	−1.0	0.63	0.38	76.6					1111111000
132153−1929.6	CSRG 715	(R$'_1$)SB(l:)a	1.0	0.53	0.35	89.4				2	1111111000
132154−3725.4	NGC 5121	SA(<u>rs</u>)a	1.0				1.06	0.94		2	0111000110
132200−1926.1	ESO 576−50	SB(rs)cd p	6.0				0.67	0.36	66.6	4:	0111000111

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
132223−3323.8	ESO 382−58	SB(r)b	2.5				1.25	0.27	6.2	2	0222000222
132229−2505.6	ESO 508−72	(R′)SA(s)ab	2.0	0.85	0.30					2	1111110000
132233−2023.4	CSRG 716	S(r)0$^+$? p	−1.0?				0.45	0.28			0011000110
132236−2052.4	NGC 5134	(R)SAB(r)a	1.0	3.35	3.13	92.6:	1.63	0.74	3.1		1111111111
132255−2612.3	ESO 508−78	(R_1')SB(r)a	1.0	0.89	0.67	89.8	0.50	0.40	1.6	2	1111111111
132257−2934.4	NGC 5135	SB(l)ab	2.0				1.34	0.98	2.5	2+2	0111000111
132302−1939.3	CSRG 717	SA(r)c	4.5				0.28	0.22		3	0222000110
132310−2018.6	ESO 576−53	SB(rs)b p	3.0				0.48	0.41	51.5	4i,2o	0111000111
132335−1922.5	ESO 576−56	SA(rs:)a	1.0				0.95	0.28		2:	0111000110
132337−2222.3	ESO 576−57	(R)SA(r)ab p	2.0	1.30	0.97		0.58	0.51		2:	1222220220
132349−2628.9	ESO 509−5	SAB(rs)b	3.0				0.40	0.40		3+	0111000110
132437−2911.1	IC 4251	(R)SB(r)0$^+$	−1.0	1.01	0.82	71.9	0.49	0.35	1.0		1111111111
132446−2736.7	IC 4253	(R′:)SB(rs:)b	3.0	1.19	0.58	0.0				2+2	1111111000
132458−4846.2	ESO 220−12	(R′)SAB(rs)ab p	2.0	0.76	0.56		0.46	0.22		2	1111110110
132514−2702.3	CSRG 718	SB(r)0/a:	0.0:				0.42	0.29	83.8		0111000111
132528−4413.3	ESO 270−13	RG?		0.96	0.61					1?	1000110000
132534−2533.9	ESO 509−24	SB(r)0/a	0.0				0.39	0.34			0111000110
132542−4839.5	NGC 5156	SB(r)bc	3.5				0.52	0.43	28.2	3i+3o	0222000222
132605−1715.2	MCG −3−34−82	SB(l)0°	−2.0				0.66	0.39	21.6		0111000111
132608−4144.3	ESO 324−29	(L:)SAB(r)0$^+$	−1.0	2.24	0.73:	20.7:	0.78	0.29	15.5:		1111111111
132622−4650.1	ESO 270−15	S(rs)cd?	6.0?				0.54	0.17			0011000110
132624−2136.2	CSRG 719	SB(r)c?	5.0?				0.28	0.24			0111000110
132642−2001.9	CSRG 720	(R_1')SB(s)a:	1.0:	0.53	0.28	24.4				2	1111111000
132647−5424.4	CSRG 721	SA(rs)bc p	4.0				0.40	0.34		2	0222000110
132649−3042.5	CSRG 722	(R)SAB(r)0$^+$	−1.0	0.67	0.55	71.7	0.34	0.17	0.5		1211111111
132706−3104.5	CSRG 723	SA(r)b:	3.0:				0.34	0.30		2	0111000110
132724−8010.5	ESO 21−3	(R_2')SB(rs)cd	6.0	1.27	1.01	0.3:	0.56	0.47	0.3:	2	1111111111
132754−2753.6	NGC 5182	(R_2')SB(r)b	3.0	1.70	1.57	3.6	1.07	0.61	−1.8	3	1111111111
132758−2124.4	CSRG 724	(R)SAB(r)0/a	−0.3	0.84	0.67	53.9:	0.39	0.32	10.8		2333111222
132814−2135.4	ESO 577−1	SAB(r)bc p	4.0				0.45	0.15	20.1	2	0222000221
132819−2016.4	ESO 577−2	(RL)SB0°	−2.0	0.89	0.80	69.5					1101111000
132825−1853.8	CSRG 725	(R_2')SB(s)a:	1.0:	0.59	0.50	9.7:				2	1111111000
132831−2905.5	CSRG 726	SB(r)0$^+$:	−1.0:				0.38	0.30	9.7		0111000111
132837−3432.3	NGC 5188	(R′:)SAB(rs)b p	2.5	2.23	1.05	6.4:	0.92	0.42	23.6	2+f	1222111222
132840−2059.5	ESO 577−3	(R_2')SB(r)ab	1.5	0.90	0.81	65.7	0.30	0.27	−0.9	2	2222222222
132853−3307.4	ESO 383−12	(R_1)S0$^+$	−1.0	0.68	0.29						1001110000
132924−3717.5	ESO 383−16	SB:(r)a p	1.0				0.40	0.29		1	0111000110
132933−3754.6	ESO 324−33	SB(rs)b	2.5				0.50	0.38	7.6	2+	0222000222
132947−2711.5	ESO 509−48	(R?)SB(r)ab:	2.0:	1.57:	1.06:		0.66	0.45:	40.5		1111110111
132957−3142.6	ESO 444−70	(R′)SB(r)ab	2.0	0.74	0.55	86.4	0.31	0.28	89.6:	4	1111111111
133020−3609.1	CSRG 727	(R_1')SB(s)a	1.0	0.54	0.37	77.6				2	1111111000
133025−2351.8	ESO 509−56	SB(r)dm	8.0				0.49	0.32	88.0		0111000111
133040−3227.8	ESO 444−71	(R′)SB(r)a	1.0	1.45	0.50	23.5	0.63	0.18	12.7	2	1111111111
133041−4753.7	NGC 5206	SB?(r?)0$^-$?	−3.0?				3.58:	3.24:			0111000110
133054−3728.5	ESO 383−19	SA(r)b	3.0				0.55	0.42		2+	0222000220
133116−8615.9	ESO 8−2	SA(r)b	3.0				0.45	0.35		2+:	0111000110
133148−2316.4	ESO 509−62	SAB(r)a	1.0				0.56	0.37	3.8	2	0111000111
133155−3403.4	ESO 383−25	SB(rs)0$^+$	−0.5				0.98	0.67	10.7		0222000222
133202−3337.3	CSRG 728	SB(rl)0°	−1.5				0.50	0.41	6.7		0222000222
133222−3110.5	CSRG 729	(R′)SA(s)0/a	0.0	0.58	0.51					2	1111110000
133226−3338.6	ESO 383−30	SAB(rl)0$^+$	−1.0				0.62	0.39	24.2		0222000221
133229−3357.0	ESO 383−31	SA(rs)bc:	4.0:				0.32	0.27		4:	0111000110
133231−3354.4	ESO 383−32	(R:)Sbc: p	4.0:	0.67	0.47						1001110000
133232−2746.0	IC 4290	(R′)SB(r)a	1.0	2.12	1.84	76.3:	0.96	0.85	22.4:	2	1111111111
133301−3007.6	ESO 444−76	(R_1)SB(rl)0$^+$	−1.0	0.61	0.45	70.4					2222222000
133314−3245.4	ESO 383−37	SB(rs)0/a p	0.0				0.65	0.53	22.9		0111000111
133326−2149.3	CSRG 730	(R_1)SB:(r)0$^+$:	−1.0:	0.39	0.32		0.21	0.11			1111110110
133348−2617.9	IC 4298	(R′)SA(s)bc	4.0	1.31	0.56					2	1111110000
133351−3505.3	ESO 383−41	SB(rs)b	3.0				0.30	0.20	3.7	3	0111000111
133411−3334.1	CSRG 731	SAB(rs)b	3.0				0.39	0.29		3	0111000110
133422−3212.4	CSRG 732	(R_2')SB(s)ab	2.0	0.51	0.30	15.6				2	1111111000
133424−4935.0	NGC 5234	(R)SA(l)0$^+$	−1.0	0.86	0.42		0.29	0.19			2212220110
133444−3134.7	CSRG 733	(R_1')SB(s)a	1.0	0.61	0.35	30.8				2	1111111000
133451−2057.7	CSRG 734	S(r)p					0.30	0.18		1	0010000110
133516−2240.2	ESO 509−85	SAB(rs)a	1.0				0.38			2	0111000100
133522−3109.8	ESO 444−87	(R′)SB(r)ab	1.5	1.29	0.71	57.4	0.67	0.42	51.5	2	2222222222
133604−3512.7	CSRG 735	SA(l)0/a	0.0				0.35	0.31		1	0222000110
133618−3521.1	CSRG 736	(R′:)SA(r)a:	1.0:	0.66	0.27		0.40	0.21		1+1	1111110110
133630−3125.5	CSRG 737	(R′)SAB(r)0/a	0.0	1.07	0.83		0.51	0.39			1111110110
133645−1914.5	ESO 577−19	SB(r)0/a p	0.0				0.41	0.34	2.6	2	0111000111
133723−5049.1	IC 4312	SA(rs)0/a	0.0				0.52	0.35		2	0111000110
133732−4805.4	NGC 5266A	SB(rs)cd	6.0				0.65	0.48	84.1	2+3	0333000222
133738−3324.2	ESO 383−60	SB(rs)cd	6.0				0.40	0.28	6.7	2:	0111000111
133754−3203.0	CSRG 738	(R_2')SB(s)ab:	2.0:	0.40	0.34	0.0:				2	1111111000
133757−3224.4	ESO 445−9	SA(rs)c	5.0				0.27	0.27		3+1	0111000110
133803−2750.2	ESO 445−10	(R_1R_2')SB(rl)ab	2.0	0.54	0.46	73.9	0.28	0.17	0.0		1111111111
"	"	"		0.73	0.54	1.6					0000111000
133811−2320.8	CSRG 739	(R)SAB0$^+$	−1.0	0.51	0.45						2202110000
133913−3605.8	ESO 383−64	SA(r)c	5.0				0.25	0.23		4+	0111000110
133936−3755.3	CSRG 740	(R′L)SB(s)0/a	0.0	0.51	0.40	44.0					1111111000
134034−2540.8	ESO 509−98	(R_1R_2')SB(s)a	1.0	0.78	0.49	36.6				2	1111111000
"	"	"		1.07	0.63	18.4					0000111000
134040−1818.1	CSRG 741	SA(r:)0/a:	0.0:				0.21	0.20			0111000110
134041−3757.4	ESO 325−5	SB(r)ab	1.5				0.31	0.15	8.0	2	0222000222
134205−3554.0	ESO 383−71	SB(r)bc	4.0				0.47	0.30	34.0	4	0222000222
134206−3401.9	ESO 383−72	(R′)SB(rs)bc	3.5	0.84	0.39	46.1	0.40	0.16	40.0	2	2222222111
134210−2001.8	CSRG 742	(R_2')SAB(s)b:	3.0:	0.42	0.36	0.0				2	1111111000
134234−3632.0	CSRG 743	(R′)SB(s)bc:	4.0:	0.53	0.28	79.0				2	1111111000
134328−1841.7	CSRG 744	(R_1')SB(s)a	1.0	0.50	0.29	7.6				2	1111111000
134400−2235.9	CSRG 745	SA(r)bc p	4.0				0.22	0.16		3:	0222000110
134408−1654.6	CSRG 746	(R′)SB(rl:)b:	3.0:	0.57	0.22	77.3	0.26:	0.18:	56.4	2	1111111111
134425−2804.9	IC 4330	SB(rs)bc	4.0				0.42	0.23	3.5	3	0111000111
134440−2010.9	CSRG 747	SB(r)0/a:	0.0:				0.22	0.18	63.3:		0111000111
134441−3247.6	CSRG 748	(R_2')SB(s)0/a	0.0	0.51	0.45	27.8					1111111000
134450−3256.9	ESO 383−79	(R)SB0$^+$:	−1.0:	0.61	0.19	80.5:					1101111000
134504−2540.6	ESO 510−1	SA(r)c:	5.0:				0.27	0.27		3+	0111000110
134512−3017.0	CSRG 749	SB(r)0/a	0.0				0.52	0.29	9.3		0111000111
134545−3010.8	NGC 5298	SB(r)bc	4.0				0.46	0.24	75.7	3	0111000111
134558−3015.8	NGC 5302	SAB(rl)a:	1.0:				1.12	0.57	23.7		0111000111
134631−2757.1	ESO 445−51	(R)SAB(r)ab:	2.0:	1.24:	0.57		0.34	0.27			1111110110
134638−4830.2	ESO 221−3	SB(rs)bc: p	4.0:				0.50	0.29	52.0	2	0111000111
134714−4807.7	ESO 221−6	SA(r)bc	4.2				0.42	0.39		6	0444000330
134717−2242.1	ESO 510−2	SA(r)b: p	3.0:				0.63	0.40			0111000110
134739−3811.7	ESO 325−28	(R_2')SB(s)b	3.0	1.06	1.01	21.6:				2	1111111000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
134748−4848.5	ESO 221−10	SAB(rs)bc: p	4.0:				0.51	0.45			0111000110
134827−3054.1	ESO 445−58	SB(r)bc	4.0				0.52	0.23	2.4	4	0111000111
134827−4746.7	ESO 221−13	(R)SAB(r)0$^+$	−0.5	1.21	0.98	6.9	0.79	0.34	1.2		4444333444
134829−3725.0	ESO 384−4	(R_1')SB(s)a	1.0	0.58	0.18	54.6:				2	1111111000
134859−4350.6	CSRG 750	SB(rs)b:	3.0:				0.34	0.23	27.9	2	0111000111
134903−4354.0	CSRG 751	SB(rs)b:	3.0:				0.28	0.27		2	0111000110
134921−2028.4	CSRG 752	(R_1)SB(r)0$^+$	−1.0	0.59	0.40	70.1	0.28	0.22	2.7		1111111111
134931−2738.8	ESO 445−64	(R_1R_2')SB(l)0/a	0.0	1.84	1.51	44.2	0.78	0.60	14.9	2	2222111221
"	"	"		2.40	2.07	30.5	.				0000111000
134958−3027.9	ESO 445−66	SB(r)ab	2.0				0.56	0.51	55.6		0111000111
135016−2427.5	ESO 510−6	SAB(r)d:	7.0:				0.37	0.30		f	0111000110
135017−3028.0	ESO 445−69	(R_1R_2')SB0/a	0.0	1.19	0.62	2.3					1101111000
"	"	"		1.91:	0.62	0.0					0000111000
135025−2810.8	ESO 445−70	SB(r)0/a:	0.0:				0.56	0.28	19.7		0111000111
135038−1952.3	ESO 578−3	(R)SB(l:)ab?	2.0?	0.97	0.39	70.4	0.50:	0.20:	60.4:	3:	1111111111
135052−2015.8	ESO 578−4	SB(r)0$^+$	−1.0				0.53	0.11	5.0		0111000111
135056−8250.2	ESO 8−4	SAB(rs)cd	5.5				0.59	0.30		2+	0222000110
135129−2638.9	ESO 510−10	(R′?)SB(s)a p	1.0	1.20	0.96:	11.5				2	1111111000
135137−2619.8	ESO 510−11	SAB:(r)a	1.0				0.40	0.27		2	0111000110
135145−2618.6	ESO 510−12	(R_2'L)SB(s)0°	−2.0	0.73	0.67	41.1				2	1111111000
135237−2241.0	CSRG 753	(R′)SB(s)a	1.0	0.56	0.17	76.6:				2+	2212111000
135425−2500.1	IC 4350	(R:)SAB(r)0/a p	0.0	1.62	0.94	17.1	0.82	0.37	16.5		1111111111
135443−2429.7	ESO 510−25	(R_1R_2')SB(r)0/a	0.0	1.07	0.63	77.8	0.39	0.28	−5.3	2	1111111111
"	"	"		1.08	0.95	63.3					0000111000
135444−3358.5	ESO 384−19	(R)SA(rl)0$^+$	−1.0	1.57:	1.12:		0.67	0.54			1111110110
135446−4341.2	NGC 5365	(L)SB(s)0$^-$	−3.0	3.24	1.73	77.4					1111111000
135451−3435.5	CSRG 754	(R_2')SB(s)0/a	0.0	0.36	0.34	13.3:					1211111000
135659−3737.3	ESO 325−43	SA(rs:)b:	3.0:				0.61	0.37			0111000110
135708−5329.0	CSRG 755	(R_2')SAB(s)b	2.5	0.41	0.30	8.8				2	1222111000
135730−2014.4	CSRG 756	(R′)SB(r)a p	1.0	0.64	0.61	55.6	0.34:	0.32			2222111110
135741−2838.0	NGC 5393	(R_1R_2')SB(r)b:	3.0:	0.73	0.56	76.8	0.34	0.27	15.2		1111111111
"	"	"		0.85	0.83						0000110000
135751−3359.0	ESO 384−29	(R_2')SB(s)0/a	0.0	1.12	1.01	12.5				2	1111111000
135817−4523.0	ESO 271−12	(R_2')SAB(s)a	1.0	0.84	0.78	67.7				2	1111111000
135821−2219.1	ESO 578−14	S(r)p					0.77	0.51		1	0010000110
135826−3249.3	NGC 5398	SB(rs)dm	8.0				1.29	0.73	42.8	2	0111000111
135833−3400.0	ESO 384−33	SB(rl)0$^+$	−1.0				0.59	0.50	15.0		0111000111
135838−2219.8	ESO 578−15	(R′?)SB(s)bc?	4.0?	0.63	0.34	73.4				2	1111111000
135909−2517.9	ESO 510−46	(R_2')SB(rs)ab	2.0	1.30	1.06	14.9	0.53	0.28	3.0	2+	1111111111
135911−2207.3	ESO 578−16	SAB(r)bc	4.0				0.31	0.23	3.3	3+1	0111000111
135914−2525.1	ESO 510−47	(R)SB0$^+$:	−1.0:	0.74	0.30	5.5					1101111000
140002−4723.7	CSRG 757	SAB:(r)ab:	2.0:				0.39	0.29			0111000110
140018−1811.5	ESO 578−18	(R_2')SAB(r)ab	2.0	0.95	0.61	25.3	0.45	0.30	19.4	2	1111111111
140034−2219.0	ESO 578−19	SB(rs)c p	5.0				0.50	0.50		3i,4o	0111000110
140123−2220.2	CSRG 758	SAB(rl)0°	−1.5				0.40	0.35	2.5		0222000221
140126−2524.0	ESO 510−56	SA(r)ab	2.0				0.34	0.34		2	0111000110
140211−2223.9	CSRG 759	(R)SAB0$^+$: p	−1.0:	0.45	0.28						2202110000
140215−4501.8	IC 4359	SA(rs)bc	4.0				0.28	0.23		4	0111000110
140226−2226.8	CSRG 760	(R_1')SB(s)b:	3.0:	0.36	0.28:	32.4					1111111000
140232−2621.7	ESO 510−60	SAB(rs)a:	1.0:				0.58	0.45	84.8	2	0111000111
140235−3858.0	IC 4367	SB(rs)bc	4.0				0.45	0.38	45.0	2:	0111000111
140239−3922.2	ESO 325−52	(R′:)SB(r)a	1.0	1.51	0.50	12.6	0.57	0.30	3.6	2	1111111111
140308−3404.3	CSRG 761	SB(rl)0°	−2.0				0.44	0.34	4.5		0111000111
140317−5507.2	ESO 175−1	(R′)SA(rs)b	2.7	1.81	1.05		0.51	0.39		2+	3333330110
140330−4222.4	CSRG 762	(R′)SB(s)a:	1.0:	0.34	0.28	1.8:				2?	1111111000
140338−3404.5	ESO 384−53	SAB(rs)b	3.0				1.05	0.83	55.4	2	0111000111
140420−1852.4	ESO 578−23	(R_2':)SAB(s)b:	3.0:	0.63	0.29	8.6				2	1111111000
140500−3314.8	ESO 384−57	(R_1')SAB(rl)ab	2.0	1.30	0.61	15.4	0.63	0.27	1.2	2	1111111111
140504−3148.8	ESO 446−17	(R)SB(rs)b	3.0	1.90	1.57	7.9	1.00	0.56	2.7	2	1111111111
140516−5307.0	ESO 175−2	SB(r)0$^+$:	−1.0:				0.78	0.67	3.6		0111000111
140520−4657.9	CSRG 763	(R_1')SB(rl)a:	1.0:	0.56	0.48	49.6	0.37	0.22	8.6	2	1111111111
140554−2121.7	ESO 578−26	SB(rl)c	5.0				0.39	0.30	4.4	2	0111000111
140607−4642.6	CSRG 764	(R)SB0/a: p	0.0:	0.37	0.27	29.6					1101111000
140623−2857.5	ESO 446−19	(R_1')SB(s)b: p	3.0:	0.78	0.47	42.5				2	1111111000
140630−2857.0	CSRG 765	(R_2')SB(s)b	3.0	0.45	0.37	68.4					1111111000
140639−2837.8	ESO 446−21	(R_1')SB(rl)b	3.0	0.88	0.34	63.8	0.28	0.16:	48.2		1111111111
140645−2122.5	ESO 578−30	SAB(r)ab: p	2.0:				0.50	0.45			0111000110
140723−1734.3	CSRG 766	SB(r)b:	3.0:				0.17	0.16:	80.5:	2	0111000111
140730−1736.1	ESO 578−32	SB(r)a	1.0				0.53	0.15	87.8	2	0111000111
140854−4909.3	ESO 221−32	SA(r)c	5.0				0.35	0.27		2i,mo	0222000220
140859−2135.7	CSRG 767	(RL)SA0$^+$	−1.0	0.45	0.42						2202110000
140903−1937.2	ESO 578−33	(R)SA0$^+$	−1.0	1.06	0.50						1101110000
140920−8732.6	ESO 1−6	SA:(rs)bc:	4.0:				0.84	0.22			0111000110
140931−2652.4	NGC 5495	(R′)SA(rs)b	3.0	1.34	1.06		0.52	0.48		2+1	1222110220
140932−2710.8	ESO 511−11	SB(r)b:	3.0:				0.42	0.21	3.5	2	0111000111
141010−2837.5	ESO 446−30	(R)SB:(r)0/a	0.0	0.86	0.28	41.0:	0.34	0.17:	31.3:		1111111111
141036−1817.3	ESO 579−1	(R′)SB(r)a: p	1.0:	0.74	0.31	79.0	0.23	0.18	66.0	2	1111111111
141042−1821.8	ESO 579−2	(R_2')SB(s)b	3.0	0.63	0.40	5.9				2	1111111000
141138−1917.8	CSRG 768	(R)SB0°	−2.0:	0.63	0.37:	1.0					1101111000
141142−2919.5	ESO 446−35	SAB(r)c	5.0				0.41	0.30	16.8	2	0111000111
141213−4736.9	ESO 221−33	SAB(r)ab: p	2.0:				0.72	0.38	35.9		0333000332
141232−4724.5	ESO 271−26	(R)SAB(rl)0$^+$: p	−0.8:	1.08:	0.49	24.4:	0.29	0.23		2:	4434441330
141246−2025.9	ESO 579−9	SAB:(r)d:	7.0:				0.45	0.22:	6.5:		0111000111
141410−1801.2	CSRG 769	SA(rl)a	0.5				0.34	0.28		1	0222000110
141411−3435.5	CSRG 770	(R:)SAB(r)0/a	0.0				0.34	0.28	16.0:		1111000111
141449−2357.2	ESO 511−18	(R)SB(r)a	1.0	0.75	0.72	46.0	0.36	0.27	54.9	2	1111111111
141456−4746.8	ESO 221−37	(R′)SA(s)a p	1.0	1.29	0.78					2	1444110000
141518−4309.5	NGC 5530	SA(rs)c	4.5				1.07	0.61		2:	0222000220
141632−2043.3	ESO 579−18	SB(r)a: p	1.0:				0.55	0.30	27.0	1	0111000111
141719−2931.1	ESO 446−49	SA(r)0$^+$:	−1.0:				0.34	0.28			0111000110
141819−4344.7	CSRG 771	(R_2')SAB(rs)c:	5.0:	0.84	0.56	17.4	0.34	0.18	11.3	2	1111111111
141917−1756.2	CSRG 772	(L)SB0°	−2.0	0.73	0.36	57.9					1101111000
141923−1724.4	CSRG 773	SA(rs)c	5.0				0.30	0.29		2	0111000110
141926−3408.2	ESO 385−15	(R′)SA:(r)b	3.0	1.63	0.64		0.57	0.17		2	1111110110
141934−3302.1	CSRG 774	(R)SAB(l)a	1.0	0.50	0.40						1111110000
141937−1726.8	CSRG 775	SB(r)cd	6.0				0.29	0.22	80.9	3+	0222000111
142053−1913.1	ESO 579−22	(R)SB(r)a p	1.0	0.78:	0.58	93.5	0.35	0.30	16.0		1111111111
142110−1722.3	CSRG 776	SB(rs)c	4.5				0.22	0.21		2	0222000110
142145−3834.6	ESO 326−20	SB(rs)ab	2.0				0.53	0.27	20.5		0111000111
142235−4206.0	CSRG 777	SB(r)0$^+$	−1.0				0.32	0.27	29.9		0111000111
142239−1856.3	CSRG 778	(R_1')SB(s)a:	1.0:	0.46	0.09	13.0					1111111000
142242−4356.1	CSRG 779	SAB(rs)bc	4.0				0.28	0.17		4	0111000110
142322−4926.8	ESO 222−5	(R)SB(r)a	1.0	1.51	1.12	7.5	0.78	0.53	28.6:		1111111111
142346−2843.0	ESO 447−4	SA(rl?)0$^+$?	−1.0?				0.73	0.61			0111000110

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
142516−3305.0	ESO 385−26	SB(r)bc	4.0				0.29	0.22	5.3	3+	0111000111
142634−2927.7	ESO 447−7	(R$'_1$)SB(s)b	3.0	0.60	0.45	52.8				2	1111111000
142708−3644.5	ESO 385−32	SAB(r)c	5.0				0.50	0.21	19.3:		0111000111
142749−2713.9	ESO 511−46	SA(r)dm	8.0				0.34	0.34		2:	0111000110
142755−3216.4	ESO 447−11	(R$'_1$)SB(s)a	1.0	0.78	0.30	52.0				2	1111111000
142827−4311.9	IC 4444	(R′)SA:(s)bc	4.0	0.98	0.97					3:	1111110000
142923−4844.2	ESO 222−9	(R:)SAB:(r)b?	3.0?	1.17	0.29:		0.84	0.12			1111110110
142926−3406.4	CSRG 780	SB(r)ab	2.0				0.44	0.17	1.7		0111000111
142927−2809.5	ESO 447−19	(R′)SB(s)a:	1.0:	1.62	0.28	5.4				2	1111111000
142928−4357.2	NGC 5643	SAB(rs)c p	5.0				2.28	1.79	13.8	5:	0222000222
142931−2942.2	ESO 447−21	(R$'_1$)SB(r)b	3.0	1.08	0.49	79.2	0.50	0.26	65.1	2	1111111111
143102−4019.8	ESO 327−1	SB(r)0/a?	0.0?				0.40	0.29	1.2		0111000111
143111−4254.7	CSRG 781	SA(r)0$^+$	−1.0				0.30	0.23			0111000110
143619−4448.3	NGC 5688	SAB(r)bc	4.0				1.03	0.41	75.8	5:	0222000222
143646−3227.2	ESO 447−30	(R)SAB(rl)0$^+$	−1.0	1.42	0.89		0.58	0.46			1111110110
143726−3454.6	ESO 386−4	SB(r)0/a	0.0				0.41	0.28	35.3		0111000111
143755−3209.7	ESO 447−31	(R)S0$^+$:	−1.0:	1.51	0.56						1001110000
143757−3946.3	ESO 327−7	SAB(rs)bc	4.0				0.45	0.34	52.2	3	0111000111
143810−4007.0	ESO 327−8	SA(rs)ab	2.0				0.48	0.34		2	0111000110
143937−1702.5	NGC 5728	(R$_1$)SAB(r)a	1.0	3.69	2.55	42.6	1.84	0.95	3.6	2	1111111111
143943−3622.0	CSRG 782	SB(r)0/a	0.0				0.46	0.42	19.0		0111000111
143955−7742.8	ESO 22−3	SA(rs)c	4.5				0.56	0.33			0222000220
143958−1941.1	ESO 580−11	(R)SA(l)0$^+$	−1.0	0.86	0.60		0.45	0.26			1111110110
144040−1739.7	ESO 580−13	SB(r)bc	4.0				0.34	0.34		2	0111000110
144108−1816.3	NGC 5744	(R′)SB(rs)d:	7.0:	0.85	0.74	44.4	0.39	0.23	85.0		1111111111
144111−2043.1	CSRG 783	SA(r)ab	1.5				0.32	0.13		2+	0222000110
144128−4809.1	ESO 222−16	(R)SAB0$^+$	−1.0	0.85	0.28	7.4					1101111000
144204−2334.9	ESO 512−20	(R)SB(l)0$^+$	−1.0	0.93	0.83	76.7	0.51	0.34	−8.2		1111111111
144303−3728.5	ESO 386−19	SA(r?)0/a	0.0				0.45	0.38			0111000110
144411−2219.9	CSRG 784	(R$_1$)SB(l:)0$^+$	−1.0	0.45	0.36	86.5	0.19	0.11	0.0:		1111111111
144437−2204.2	ESO 580−27	(R)SB(r)0/a p	0.0	1.68	1.54	28.5:	0.85	0.55	8.4		2222222222
144444−1933.4	ESO 580−29	S(r)b:	3.0:				0.86	0.12			0011000110
144450−2010.9	ESO 580−32	SAB(rs)b:	3.0:				0.46	0.30	79.0	2:	0111000111
144457−1852.3	NGC 5757	(R′)SB(r)b p	3.0	1.40	1.22	67.2	0.72	0.54	5.4	4	1111111111
144610−2038.4	ESO 580−37	SAB(rs)c	5.0				0.50	0.32			0111000110
144818−2625.5	ESO 512−23	(R?)SB(rs)0/a	0.0	0.94	0.85	19.7	0.53	0.41	−43.6		1111111111
144851−2422.0	ESO 512−25	SA(r)b?	3.0?				0.41	0.40		2?	0111000110
145104−4757.7	ESO 223−5	SAB(rs)c:	4.5:				0.40	0.29	83.3	5:	0222000221
145216−2346.1	ESO 513−3	(R)SA(r)0/a? p	0.0?	0.92	0.74		0.36	0.31			1111110110
145242−3900.1	ESO 327−32	(R$'_2$?)SAB(r)b	3.0	1.20	0.95	52.8	0.39	0.22	27.8		1111111111
145246−2123.4	ESO 581−1	SAB(r)bc	4.0				0.31	0.27	17.4	4+	0222000222
145322−3723.3	CSRG 785	(R)SAB0$^+$	−1.0	0.51	0.39						1101110000
145351−3715.2	CSRG 786	(R$'_1$)SB(rs)a	1.0	0.61	0.29	50.4:	0.21	0.13	10.4:	2	1111111111
145435−2127.9	ESO 581−3	(R$_1$)SB0$^+$	−1.0	0.67	0.50	41.1					1101111000
145454−3857.5	ESO 327−35	(R′)SAB(r)b	3.0	0.84	0.63	37.2?	0.40	0.28	66.4?	2	1111111111
145501−1904.8	ESO 581−5	SB(r)b:	2.5:				0.28	0.17	52.8	2:	0222000222
145514−1940.4	CSRG 787	(R$_1$)SB(s)a: p	1.0:	0.40	0.32	51.8				2:	2212222000
145541−4148.8	NGC 5786	(R$'_2$)SAB(s)bc	4.0	1.88	1.07	20.0				2+2	2222222000
145719−2026.8	CSRG 788	(R$'_1$)SB(s)a	1.0	0.31	0.23	68.4				2	1111111000
145746−2131.2	ESO 581−15	SB(r)c:	5.0:				0.48	0.17	10.4	2:	0111000111
145757−2500.5	ESO 513−12	(R′)SAB(s)ab	2.0	0.56	0.26					2	1111110000
145820−3747.8	ESO 328−5	(R′)SB?(rl?)a	1.0	1.51	0.27	85.8:	0.59	0.22	86.9:		1111111111
145930−2537.0	ESO 513−14	SB(r)0/a	0.0				0.38	0.35	3.5		0111000111
145948−2039.6	CSRG 789	(R)SA0$^+$?	−1.0?	0.25	0.23						1101110000
145958−2217.9	CSRG 790	(R$_1$)SAB(rs)0$^+$	−1.0	0.71	0.40	20.9	0.35	0.15			2222221110
150050−2540.6	ESO 513−15	(R′)SA(s)0/a	0.0	0.93	0.84					2	1111110000
150114−2611.8	ESO 513−16	(R$'_2$:)SB(s)c: p	5.0:	0.42	0.31	10.2					1111111000
150151−4318.9	IC 4523	SAB(rs)bc	4.0				0.78	0.45	6.6	4	0111000111
150210−2131.5	ESO 581−20	SA(r)d	7.0				0.34	0.22			0111000110
150332−1925.3	CSRG 791	(R′)SAB(s)b:	3.0:	0.41	0.37					2	1211110000
150508−2535.0	ESO 513−19	SA(r)d?	7.0?				0.50	0.46		m:	0111000110
150642−7240.2	NGC 5833	SAB(r)c	5.0				0.56	0.26		m	0222000220
150909−4226.6	ESO 328−30	SAB:(r)p					0.28	0.19			0110000110
151214−2237.2	ESO 513−30	SB(r)0$^+$	−1.0				0.51	0.29	1.5		0333000333
151254−3230.7	ESO 387−13	SB(r)a	1.0				0.45	0.26	7.0		0111000111
151500−3314.2	ESO 387−21	SB(r)b	3.0				0.60	0.52	5.2	3+	0111000111
151501−1724.4	NGC 5890	SA(rl)0°	−2.0				0.56	0.40			0111000110
151510−3819.5	ESO 328−41	(R′)SB(r)ab	2.0	2.57	0.39	10.0	0.89	0.26	8.5	2	1111111111
151844−8622.3	ESO 8−9	SAB(r)bc p	4.0				0.27	0.26		2	0232000110
151901−1733.0	ESO 582−8	(R$'_1$)SB(l)a	1.0	0.73	0.40	69.0	0.30	0.22	0.6	2	1111111111
152019−3539.4	ESO 387−30	(R)SB0/a	0.0	0.51	0.39	55.8					1101111000
152150−3418.3	ESO 387−32	SB(rs)0$^+$	−1.0				0.68	0.42	3.7		0111000111
152244−3658.8	ESO 387−33	SB(rs)a	1.0				0.59	0.28	24.5		0111000111
152314−6359.8	ESO 99−5	SB(r)ab	2.0				1.40	0.95	61.0		0222000222
152454−7024.7	IC 4541	(R)SB(r)0/a	0.0	1.79	0.39	9.5	0.78	0.27	16.4		1111111111
152652−3828.7	ESO 329−7	SA(rs)b:	3.0:				0.50	0.19		2	0111000110
152704−1826.8	ESO 582−13	SAB(rs)bc	4.0				0.50	0.28	48.0	2	0111000111
153244−2845.0	ESO 450−2	SB(r)ab:	2.0:				0.37	0.16	37.0		0111000111
153346−1837.3	ESO 582−21	(R′)SA:(r)b	3.0	1.05	0.31		0.38	0.15		2	2222220220
153601−2230.2	ESO 515−3	SB(rs)c	4.5				0.41	0.29	61.5	4+	0222000222
153608−8339.0	CSRG 792	(R$'_1$)SB(s)a	1.0	0.42	0.28	17.6				2	1111111000
153613−3822.6	ESO 329−12	SA(r)c	5.0				0.28	0.21			0111000110
153651−3023.5	NGC 5968	SAB(r)bc	4.0				0.69	0.62	5.0	4+	0111000111
153729−1817.0	ESO 583−2	SB(rs)bc	4.0				0.34	0.30	14.0:	4	0111000111
153855−8249.8	CSRG 793	(R$'_2$)SB(s)0/a:	0.0:	0.59	0.34	11.4				2	3323222000
154005−1814.4	ESO 583−5	SB(rs)bc	4.0				0.41	0.19	6.3	2	0111000111
154124−2212.2	CSRG 794	(R$_1$)SB0$^+$	−1.0	0.64	0.26	52.3					1101111000
154206−7531.1	NGC 5967	SAB(rs)c p	5.0				0.84	0.68	2.6	2i,mo	0222000221
154425−1754.9	CSRG 795	(R)SA0$^+$?	−1.0?	0.28	0.23						1101110000
154659−2053.9	ESO 583−7	SB(rs)c p	5.0				0.45	0.23	17.6	2:	0111000111
154711−7440.6	IC 4578	SAB(rs)b	2.5				0.69	0.31		2	0222000220
155044−1914.9	CSRG 796	(R$_1$)SB0$^+$	−1.0	0.54	0.29	36.7					1101111000
155049−8529.8	CSRG 797	(R′)SB(s)b	3.0	0.58	0.15	19.1				2	1111111000
155840−6358.6	ESO 100−8	SA(rs)b p	3.0				0.34	0.34		2	0111000110
160130−6735.2	ESO 68−16	(R$'_1$)SB(r)0/a	−0.3	1.62	0.95	84.9	0.63	0.47	91.2		3333333333
160132−6849.3	CSRG 798	SB(rl)0°	−2.0:				0.48	0.22	20.7		0111000111
160310−2908.8	ESO 451−8	(R′)SB(s)b:	3.0:	1.40:	0.28	8.2				2	1111111000
160534−6702.1	CSRG 799	(R)SA:0$^+$:	−1.0:	0.37	0.11						1101110000
161051−2053.3	CSRG 800	(R′)SAB(s)0$^+$	−1.0	0.50	0.41	17.4					2112111000
161147−6531.7	ESO 100−14	(R$'_1$)SB(r)ab	1.5	1.41	0.79	37.5	0.71	0.36	19.8	2	2222222222
161206−2039.8	ESO 584−8	SB(r)b	3.0				0.32	0.27	25.3	4:	0111000111
161224−6213.7	ESO 137−13	SA(r)b:	3.0:				0.30	0.18		2	0111000110
161229−6755.0	ESO 69−1	(L)SAB(rl)0°	−2.0	1.12	0.51	71.7	0.51	0.45:	82.5		1111111111
161305−2230.1	IC 4596	(R′)SB(r)ab	2.0	1.30	0.27	31.9	0.54	0.15	28.2	2	2222222222

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
161722−6118.7	CSRG 801	(R)SB0$^+$	−1.0	0.64	0.49	6.0					2202111000
161738−6326.0	ESO 100−20	(R)SB0°	−2.0:	0.85	0.63	57.7					1101111000
161952−6011.9	CSRG 802	SB(r)0$^+$:	−1.0:				0.48	0.22	8.6		0111000111
162201−6304.9	ESO 100−23	SAB(s)c	5.0				0.76	0.48:		2:	0222000110
162905−2759.1	ESO 452−7	(R'_1)SA$\underline{B}$(s)a	1.0	2.18	0.73	30.3				2	1111111000
162959−6457.8	CSRG 803	SAB(r)0/a:	0.0:				0.22	0.20	44.5:	2	0111000111
163011−6524.2	CSRG 804	S$\underline{A}$B(r)0$^+$	−1.0				0.34	0.27	75.2		0111000111
163029−6030.8	NGC 6156	(R'_1)SAB(rs)c p	4.5	1.19	0.95	78.4	0.51	0.39	16.2:	2+	1222111111
163122−6742.1	CSRG 805	SB(r)0/a:	0.0:				0.28:	0.23:	44.0	1	0111000111
163147−6419.9	ESO 101−2	(R'_2)SB(rs)a:	1.0:	0.74	0.38	4.6	0.28	0.13	16.5	2:	1111111111
163229−6010.7	CSRG 806	SA(r)a:	0.5:				0.39	0.26			0222000110
163555−6630.7	CSRG 807	SAB(r)0/a:	0.0:				0.32	0.23	10.0		0111000111
163629−6017.8	ESO 137−38	S$\underline{A}$B(r)b	3.0				0.72	0.38	44.5:	3+:	0222000222
164009−6631.5	ESO 101−11	SA(r)0/a:	0.0:				0.60	0.51		2	0111000110
164256−6903.1	ESO 69−9	SB($\underline{rs}$)c	5.0				0.49				0111000100
164354−6235.6	CSRG 808	SA(r)a?	1.0?				0.29	0.25			0111000110
164414−7107.0	ESO 69−11	S$\underline{A}$B(rs)c	5.0				0.35	0.28		3	0111000110
164427−1956.4	CSRG 809	S$\underline{A}$B(r)b:	3.0:				0.45	0.28			0121000110
164706−6617.2	CSRG 810	SAB(r)0$^+$:	−1.0:				0.29	0.15	30.5		0111000111
164902−7230.3	NGC 6209	(R′)S$\underline{A}$B(rs)b p	3.0	1.87	1.23		0.72	0.44			1222110220
165041−7654.8	IC 4618	SAB(r)c p	4.5				0.77	0.58	11.7	4:	0222000221
165059−2006.9	CSRG 811	SB(r)bc	3.5				0.29	0.23	57.4	2+1	0222000111
165203−6552.5	ESO 101−18	SB(rs)0/a	0.0				0.46	0.36	14.1	5:	0222000222
165321−6238.8	ESO 101−20	SAB($\underline{rs}$)bc	3.5				0.48	0.22		2+	0222000110
165508−2111.9	ESO 586−6	SB($\underline{rs}$)bc	4.0				0.63	0.61		m	0111000110
165551−1727.5	CSRG 812	SAB(r)c:	5.0:				0.40	0.34		2	0222000110
165851−7203.2	CSRG 813	SB(r)ab:	2.0:				0.34	0.29	87.7		0111000111
170029−6538.3	CSRG 814	(R)SB(s)0/a	0.0	0.50	0.45	62.8					1111111000
170516−7404.7	ESO 44−2	SA($\underline{rs}$)ab p	2.0				0.34	0.29			0111000110
170540−6151.3	ESO 138−16	SB(r)bc	4.0				0.67	0.17	13.4	4	0111000111
170619−7728.5	IC 4633	SAB(r)d	6.5				0.37	0.23		m	0222000220
171041−6119.4	CSRG 815	(RL)SB0$^+$:	−1.0:	0.67	0.29	27.3					1101111000
171218−6245.9	NGC 6300	SB($\underline{rs}$)b	3.0				1.98	1.17	61.3	4	0333000333
171420−6319.3	CSRG 816	SAB:(r)0/a	0.0				0.31	0.18	83.1:	2:	0111000111
171926−5957.2	IC 4646	S$\underline{A}$B($\underline{rs}$)bc	4.0				0.45	0.30			0222000110
172235−6050.3	IC 4653	SB(r)0/a: p	0.0:				0.67	0.30	66.3:		0122000111
172429−6224.3	ESO 138−29	RGp		1.96	1.29						2000110000
172934−6242.2	ESO 102−9	(R′)SB0/a:	0.0:	1.01	0.24	2.8					2202222000
173028−6058.1	ESO 139−8	S$\underline{A}$B(rs)bc	3.5				0.39	0.34		2:	0222000220
173037−7421.0	IC 4654	SAB(r)c	4.5				0.49	0.29		4	0222000220
173128−6152.0	ESO 139−9	(RL)SB($\underline{rl}$)0°	−1.5	0.96	0.49	67.3	0.53	0.32	57.5		2222222222
173300−5531.8	ESO 181−1	(R_1)SA$\underline{B}$:(r)a	0.5	0.73	0.55		0.51	0.17			2222220110
173311−5954.7	ESO 139−12	(R′:)SA(rs)bc:	3.5:	2.12:	1.57		0.37	0.38		2	1222110210
173609−7151.0	CSRG 817	(R'_2)SAB($\underline{rl}$)b	3.0	0.84	0.56	20.4	0.26	0.19	0.0	2	2222111111
173624−6321.9	CSRG 818	SA(l)0°	−2.0				0.75	0.73			0111000110
173756−6945.7	NGC 6392	SAB($\underline{rs}$)a	1.3				0.63	0.49	19.3	2	0333000221
173806−6140.1	NGC 6398	(R)SB(rl)ab	1.5	1.82	1.29	54.5	0.79	0.55	50.4		2222222222
173936−6057.4	ESO 139−21	(R′:)Sb	3.0	1.34	0.28					2:	1001110000
174113−5917.2	ESO 139−24	(R′L)SB(r)ab	1.5	1.54	1.13	84.2	0.84	0.67	37.2	3	2222222222
174203−5509.8	ESO 181−4A	SB(r)a	1.0				0.73	0.45	16.6		0111000111
174413−6314.3	IC 4664	(R′)SA$\underline{B}$(r)b	3.0	1.45	0.94	9.8	0.59	0.41	41.5	2	2222222222
174506−6033.9	CSRG 819	SB(r)0/a	0.0				0.50	0.28	69.1	2?	0222000222
174523−6044.3	ESO 139−32	(R′)SB($\underline{rs}$)ab	1.5	1.30	1.01	41.3	0.60	0.39	27.2	2	1222111222
174653−6006.9	ESO 139−36	(R′)S(r)a	1.0	0.63	0.27		0.32	0.16			1011110110
175417−7355.5	CSRG 820	(R′)SB(s)a	1.0	0.64	0.18	6.0				2	1111111000
175423−6513.9	CSRG 821	SB(r)b	3.0								0111000111
175437−5347.8	ESO 182−1	(R)SAB(l)0°	−2.0	1.57:	1.23:		0.31	0.23	36.9	2	1111110110
175452−6341.5	ESO 102−20A	SB(r)0$^+$	−1.0				0.89	0.50			0222000222
175529−7250.8	CSRG 822	(R)SAB0°	−2.0	1.05	0.67	2.6	0.81	0.50	67.9		1101111000
175741−6625.8	NGC 6492	S$\underline{A}$B($\underline{rs}$)b	3.0							2	0222000220
175953−5937.6	ESO 139−53	SB(r)0/a:	0.0:				0.61	0.29			0111000111
180010−7353.3	ESO 44−25	SB(r)b: p	2.5:				0.40	0.15	55.7:		0222000222
180240−5744.3	ESO 139−55	(R)SA(rl)0°	−2.0	2.01	1.12		0.40	0.19	82.5	f	1111110110
180431−5204.4	ESO 229−8	SA(s)b	2.5				0.82	0.61			0222000110
180529−5234.4	ESO 182−4	SB($\underline{rs}$)a p	1.3				0.62	0.23		2	0333000330
180736−5859.3	ESO 140−6	SB(r)a:	1.0:				0.51	0.50		m	0111000111
180836−6429.4	IC 4680	(R′)SB(rs)ab	1.5	1.59	0.68	7.7	0.78	0.28	9.3	2:	2222222222
180912−7302.5	CSRG 823	(R)SB(r)0$^+$	−1.0	0.78	0.37	53.4	0.85	0.28	1.8:	2:	2222222222
180947−6006.4	ESO 140−12	(R)SAB($\underline{rs}$)a	1.0	1.73	1.17	3.8	0.32	0.16	43.9		2222222222
181026−5842.6	IC 4692	SB(r)c	5.0				0.50	0.39	−13.9	2	1222111111
181031−7135.8	IC 4682	(R′)SB($\underline{rs}$)bc	4.0	1.45	1.08	0.8	0.48	0.28	9.6	3	0222000222
181149−4405.1	CSRG 824	SB(r)0$^+$	−1.0				0.73	0.50	13.6	2	1111111111
181249−7108.7	ESO 71−6	($R_1R'_2$)SA(r)a	1.0	0.74	0.63		0.40	0.34	45.4		0111000111
″	″	″		1.12	0.84		0.32	0.17		2	1111110110
181251−4949.1	ESO 229−12	SA(r)bc	4.0								0000110000
181421−5041.7	ESO 229−13	SB(r)a	1.0				0.27:	0.25:		2+1	0111000110
181422−5442.8	ESO 182−10	SAB(r)bc	4.0				0.39	0.17	36.4	3	0111000111
181523−6445.3	IC 4696	SAB(rs)bc	4.0				0.41	0.28	9.1		0111000111
181544−4239.1	ESO 280−9	(R'_1)S$\underline{A}$B(s)a	1.0	1.29	0.38	22.1:	0.62	0.22		2	0222000220
181714−7245.8	ESO 45−4	S$\underline{A}$B($\underline{rs}$)cd	5.5							2	1111111000
181741−3915.9	ESO 335−9	SB(rs)ab	2.0				0.37	0.23	77.4	6	0222000221
181838−5915.8	IC 4702	(R)SB(r)0/a	0.0	1.16	0.95	24.4:	0.48	0.22	5.5	2	0111000111
182005−5623.8	IC 4709	(R_1)SB(r)0$^+$	−1.0	0.93	0.39		0.73	0.60	23.4	2	1222111222
182117−7658.2	ESO 45−5	(R?)SB(r)0$^+$	−1.0	1.23	0.78:		0.51	0.11			2121220110
182252−7207.4	ESO 71−13	SAB:(rl)0°	−2.0				0.63	0.34	13.7		1222110222
182403−8012.3	CSRG 825	SB(r)ab	2.0				0.47	0.39			0111000110
182513−7143.6	IC 4712	SA($\underline{rs}$)b	3.3				0.34	0.20	11.2	2	0222000111
182604−4743.2	CSRG 826	(R′)SB(s)b: p	3.0:	0.63	0.39		0.48	0.39		2+5	0333000220
182610−4247.3	ESO 281−1	(R'_1)SB(rl)a	1.0	1.65	0.84	34.1	0.75	0.46	20.3	2	1111110000
182639−6133.8	CSRG 827	($R_1R'_2$)SB(s)ab?	2.0?	0.41	0.31	42.3				2	2222222222
″	″	″		0.56	0.39	18.8					1111111000
182645−4729.0	ESO 281−4	(R′)SB($\underline{rs}$)a	1.0	0.69	0.54	79.7	0.33	0.28	4.3		0000111000
182715−5149.1	CSRG 828	(R)SAB(r)ab	2.0	0.55	0.34		0.28	0.17			3333222222
182811−4806.4	CSRG 829	(R'_2)SB(s)a	1.0	0.39	0.35	6.7				2	1111110110
182914−4132.9	ESO 336−3	SB($\underline{rs}$)ab:	2.0:				1.29	0.50	31.2	2	1111111000
182956−4647.4	ESO 281−8	(R′)SB?(ls)0/a? p	0.0?	0.89	0.40		0.40	0.22		2	0111000111
182959−4635.2	ESO 281−9	S$\underline{A}$B(rs)cd	6.0				0.30	0.17		4:	1111110110
183003−5832.2	IC 4721	SAB($\underline{rs}$)c	5.0				0.67	0.23		2i,co	0111000110
183032−4647.9	ESO 281−11	SA$\underline{B}$($\underline{rs}$)b	3.0				0.45	0.27	8.4	2	0111000110
183033−4806.5	CSRG 830	SB(r)0$^+$:	−1.0:				0.42	0.21	13.4:		0333000333
183045−7734.3	CSRG 831	SB(rl)0°	−2.0				0.53	0.37	50.6		0111000111
183050−4827.8	CSRG 832	(R)SB(rl)0$^+$	−0.5	0.60	0.39:	84.0	0.28	0.22	0.0:		0111000111
183149−4659.1	ESO 281−12	SA$\underline{B}$($\underline{rs}$)a	1.3				0.63	0.29	4.0	2	1112111111
183238−7212.0	ESO 71−17	(R'_2)SB(s)a	1.0	0.77	0.29	6.9				2	0333000333
											2222222000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
183242−3759.2	ESO 336−6	SB:(r)b	3.0				0.63	0.27	86.5:		0111000111
183252−4705.8	ESO 281−14	(R'_2)SA<u>B</u>(s)b	2.7	0.95	0.54	2.6				2	3333333000
183257−7150.0	ESO 71−18	(R':)SB(r)bc	4.0	0.72	0.56	1.0	0.29	0.26	17.5		1111111111
183316−6234.3	IC 4728	(R'_2)SB(s)b	3.0	1.43	0.51	6.6				2:	1111111000
183408−5732.1	IC 4734	(R')SB(s)ab	2.2	1.06	0.51	27.9				2	2444222000
183445−6728.3	IC 4729	SA<u>B</u>(<u>rs</u>)bc	3.7				0.60	0.49	12.2	4	0333000333
183454−4647.8	ESO 281−18	SAB(rs)c	5.0				0.28	0.18		2+3	0222000110
183518−6238.6	IC 4737	(R'_1)SB(s)a	1.0	0.74	0.50	80.2				2+1	2222222000
183550−6156.9	IC 4738	(R')SA(r)b	3.0	1.06	0.50		0.34	0.18		2	1222110220
183655−6359.8	IC 4741	SA(r)ab p	2.0				0.54	0.37		1	0222000220
183708−4137.1	ESO 336−8	SA(r)0^+	−1.0				0.84	0.39			0111000110
183820−6301.2	IC 4750	SAB(<u>rs</u>)0^+	−1.0				0.59	0.24	32.6		0222000221
183840−4129.3	ESO 336−11	($R'_1R'_2$)SB(s:)0/a	0.0	0.78	0.67	95.5:					1111111000
〃	〃	〃		1.06	0.78	4.0					0000111000
183842−6209.7	IC 4751	(R)SB(<u>rl</u>)0°	−2.0	1.17	0.98	54.7	0.67	0.45	13.6		2222222222
183922−4349.3	ESO 281−25	SB(r)dm:	8.0:				0.27	0.22	2.0		0111000111
183923−6202.4	IC 4754	(R')SB(r)ab	2.0	1.18	1.10	52.8	0.63	0.51	−48.5	2	2222222222
183924−5342.7	CSRG 833	(R_1)SB0°	−2.0	0.84	0.59	78.7					1101111000
183955−5254.1	IC 4761	(R')SB(r)b	3.0	1.62	1.31:	101.0	0.47	0.39	87.6	4	1333111333
184015−6224.9	ESO 140−43	(R'_2)SB(<u>rs</u>)b	3.0	1.68	0.81	17.3				2+	2222222000
184104−6300.6	IC 4760	SA(<u>rl</u>)0°	−2.0				0.53	0.53			0222000220
184252−6320.9	IC 4766	SA(r)0^+	−1.0				0.67	0.21			0222000220
184300−6312.8	IC 4769	SB(<u>rs</u>)bc p	3.7				0.60	0.44	19.8	2+3?	0333000222
184326−6326.4	IC 4770	(R)SA<u>B</u>(r)0/a:	0.0:	1.19	1.01	21.5:	0.52	0.44	10.7		1222111222
184340−6318.3	IC 4771	SAB(rs)bc:	4.0:				0.29	0.18	55.6		0222000221
184352−5759.5	IC 4774	SB(<u>rs</u>)b	3.0				0.39	0.34	6.2	3	0444000333
184402−6513.8	NGC 6684	(L)SB(r)0^+	−1.0	2.74	1.70	70.2	1.12	0.91	58.0		2222222222
184405−5335.8	ESO 183−12	(R)SB(r)b:	3.0:	1.12	0.40	87.0	0.34:	0.19	88.2	2+	1111111111
184410−5312.2	IC 4777	(R_1)SB0^+	−1.0	0.53	0.48	86.6					1101111000
184507−5119.4	ESO 231−1	(R')SA(r)b	3.0	0.84	0.78		0.32	0.28		2	1111110110
184525−6146.6	IC 4778	(R')SB(s)a	1.0	0.67	0.67					2+1	1111110000
184548−6304.3	IC 4779	SA(rs)b: p	2.5:				0.41	0.29			0222000220
184548−6959.0	IC 4773	SAB(r)dm	7.5				0.45	0.35	25.4	4:	0222000222
184558−4518.4	CSRG 834	SB(r)b	3.0				0.27	0.17	81.3	3	0111000111
184634−7857.5	ESO 25−2	(R:)SAB(r)b p	3.0	0.61	0.51	9.0	0.37	0.31	13.0		1222111111
184657−6251.1	IC 4781	(R)SB(r)0^+	−1.0	1.12	0.98	73.7	0.54	0.35	0.4		2222222222
184832−5919.0	IC 4785	(R'_2)SB(r)b	3.0	2.91	1.62	35.2	0.99	0.50	21.7	2+1	2222222222
184833−4704.1	ESO 281−31	SB(<u>rl</u>)0°	−1.5				0.61	0.33	60.8		0222000222
184845−8523.1	CSRG 835	SAB(r)bc p	3.5				0.40	0.29	65.0		0222000111
185019−7937.8	ESO 25−4	(R')SB(s)a	1.0	0.69	0.25	1.3				2	1111111000
185139−6459.6	IC 4790	(R')SA<u>B</u>(rs)bc	4.0	0.96	0.45		0.43	0.29	6.6:	2	1222110221
185342−5235.7	CSRG 836	(R)SB(l)0°	−2.0	0.78	0.68	36.0	0.48	0.28	2.1		1111111111
185355−4737.0	ESO 231−11	SAB:(r:)c	4.5				0.32	0.12:		6:	0222000110
185401−6312.4	IC 4800	(R':)SB(rs)a	1.0				1.03	0.48	7.0	3	1222000222
185410−6400.0	IC 4799	SB(rs)b p	2.5				0.96	0.89	21.5	5	0222000222
185448−6444.6	IC 4801	(R)SAB(<u>rl</u>)0^+	−1.0	1.73	0.95	0.5:	1.05	0.63	5.5		1222111222
185607−4149.9	ESO 337−6	SAB(rs)bc	4.0				0.41	0.27	17.7:	2+	0111000111
185628−6610.9	NGC 6718	(R)SB(r)b p	3.0	1.01	0.50	25.9	0.52	0.29	20.9	2:	2222222222
185639−6317.8	CSRG 837	SB(<u>rs</u>)cd	6.0				0.28			2	0111000100
185715−5736.2	IC 4806	(R'_2)SA<u>B</u>(s)b	2.5	1.82	0.35	3.7				2:	2222221000
185749−6839.6	NGC 6719	SAB:(<u>rs</u>)c	5.0				0.54	0.29		m	0111000110
185839−6029.8	ESO 141−21	SAB:(r)bc	4.0				0.45	0.34		2	0111000110
190028−5403.7	ESO 184−6	(R'_1)SB(r)a	1.0	1.79	0.51	25.2	0.83	0.26	17.4	2	2222222222
190044−5803.6	ESO 141−24	(R')SA(s)ab	2.0	0.77	0.25					2	2212220000
190157−5512.8	IC 4818	(R_1)SAB(r)0^+	−0.5	1.12	0.50		0.65	0.15		2	2222220220
190202−5614.2	IC 4817	SAB(r)b	3.0				0.64	0.26	2.4		0111000111
190210−4226.7	ESO 337−9	SB(<u>rs</u>)0^+	−1.0				0.58	0.28	36.8		0333000222
190222−4855.1	CSRG 838	(R_1)SB(r)0^+	−1.0	0.94	0.72	49.2	0.47	0.28	−3.3		1111111111
190253−4639.8	ESO 282−12	SB(rs)b p	3.0				0.49	0.48		3	0111000110
190317−6126.8	NGC 6739	(L)SA(r)0°	−2.0	2.24	0.75		0.67	0.26:			2112220110
190403−4757.1	CSRG 839	(R)SA0^+	−1.0	0.39	0.27						2202220000
190501−6356.2	NGC 6744	SA<u>B</u>(r)bc	4.0				3.33	2.05	23.1	m	0222000222
190527−4447.8	ESO 282−14	(R'_1)SA<u>B</u>(rs)ab	1.5	1.40	0.59	2.5	1.06	0.22	0.0:	2	2222222111
190549−5051.3	ESO 231−24	SA(rs)a	1.0				0.46	0.35		2	0111000110
190557−8452.8	ESO 10−3	(R')SB(r)ab	2.0	0.74	0.72		0.40	0.33		2	2222220220
190617−3326.2	ESO 397−4	(R')SA(s)bc	4.0	1.06	0.73						1111110000
190627−4445.1	ESO 282−17	SA(r)b: p	3.0:				0.47	0.25		3:	0111000110
190627−4810.7	CSRG 840	SA(r)0/a	0.0				0.23	0.22			0111000110
190655−1800.6	ESO 593−1	SB(r)a:	1.0:				0.48	0.28	1.7		0111000111
190704−4415.7	ESO 282−18	(R')SB(s)c p	5.0	1.07	0.38	5.4				2	1222111000
190711−5707.9	NGC 6753	(R')SA(r)b	3.0	1.89	1.57		0.34	0.28		2+	3333330110
190728−5257.1	ESO 184−23	(R')SB(s)a p	1.0	0.80	0.52	86.7				2	3333333000
190734−5043.5	NGC 6754	S<u>A</u>B(rs)bc	4.0				0.67:	0.18		4	0111000110
190815−4728.0	ESO 282−20	S<u>A</u>B(r)b: p	3.3:				0.55	0.30	2.6	f	0333000331
190855−3212.6	ESO 459−6	SB(rs)b:	2.5:				0.74	0.22	0.8:		0222000111
190908−4605.7	ESO 282−21	(R')SB(s)b p	3.0	1.51	0.67	7.5				4	1222111000
190928−5922.8	IC 4830	SB(r)b	3.0				0.51	0.40	17.4	4+	0222000222
191009−6221.5	IC 4831	(R'_2)SAB(s)b	3.0	3.13	0.67:	0.0					2222221000
191034−4620.6	ESO 282−27	(L)SB0^-	−3.0	0.60	0.49	35.6					1101111000
191054−4702.7	ESO 282−29	SA(r)c p	5.0				0.38	0.22		3	0111000110
191114−5044.7	NGC 6761	(R')SB(r)0/a	0.3	1.40	1.25	92.1	0.80	0.67	70.5	4?	3333333333
191131−5442.8	IC 4839	(R')SAB(s)bc	4.0	2.43	1.87	4.4				4	2222221000
191143−5617.8	IC 4840	SAB(rs)a:	1.0:				0.48	0.25		1	0111000110
191201−4550.9	ESO 282−31	SB(r)0/a	0.0				0.34	0.16	57.0		0111000111
191254−4646.8	ESO 282−32	(R_1)S<u>A</u>B(r)0/a	0.3	0.73	0.28	5.3	0.31	0.10		2	3333331330
191256−4012.9	ESO 337−16	SB(rs)b	3.0				0.34	0.21	48.8		0111000111
191344−6731.8	ESO 72−13	(R')SB(s)bc	4.0	0.85	0.66	41.4				2	1111111000
191357−6035.5	NGC 6769	(R')SA(r)b p	3.3	1.57	0.86		0.59	0.41		2	2223220220
191412−6035.3	NGC 6770	SB(rs)b p	3.3				1.12	0.74	81.8	4	0223000111
191452−7219.1	IC 4841	SAB(<u>rs</u>)c	4.7				0.32	0.22	9.0	6	0333000111
191455−5607.1	IC 4844	SB(r)b	3.0				0.50	0.35	78.6	3+	0222000222
191457−2017.7	CSRG 841	S(r)0^+:	−1.0:				0.39	0.23			0011000110
191542−5018.5	CSRG 842	(R')SB(r)b:	3.0:	0.54	0.22	65.9	0.30	0.17	89.9	2	1111111111
191558−6029.0	IC 4845	S<u>A</u>B(rs)ab p	2.3				0.48	0.34	14.6	4+1	0333000221
191804−8247.2	ESO 10−5	SB(r)bc	3.5				0.32	0.27	87.0	3:	0222000222
191830−6822.4	CSRG 843	(R_1)S<u>A</u>B(r)0^+	−0.5	1.03	0.73	79.0:	0.39	0.30	0.0:		2222221111
191841−6536.2	IC 4847	(R')S<u>A</u>B(<u>rs</u>)b: p	3.0:	1.12	0.73		0.45	0.34		2o	1111110110
191850−3029.2	ESO 459−15	SA(<u>rs</u>)a:	1.0:				0.50	0.40		2	0111000110
191855−5105.9	ESO 232−4	(R'_1)S<u>A</u>B(r)0/a	0.0	0.73	0.45		0.31	0.26			1111110110
191914−6541.9	ESO 104−50	(R')SB(s)a	1.0	1.11	0.11	2.6				2	1111111000
191935−6001.2	NGC 6782	(R'_1)SB(r)0/a	0.3	2.06	1.52	65.5	0.88	0.57	−0.3	2	3333333333
192001−4800.3	ESO 232−5	SA(rs)bc	4.0				0.37	0.14		4	0222000110
192034−5203.5	ESO 232−6	(R')SB(r)b	2.8	1.24	0.75	29.1	0.54	0.35	18.9	4	4444444444
192117−5757.0	CSRG 844	(R)S<u>A</u>B(r)0^+	−1.0	0.50	0.35		0.21	0.15			1111110110

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
192127−5342.5	ESO 184−64	(R′$_2$)SB(r)a	1.0	0.84	0.42	78.0	0.31	0.16	73.7	2	2222222222
192128−5105.7	CSRG 845	SA(rs)ab	2.0				0.31	0.26		3	0111000110
192202−6026.2	IC 4852	(R′)SAB(s)bc	4.0	1.59	1.14	9.0	0.78:	0.56		4	2333221110
192222−3312.7	ESO 397−19	(R:)S(r:)a: p	1.0:	1.19:	0.25:		0.39	0.18			1011110110
192254−4524.4	CSRG 846	SA(r)0/a?	0.0?				0.28	0.10		2:	0111000110
192302−5925.0	IC 4854	(R)SAB(rs)bc	4.3	1.07	1.06		0.34	0.31	44.7	3	1333110331
192335−4754.1	CSRG 847	(R′)SB(s)a:	0.5:	0.56	0.26	7.2				2	2222222000
192434−3509.1	ESO 398−2	SA(rl)0$^+$	−1.0				0.54	0.17			0111000110
192439−3901.3	NGC 6794	SA(rl)a	1.0				0.83	0.63		2	0111000110
192443−5043.2	CSRG 848	SA(rs)bc	4.0				0.28	0.18		6:	0111000110
192551−5257.6	CSRG 849	(R′)SA(s)ab	2.0	0.54	0.30					2	1111110000
192553−2023.4	CSRG 850	(R)SB(s)a?	1.0?	0.40	0.35	42.6:					1111111000
192620−5723.2	ESO 184−74	SAB(rl)a:	1.0:				0.96	0.17	0.6:	2	0111000111
192626−6728.5	IC 4860	SAB(rs)c	5.0				0.38	0.34		1+1	0111000110
192638−6725.8	IC 4862	SAB:(rs)bc	4.3				0.61	0.29	79.1:	2	0333000333
192701−5339.0	ESO 184−75	SA(r)c	5.0				0.40	0.23	49.5	2+2	0222000221
192710−4750.9	ESO 232−9	SA(r)p					0.50	0.38			0110000110
192711−4914.4	CSRG 851	(R′$_1$)SB(s)a:	1.0:	0.37	0.15	79.6				2	1111111000
192714−3158.9	ESO 460−9	(R′$_1$)SB(s)0/a	0.0	1.23	0.78	51.5				2	1111111000
192716−5234.5	CSRG 852	(R$_1$)SB(l)0/a	0.0	0.75	0.50	60.9	0.32	0.22	19.4		1111111111
192748−5230.1	CSRG 853	SA(l)0°	−2.0:				0.37	0.11			0111000110
192752−5220.1	CSRG 854	SB(rs)a:	1.0:				0.28	0.23:		3:	0111000110
192753−7548.8	CSRG 855	(R′$_2$)SAB:(s:)a:	1.0:	0.28	0.26					2	1111110000
192801−8155.7	ESO 25−10	(R′$_2$)SAB(r)a	0.7	1.28	1.03:	5.4	0.39	0.27	0.3	2	3333332222
192803−6437.8	CSRG 856	(R:)SB(l)0°	−2.0	1.62:	0.95:	73.8:	0.59	0.42	44.2		1222111222
192838−5803.4	CSRG 857	SAB(r)0$^+$:	−1.0:				0.51	0.45	2.0		0111000111
192917−4520.0	ESO 283−4	(R)SA(r)0/a	0.0	0.93	0.22		0.34	0.17		2:	2212220110
192920−6757.8	ESO 72−18	(R′$_2$)SB(s)b	3.0	0.96	0.49	3.2				2	2222222000
192940−5233.0	CSRG 858	(R$_1$)SB0$^+$	−1.0	0.51	0.31	43.9					1101111000
193005−3315.5	ESO 398−8	SAB(r)bc	4.0				0.53	0.25	34.2	m	0111000111
193009−6115.3	IC 4866	(R:)SAB(rs)ab p	1.5	1.50	1.04	7.6	0.57	0.45	14.3	2:	2222222121
193011−6451.0	ESO 105−7	(R′)SB(s)0/a	0.0	0.78	0.50	70.4				2	1222111000
193123−5954.0	ESO 142−23	SA(r)0°	−2.0				0.53	0.53			0212000110
193152−5607.3	CSRG 859	(R′)SB(s)a	1.0	0.41	0.25	43.4				2	1111111000
193229−5326.3	CSRG 860	SB(r)0/a	0.0				0.27	0.23			0111000110
193235−6703.5	CSRG 861	(R′)SA(r)b:	3.0:	0.94	0.78		0.23	0.19		2i,2o	1111110110
193241−4722.6	IC 4874	SAB(rs)bc	3.7				0.40	0.28	17.9	3+	0333000332
193255−7740.2	IC 4864	SAB(rs)a	0.5				0.74	0.21	34.0	2	0222000111
193349−5257.3	IC 4876	SAB(rs)c	5.0				0.42	0.31	37.4	m	0222000111
193412−4915.3	CSRG 862	(R′)SA(s)0/a:	0.0:	0.40	0.39					1?	1111110000
193415−5116.6	CSRG 863	(R)SB0/a	0.0	0.48	0.40	38.8					1101111000
193429−5315.8	CSRG 864	(L)SB0°	−2.0	0.45	0.34	82.4					1101111000
193454−3900.6	ESO 338−17	(R′$_1$:R′$_2$)SAB(l)ab	2.0	0.67	0.61	99.0:	0.36	0.19		2	1111111110
〃	〃	〃		0.95	0.84	4.3:					0000111000
193518−5713.6	CSRG 865	SAB(rs)0/a: p	0.0:				0.31	0.11			0111000110
193523−5020.4	CSRG 866	(R′$_2$)SB(s)ab	2.0	0.74	0.34	2.2				2	1111111000
193548−3759.5	ESO 338−18	(R′)SAB(r)b:	3.0:	1.15	0.45	2.8	0.63	0.27	0.4	2	1111111111
193625−5631.5	IC 4880	(R′$_1$)SAB(l)a:	1.0:	1.23	0.32		0.52:	0.28:		2	1111110110
193639−2843.5	ESO 460−19	S(r)ab	2.0				0.49	0.10			0011000110
193644−4357.6	CSRG 867	(R′$_1$)SB(s)a	1.0	0.64	0.34	71.6				2	1111111000
193709−5318.0	CSRG 868	(R′)SB(r)a	1.0	0.47	0.39	78.4	0.26	0.22	−31.3	2	1111111111
193752−5258.7	CSRG 869	(R′$_2$)SB(s)ab	2.0	0.51	0.40	2.4				2	2222222000

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
193800−3702.2	ESO 398−19	(R′$_1$:)SB(r)0$^+$	−0.5	1.57	0.84	67.7	0.73	0.54	12.6	2	1222111222
193821−3911.9	ESO 338−21	SAB:(r?)0/a:	0.0:				0.47	0.22			0111000110
193830−5814.8	IC 4884	(R)SA(rl)0$^+$	−1.0	1.41	0.82:		0.78	0.27			1111110110
193943−4839.3	ESO 232−19	SA(l)0°	−2.0				0.28	0.19			0111000110
193946−2837.2	ESO 460−25	SB(r)a	1.0				0.73	0.41	64.0	4	0111000111
194045−5146.7	CSRG 870	(R$_1$R′$_2$)SAB(l)0/a	0.0	0.61	0.45	84.0	0.27	0.22	1.0	2	1111111111
〃	〃	〃		0.67	0.63						0000110000
194054−2252.2	CSRG 871	SAB(rl)0/a	0.0				0.28	0.21:	10.0:	1	0222000111
194127−6056.2	ESO 142−40	SB(rs)c:	5.0:				0.37	0.17	0.0:		0111000111
194130−5640.0	IC 4890	SB(rs)c	5.0				0.30	0.29		2	0111000110
194132−3339.3	ESO 398−27	SAB(r)ab	2.0				0.49	0.20	19.0		0111000111
194218−6710.3	CSRG 872	SB(r:)d?	7.0?				0.63	0.39	39.7		0111000111
194304−3519.0	ESO 398−31	SB(r)ab	2.0				0.54	0.41	84.5		0111000111
194306−6942.6	IC 4887	SB(r)ab	2.0				0.37	0.28	27.0		0222000111
194309−1910.9	ESO 594−13	(R′$_1$)SB(r)a	1.0	0.89	0.51	76.0	0.37	0.35	1.0:	2	1111111111
194309−5158.2	IC 4894	SB(rs)bc: p	4.0:				0.39	0.26	43.6:	2	0111000111
194343−2129.7	ESO 594−14	SB(r)b	3.0				0.41	0.34	10.7	2+2	0111000111
194403−3814.8	CSRG 873	(R)S(r)0/a	0.0	1.23	0.95		0.45	0.33			1011110110
194428−5953.4	CSRG 874	(R′)SAB(rs)ab	2.0	0.57	0.22		0.34	0.13		2	1112110110
194530−5159.7	IC 4897	SB(rs)b:	3.0:				0.39	0.22	2.7	3+	0333000333
194621−6124.1	ESO 142−48	SB(rs)d	7.0				0.56	0.28	56.7	2:	0111000111
194628−4923.8	CSRG 875	(R′$_2$)SB(s)ab:	2.0:	0.27	0.27					2	1111110000
194632−2633.5	ESO 526−7	SA(r)b:	3.0:				0.75	0.50		m	0111000110
194713−3936.2	CSRG 876	(R)SAB(rl)0/a	0.0	1.17	0.78	36.5	0.45	0.22	7.3		1111111111
194714−6948.4	ESO 73−13	(R′)SAB(r)a	0.5	1.29	0.61		0.39	0.30		1	1222110110
194850−6252.5	ESO 105−17	(R′)SB(rl)0$^+$ p	−0.5	0.81	0.53	15.6	0.44	0.27	0.4	2	2222222222
194902−3554.9	CSRG 877	SAB(r)bc	3.5				0.34	0.23	8.8	3	0222000111
194923−6608.5	CSRG 878	(RL)S0°	−2.0	0.61	0.12						1001110000
195012−5850.7	IC 4901	SAB(r)c	4.5				0.43	0.38	30.4	2+	0222000222
195047−5851.8	ESO 142−51	(R′)SA(s)a: p	1.0:	0.60	0.51					2	1111110000
195056−2300.3	CSRG 879	SB(rs)bc	4.0				0.28	0.17	61.0:	2	0222000111
195144−3930.3	ESO 339−6	(R′?)SB(s)bc	4.0	1.68	0.60	7.3				2	1111111000
195203−2325.4	ESO 526−15	SB(rs)bc	4.0				0.45	0.26	15.2	2	0111000111
195204−2113.8	ESO 595−3	SB(r)0/a	0.0				0.34	0.29:	2.7		0111000111
195205−3504.9	ESO 399−4	SB(r)ab	2.0				0.42	0.35:	9.3		0111000111
195213−2324.3	ESO 526−16	(R′$_1$R′$_2$)SB(s)a	1.0	1.01	0.53	50.1				2	1111111000
〃	〃	〃		1.09	0.78:	33.3					0000111000
195230−6036.1	IC 4906	SA(rl)0°	−2.0				0.53	0.18			0111000110
195254−6159.5	ESO 142−58	(R′?)SB(rs)cd	6.0	1.50	0.56:	3.0	0.48	0.36	1.2	2	1333111333
195309−5532.4	CSRG 880	SB(r)c:	5.0:				0.38	0.38			0111000110
195316−3844.8	ESO 339−9	(R′)SB(r)a	1.0	1.19	0.56	31.1	0.67	0.32	26.5		1111111111
195326−2603.0	ESO 526−18	RG		0.59	0.34						1000110000
195411−6400.9	CSRG 881	(R′$_2$)SB(s)a	1.0	0.46	0.27	10.2				2	1111111000
195420−6745.3	CSRG 882	(R′$_2$)SB(s)a:	1.0:	0.45	0.30	1.6				2	1111111000
195443−4614.9	ESO 284−4	(R′)SAB(rs)bc	4.0	1.74	0.86		0.73	0.29		4:	1111110110
195506−4057.0	ESO 339−12	SAB(rs)c	5.0				0.29	0.28			0111000110
195535−2058.8	ESO 595−5	SAB(rs)a:	1.0:				0.28	0.23	75.9:		0111000111
195558−4919.2	ESO 233−17	SB(r)0/a:	0.0:				0.56	0.38	4.3		0111000111
195618−6123.2	CSRG 883	(R′$_2$)SB(rl)0/a	0.0	0.85	0.73	47.2	0.35	0.29	9.3		3333332222
195645−1848.1	CSRG 884	RG		0.28	0.19						1000110000
195650−3839.2	ESO 339−17	SB(r)0$^+$	−1.0				0.61	0.48	20.4		0111000111
195708−5246.2	IC 4923	(RL)SB(l)0°	−1.7	0.73	0.63	23.8					3313333000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
195714−3947.2	ESO 339−20	SA(rs)0/a	0.0				0.86	0.75		2	0111000110
195756−2149.1	CSRG 885	SAB(r)0+:	−1.0:				0.22	0.19	25.5:		0222000111
195811−1711.5	MCG −3−51−1	SA(rl)b	3.0				0.56	0.26		2	0111000110
195811−6522.2	NGC 6844	(R′)SAB(rs)ab	1.5	1.73	1.42	70.0	0.61	0.50	6.5	2	2222222222
195814−3833.1	ESO 339−25	SA(rs)ab:	2.0:				0.50	0.39			0111000110
195825−5259.1	IC 4932	SA(r)a p	0.7				0.39	0.35		2:	0333000330
195841−4535.3	ESO 284−11	(R′)SA(rl)b p	3.0	0.88	0.72		0.39	0.29		1	1111110110
195844−3743.2	ESO 339−26	SA(rs?)a p	1.0				0.58	0.40			0111000110
195844−3909.1	ESO 339−27	(R′$_1$)SB(r)a	1.0	1.12:	0.89	84.9	0.61	0.49	0.6		1111111111
195852−3458.1	CSRG 886	(R)SB0+	−1.0	0.78:	0.47	11.5					1101111000
195900−2742.0	ESO 461−33	SA(rs)c	5.0				0.27	0.23		3	0111000110
195912−3502.4	ESO 399−18	(R′:)SAB(l)a:	1.0:	0.95:	0.51	85.2				2	1111111000
195926−2021.9	ESO 595−8	(R$_1$)SB(s)0+	−1.0	1.17	0.63	31.0					1111111000
195933−5507.2	IC 4933	SB(rs)bc	4.0				0.78	0.51	16.9	2+4	0222000222
195941−5650.8	CSRG 887	(R$_1$)SB0+	−1.0	0.50	0.34	59.1					1101111000
195943−2719.3	ESO 527−2	(R)SB0+	−1.0	0.66	0.40	4.3					1101111000
195952−5013.6	ESO 233−20	SAB(rs)a p	1.0				0.53	0.16	25.7	1?	0111000111
195958−5608.4	ESO 185−58	SB(r)0+	−1.0				0.63	0.28	39.2		0111000111
195959−7729.9	IC 4912	SB(rs)c p	5.0				0.34	0.13		3:	0111000110
200005−2203.3	CSRG 888	SA(r)0+:	−1.0:				0.34	0.22			0111000110
200029−5744.4	IC 4935	(R′)SB(r)ab	2.0	1.25	0.25	11.3:	0.48	0.20	11.3:	2	3123331221
200041−5749.3	ESO 143−4	(R′:)SAB(s)ab	2.0	1.08	0.84	78.8				2	1222111000
200054−5027.1	ESO 233−22	SAB(r)0+:	−1.0:				0.60	0.45	4.4:		0111000111
200055−3818.6	ESO 339−31	(R′)SB(s)a?	1.0?	1.06	0.22	0.9					1111111000
200111−2631.9	ESO 527−6	(R′$_1$)SB(r)0/a	0.0	0.97	0.67	81.6	0.45	0.40	3.6	2	1111111111
200135−5617.3	CSRG 889	(R)SA(r)0/a	0.0	0.56	0.45		0.29	0.28			1111110110
200157−6021.2	IC 4938	(R)SAB(rs)ab	2.0	1.88	1.57	75.9	0.99	0.75	20.6	2	3333222333
200202−4807.3	NGC 6851A	SB(rs)d p	6.5				0.81	0.52	6.0		0222000222
200211−4807.3	NGC 6851B	(R′)SB(s)m p	9.0	1.05	0.51	2.5				1?	1111111000
200218−2226.1	ESO 595−11	(R′)SB(s)a:	0.5:	0.99	0.23	31.9				2	2212222000
200250−5632.1	NGC 6855	(R)SB(rl)0+	−1.0	1.85	1.64	20.3	0.55	0.51	11.1		2222222222
200258−5426.9	ESO 185−64	(R)SA(r)0+	−1.0	0.92	0.40		0.41	0.16			2222220220
200349−5302.8	CSRG 890	(R)SB(rl)0+:	−1.0:	0.67	0.42	70.4	0.30	0.13	10.3		1111111111
200400−3032.6	ESO 461−42	(R′$_1$)SB(rs)b	3.0	1.07	0.95	61.1	0.50			2+2	1111111100
200401−5553.3	CSRG 891	SB(r)b	2.5				0.34	0.30	17.5:	3+1	0222000222
200402−2044.8	CSRG 892	SA(l)a	1.0				0.39	0.34		2	0111000110
200417−4254.1	CSRG 893	SA(rl)a: p	1.0:				0.39	0.18		2	0111000110
200428−5618.4	IC 4950	SB?(rs)b	3.0				0.65	0.12		2	0111000110
200429−6114.7	NGC 6860	(R′)SB(r)ab	1.5	0.79	0.45	28.9	0.39	0.23	12.2	3?	1112111111
200455−5632.4	NGC 6862	SAB(rs)bc p	4.0				0.67:	0.48			0222000110
200530−2536.2	ESO 527−11	SA(r)c	5.0				0.34	0.20		2+1	0111000110
200530−5549.0	CSRG 894	SB(r)bc	3.5				0.26	0.22	5.2	5+	0222000222
200538−5551.4	IC 4957	(R′)SB(s)a	1.0	0.94	0.50	30.2				2	1222111000
200617−2019.7	CSRG 895	SB(r)0/a:	0.0:				0.39	0.22	53.6		0111000111
200622−5621.0	CSRG 896	(R′$_1$)SB(s)0+	−0.5	0.45	0.30	3.3					2212111000
200629−5626.7	CSRG 897	SB(r)b	3.0				0.20	0.19		3:	0111000110
200631−3728.7	ESO 399−23	SAB(r)bc	4.0				0.39	0.28	5.4	3	0111000111
200633−4826.1	NGC 6870	SAB(rs)ab p	1.5				1.14	0.39	4.3	2:	0222000222
200635−2122.1	CSRG 898	(R)SB0/a:	0.0:	0.50	0.39	23.4					1101111000
200639−3524.4	CSRG 899	SA(l)0°	−2.0				0.39	0.37			0111000110
200719−2028.5	CSRG 900	SB(r)0+:	−1.0:				0.32	0.25	86.9		0111000111
200749−6534.0	ESO 105−29	(R)SAB0/a p	0.0	0.56	0.45	61.0:				1	2202221000
200810−5523.7	IC 4963	(R′$_1$)SB(r)a	0.5	1.97	0.46	87.1	0.56	0.27	81.1	2	2222222222
200813−2908.8	ESO 462−1	(R′)SB(rs)ab	2.0	1.12	0.75	75.5	0.45:	0.41	−73.3:	2+2	1111111111
200831−5430.6	ESO 186−12	(R′)SB(rl)0/a	0.0	0.95	0.82	14.3	0.47	0.35	−38.7	2	1111111111
200845−2058.1	ESO 596−1	(R′$_2$)SAB(s)c	5.0	0.89	0.74	3.5				2	1111111000
200908−5657.5	CSRG 901	(R′)SB(rl)b:	3.0:	0.57	0.45	20.3	0.35	0.22	6.0		1111111111
200908−6917.8	CSRG 902	(R′$_2$)SAB(s)a?	1.0?	0.40	0.28						1111110000
200909−6543.4	CSRG 903	(R′)SAB(r)b:	3.0:	0.48	0.22	34.6	0.22	0.11	8.2	2	1111111111
200936−3344.3	ESO 399−24	(R′$_2$:)SB(r)a	1.0	1.06	0.39	17.2	0.61	0.16	20.9	2	1111111111
201006−4458.1	NGC 6878A	SAB(rs)c	5.0				0.37	0.22		4	0111000110
201011−3720.4	ESO 399−25	(R′)SA(s)0/a	0.0	3.13	1.41						1111110000
201015−5252.4	IC 4975	(R′)SB(s)0/a	0.0	0.73	0.61	67.6				2	1111111000
201017−6457.0	IC 4968	(R:)SAB(rs)a:	1.0:	1.16:	1.16:		0.40	0.30	38.6		1111110111
201027−4430.2	ESO 284−32	(R$_1$)SB(l)0+	−1.0	0.75	0.55	79.4	0.45	0.28	0.0		1111111111
201033−6534.6	CSRG 904	(R′)SAB(s)0/a:	0.0:	0.65	0.45	7.3:					1111111000
201036−1925.7	ESO 596−6	SA(r)c? p	5.0?				0.22	0.10			0111000110
201039−4858.8	ESO 233−47	(R′)SB(rs)bc	4.0	1.20	0.50	88.5	0.55	0.22	88.1	2	1222111222
201052−5336.7	IC 4979	SAB(rs)c	5.0				0.34	0.25		7+	0222000220
201122−6201.6	IC 4976	(R)SB(r)a:	1.0:	0.67	0.34	61.7	0.37	0.29	40.6		1111111111
201125−5803.9	IC 4980	SB(rs)a p	1.0				0.91	0.34	21.0	2	0111000111
201142−7055.3	NGC 6872	SAB(rs)c	4.5				1.04	0.67	12.1	2	0222000222
201146−4718.1	CSRG 905	(R)SB(rs)0/a	0.3	1.05	0.84:	−0.7	0.51	0.26	2.2	2	1333111333
201203−4009.1	ESO 340−6	(R)SB(r)0+	−1.0	1.12	0.61	10.5	0.70	0.27	−7.8		1111111111
201217−4238.8	CSRG 906	(R′)SB(s)a:	1.0:	0.51	0.22	8.0				2	1111111000
201221−5214.5	IC 4983	SB(rs)c	5.0				0.43	0.30	2.3	4+	0555000444
201233−2217.0	ESO 596−11	SAB(r)cd	5.5				0.32	0.27	25.2	2	0222000221
201310−3603.9	ESO 400−4	SAB(rl)ab	2.0				0.61	0.47			0111000110
201316−4641.2	ESO 284−45	SAB(rs)bc: p	4.0:				0.40	0.34		1+2	0111000110
201317−4701.9	CSRG 907	SAB(rs)a	1.0				0.32	0.29		2	0222000220
201319−4729.0	ESO 284−47	SA:(r)0°	−1.5				0.56	0.19			0222000220
201330−5257.1	NGC 6887	SAB(rs)bc	4.3				0.76	0.31	15.8	2+1	0333000222
201357−4810.7	ESO 233−53	SB(r)dm:	8.0:				0.50	0.34	75.6		0111000111
201416−7101.0	NGC 6880	(R$_1$L)SB(rs)0+	−1.0	1.81	0.97	1.4	1.16	0.39	1.1	2	3333333222
201449−4457.8	NGC 6890	(R′)SA(r:)ab	2.0	0.97	0.74						1112110000
201500−4953.9	ESO 233−56	SB(rs)b: p	3.0:				0.30	0.27	78.3	2i+fo	0111000111
201504−6655.1	CSRG 908	(R$_1$R′$_2$)SB(s)a	0.8	0.51	0.29	11.6				2	4434332000
"	"	"		0.73	0.29	4.8					0000222000
201513−3531.2	ESO 400−6	(R$_1$)SAB(r)a	1.0	0.61	0.56		0.42	0.28			1111110110
201515−4112.7	ESO 340−13	SB(rl)0+	−1.0				0.88	0.73	13.5		0111000111
201524−6728.8	CSRG 909	SB(r)b	2.5				0.31	0.27	7.4	4	0444000333
201553−1706.3	IC 1313	(R′)SB(rs)ab	2.0	1.73	1.40	15.9	0.80	0.67	5.6	2+	1111111111
201604−4129.3	ESO 340−15	SA(rs)a	1.0				0.92	0.70			0111000110
201609−8144.2	ESO 26−1	(R′$_2$)SAB(rs)cd	5.7	1.30	0.89	6.6	0.74	0.53		2	3333332110
201611−4053.0	ESO 340−16	(R′$_2$)SB(s)a	1.0	0.82	0.50	11.2				2	1111111000
201714−4823.9	NGC 6893	(L)SA(rs)0+	−1.0	1.87	1.25		0.63	0.45			1111110110
201748−2417.2	ESO 527−19	SB(r)b:	3.0:				0.56	0.39	5.2		0111000111
201801−4446.2	ESO 285−1	(R)SB0+	−1.0	1.72	0.22	3.4					1101111000
201812−7140.1	CSRG 910	(R′)SAB(s)cd	6.0	0.53	0.45	34.2:				2	2222111000
201814−4809.9	ESO 234−9	SAB(rs)c p	5.0				0.27	0.20:		3:	0222000110
201822−2730.3	ESO 462−8	(R)SB0+:	−1.0:	0.78	0.30	25.8					1101111000
201828−4808.8	ESO 234−11	(R)SA(r)0+	−1.0	1.06	0.38		0.38	0.24			3323330220
201840−4723.2	CSRG 911	SA(rs)c: p	5.0:				0.26:	0.12:		3	0111000110

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
201844−3126.9	ESO 462−9	(R'_1)SB(r)a	1.0	0.95	0.60	74.9	0.39	0.34	20.8	2	1111111111
201851−5054.8	ESO 234−13	SAB(r)b p	3.0				0.56	0.22	2.0	2:	0111000111
201906−4203.6	ESO 340−21	SA(rs)ab	1.5				0.46	0.41		4	0222000220
201921−1657.1	MCG −3−52−2	SA(rs)cd	6.0				0.95	0.86			0111000110
201933−4426.0	NGC 6902A	RG?p		0.45	0.18						1000110000
201939−5214.7	ESO 234−15	(R′)SB(rs)a	1.0	0.81	0.45	44.5	0.39	0.30	25.2	2	2222222222
201954−6229.5	ESO 143−26	(R_1)SB(s)d	6.5	0.83	0.41	63.1					2212222000
202003−3506.5	ESO 400−10	SB(rs)b	3.0				0.45	0.26	11.7	2	0111000111
202007−5253.2	CSRG 912	(R)SA0$^+$	−1.0	0.29	0.27						2202220000
202015−5048.8	CSRG 913	(PR?)		0.48							1000100000
202028−2224.4	CSRG 914	SB(r)b:	3.0:				0.29	0.15:	51.4	m?	0111000111
202031−4409.5	ESO 285−7	SB(rl)0°	−1.7				1.12	0.54	3.3		0333000333
202042−5035.7	NGC 6899	SAB(rs)bc	4.0				0.46	0.27	83.5	4	0212000111
202051−2017.2	CSRG 915	(R'_1)SB(s)0$^+$	−0.5	0.51	0.13	17.7					2212111000
202056−2610.6	IC 4999	SAB(rs)d:	7.0:				0.67	0.39	−5.9	2	0111000111
202102−4348.9	NGC 6902	SA(r)b	3.3				0.69	0.56		6+	0333000330
202104−7246.4	ESO 46−10	RG		0.46	0.35						2000220000
202113−2019.5	ESO 596−30	SB(r)d	7.0				0.35	0.32	52.0:	3+	0111000111
202121−3254.4	ESO 400−14	(R′)SB(r)bc	3.5	0.94	0.67	32.0	0.45	0.26	37.0	2	1222111111
202122−2117.2	CSRG 916	SB(rl)0/a:	0.0:				0.29	0.15	87.0	2	0111000111
202214−3327.8	ESO 400−16	(R'_1)SB(rs)ab	2.0	0.95	0.67	14.8	0.45	0.29	12.8	2	1111111111
202234−5234.0	ESO 186−43	(R)SB(r)ab	1.5	0.96	0.61	88.4	0.37	0.19	82.4	2	1222111222
202251−1736.4	ESO 596−35	(RL)SA0$^+$	−1.0	0.73	0.63						1101110000
202359−3524.5	ESO 400−24	(R_2)SB(r)c	5.0	0.94	0.74	11.0	0.46	0.39	1.5		1111111111
202420−6153.0	ESO 143−28	SA(r)c	5.0				0.30	0.17		m	0222000220
202424−5151.4	ESO 234−32	(R′)SB(s)bc	3.7	1.68	0.39	13.0				2+1	1333111000
202431−6128.3	CSRG 917	SB(rs)c p	5.0				0.34	0.31	2.7:	1	0222000221
202506−7719.8	CSRG 918	(R'_2)SAB(s)0$^+$	−0.5	0.39	0.36	61.9:				2	2212221000
202509−1856.8	ESO 596−41	SB(r)0/a: p	0.0:				0.45	0.35	85.0:	2	0111000111
202516−3314.4	ESO 400−28	SA(rs?)bc	4.0				0.59	0.51		2	0111000110
202609−4240.3	ESO 285−19	(R)SA(r)p	?	0.78	0.56		0.20	0.15			1110110110
202612−4400.5	ESO 285−20	SA(r)bc	4.0				0.45	0.26		f	0111000110
202614−2244.6	CSRG 919	(R_1)SB0$^+$	−1.0	0.45	0.29	76.9					1101111000
202634−3908.7	ESO 340−36	SB(r)b	3.0				0.45	0.34	89.9	6	0111000111
202637−7209.7	CSRG 920	(R′)SAB(s)0$^+$	−0.5	0.29	0.23						2212110000
202642−4133.0	CSRG 921	(R_1)SB(s)a	1.0	0.70	0.50	67.1				2	1111111000
202642−4908.6	CSRG 922	(R′)SA(s)0/a:	0.0:	0.38	0.18						1111110000
202701−3222.7	ESO 462−26	(R_1)SB(r)0$^+$	−0.5	0.96	0.45	45.7	0.38	0.20	27.7		2222111111
202715−4738.4	NGC 6918	(R)SAB(rs)a	0.7	0.99	0.73	21.5	0.59	0.50	14.9	2	2333222333
202715−7220.1	IC 5009	SB(rl)0°	−1.7				0.59	0.45	9.3		0333000333
202722−5246.9	ESO 186−55	SAB(r)a	1.0				0.42	0.15	19.0		0111000111
202734−3614.7	IC 5019	(R′:)SAB(r)b	3.0	1.68	0.50	7.7	0.64	0.21	4.9		1111111111
202743−5354.4	CSRG 923	SB(rs)b	3.0				0.23	0.19	3.9:	2	0111000111
202746−4425.8	ESO 285−25	SB(r)a	1.0				0.37	0.26	31.4	2+2	0222000222
202750−1918.9	ESO 596−50	(R'_1)SB(rs)bc p	4.0	0.67	0.45	69.0				2	1111111000
202806−5745.5	IC 5017	(R_1)SAB(rl)0$^+$	−1.0	0.97	0.86	70.8	0.48	0.29	0.6		3333333333
202812−4423.2	NGC 6919	SA(rs)c	5.0				0.22			3+3	0111000100
202818−5924.4	ESO 143−30	SB(r)bc p	4.0				0.30	0.28	73.0		0111000111
202819−5103.4	ESO 234−42	SA(r)c	5.0				0.28	0.21		2:	0111000110
202840−4841.9	ESO 234−43	SB(rs)d	7.0				0.87			3:	0111000100
202841−1932.4	ESO 597−1	SAB(r)0/a	0.0				0.56	0.45	0.0	2	0111000111
202912−2010.0	CSRG 924	SA(r)0$^+$	−1.0				0.45	0.22			0111000110
202921−8057.2	CSRG 925	SAB(l)0°	−2.0				0.32	0.28	9.0		0111000111
202933−2120.2	CSRG 926	SB(r)0$^+$	−1.0				0.55	0.37	79.7		0111000111
203015−5121.1	CSRG 927	(R)SB(rs)ab p	2.0	0.55	0.51		0.30	0.30			1111110110
203019−5309.2	ESO 186−62	SB(rs)cd	5.7				0.73	0.56	0.0:		0333000111
203027−4952.8	ESO 234−46	SB:(r)bc	4.0				0.52	0.17	12.3:		0111000111
203033−2447.7	ESO 528−18	(R)S(r?)b	3.0	0.83	0.30	8.5?	0.29:	0.17:			1011111110
203037−5100.8	CSRG 928	(R′)SB(r)0/a	0.0	0.50	0.37:		0.25	0.22		2:	1111110110
203042−3349.9	ESO 400−39	SB:(r)b	3.0				0.29	0.12		2+	0111000110
203050−4936.5	ESO 234−47	(R)SABab	2.0	1.18	0.48	2.5				3?	2202221000
203107−4333.7	ESO 285−33	SAB(rs)bc	4.0				0.34	0.26	35.6:	2	0111000111
203118−2117.0	CSRG 929	(R'_2)SB(l:)0/a	0.0	0.64	0.47	52.0:				2	1111111000
203144−4151.4	ESO 340−43	SA(l)0°	−2.0				0.82	0.56			0111000110
203225−4949.8	CSRG 930	(R'_2)SB(s)a p	1.0	0.65	0.30	8.2				2	1111111000
203303−2159.9	ESO 597−14	(R'_1)SB(r)ab	2.0	1.17	0.74	103.4	0.46	0.34	4.1	2	1111111111
203307−2421.1	ESO 528−23	(R'_2)SB(s)b	3.0	1.05	0.61	22.1				2	1111111000
203334−6721.6	IC 5023	S(r)a	0.5				0.50	0.15		2:	0022000220
203343−2321.3	CSRG 931	(R′)S0$^+$	−0.5	0.47	0.13						2002110000
203344−6205.1	ESO 143−38	SB(rs)0$^+$ p	−1.0				0.46	0.41	0.3		0222000222
203412−4837.5	CSRG 932	SA(r)p					0.27	0.21			0110000110
203431−2745.1	ESO 463−8	SB(r)b:	3.0:				0.45	0.23	45.2	2+	0111000111
203435−4833.6	ESO 234−58	RG		0.36	0.26						1000110000
203439−5217.1	NGC 6935	(R)SA(r)a	1.3	1.97	1.73		0.72	0.59		f	2333220220
203501−5723.7	CSRG 933	($R_1R'_2$)SB(s)a	0.5	0.43	0.37	62.3				2	2212222000
〃	〃	〃		0.56	0.43	−13.5:					0000222000
203505−5219.2	NGC 6937	(R′:)SB(r)c	5.0	2.35	1.68	120.7	0.70	0.63	78.5	3	1333111222
203533−4117.5	ESO 341−1	SB(rs)c	5.0				0.30	0.28		2+2	0111000110
203545−4121.5	ESO 341−2	($R_1R'_2$)SB(s)a	1.0	0.57	0.50	−83.7				2	1111111000
〃	〃	〃		0.78	0.60	5.0					0000111000
203553−4446.9	ESO 285−42	SAB(rs)a p	1.0				0.74	0.41	7.3		0222000222
203639−7347.9	NGC 6932	(R_1)SAB(r)0$^+$	−1.0	1.93	1.34	29.6	0.86	0.52	9.0		2222222222
203652−5428.9	NGC 6942	(R'_2)SB(rs)a	1.0	1.42	1.15	53.6	0.73	0.73		2	2222222220
203709−5544.8	CSRG 934	(R'_1)SB(s)0/a:	0.0:	0.50	0.30	64.8				2	1111111000
203722−2257.6	CSRG 935	(R)SA0$^+$?	−1.0?	0.39	0.36						1101110000
203744−5344.6	CSRG 936	(R'_2)SB(s)b	3.0	0.59	0.38	0.0				2	1111111000
203750−2257.8	CSRG 937	(R)SB0/a	0.0	0.45	0.20	5.4				2	2201111000
203808−4914.4	ESO 234−64	(R)SA(r)a p	1.0	0.70	0.37		0.34	0.18			1111110110
203809−3240.0	NGC 6947	(R′)SB(rs)b	3.0	1.97	1.01	66.7	0.92	0.56	63.9		1111111111
203810−2222.8	ESO 597−27	SAB(r)b: p	2.5:				0.51	0.24	0.7	1?	0222000221
203842−2046.3	CSRG 938	SA(r)a	1.0				0.30	0.22		2	0111000110
203847−2112.9	CSRG 939	SB:(rs)c:	5.0:				0.25	0.23		3	0111000110
203922−5241.9	ESO 187−6	(R′:)SAB(r)b p	3.3	1.62	0.56	1.3	0.73	0.33	2.0	2	1333111333
203922−6134.6	CSRG 940	SAB(r)ab	2.0				0.42	0.40	4.9:	3	0111000111
203949−5712.7	IC 5034	SAB(rs)bc	3.5				1.02	0.59	17.0	4+	0444000222
204035−7337.8	ESO 47−12	(R'_1)SB(rl)ab	2.0	0.95	0.56	56.0	0.34	0.21	44.3	3	1222111111
204046−4754.3	CSRG 941	SB(r)0$^+$:	−1.0:				0.41	0.15	68.6		0111000111
204113−7333.7	CSRG 942	SB(r)0$^+$	−1.0				0.34	0.26	81.0		0222000111
204155−4547.9	ESO 285−49	(L)SA0°	−2.0	0.83	0.30						2202220000
204201−1819.6	CSRG 943	(R)SB0$^+$	−1.0	0.39	0.39	17.0:					1101111000
204209−3525.4	ESO 401−7	SAB(r)a p	1.0				0.89	0.40	3.3	1	0111000111
204225−5247.7	CSRG 944	SA(r)0$^+$	−0.5				0.41	0.41			0222000220
204229−6512.0	IC 5038	(R′:)SB(s)bc	4.0	0.86	0.45	2.0					1222111000
204243−5852.2	ESO 144−4	(L)SB(s)0$^+$	−0.5	0.89	0.51	21.0					2222222000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
204325−7928.7	CSRG 945	SA:(r)bc:	4.0:				0.22	0.13		2	0111000110
204328−6909.4	CSRG 946	(R)SA0°	−2.0	0.95	0.83:						1101110000
204357−2208.9	CSRG 947	SA<u>B</u>(rs)c: p	5.0:				0.39	0.23	2.3	2:	0111000111
204444−4525.7	CSRG 948	(R_1)SB0/a:	0.0:	0.39	0.28	39.6					1101111000
204506−3814.2	CSRG 949	$(R_1R'_2)$SAB:(s?)a	1.0	0.50	0.37	86.6?				2	1111111000
〃	〃	〃		0.61	0.51	8.4?					0000111000
204506−4740.5	CSRG 950	(R)SA0$^+$	−1.0	0.51	0.16						2102220000
204524−2242.6	ESO 529−4	SB(rl)0$^+$	−1.0				0.53	0.33	3.1		0222000222
204544−5523.4	CSRG 951	(R′)SB(r)a	1.0	0.73	0.56	83.0	0.35	0.30	0.0		1111111111
204559−2214.2	ESO 597−38	(R'_1)SB(s)a	1.0	0.67	0.40	73.3				2	1111111000
204605−3642.5	ESO 401−11	(R'_2)SB(s)b	3.0	0.56	0.46	51.3					1111111000
204616−7652.4	IC 5040	SA<u>B</u>(rs)c	5.0				0.34	0.15		2	0111000110
204619−5251.0	CSRG 952	(R_1)SB(r)0$^+$	−1.0	0.49	0.44	71.4	0.28	0.17	5.5		1111111111
204634−3903.0	CSRG 953	SA(rl)0$^+$?	−1.0?				0.34	0.34			0111000110
204636−7159.3	IC 5048	SB(r)ab	2.0				0.22	0.20	13.6:	2	0111000111
204645−4739.2	ESO 235−6	(R_1)SA<u>B</u>(r)0$^+$	−0.5	0.75	0.60	46.5	0.36	0.23	1.9		2222222222
204650−2553.1	ESO 529−5	(R)SB(l)0$^+$	−1.0	0.97	0.78	41.2	0.45	0.30	1.4		1111111111
204712−1743.1	ESO 597−40	SA(r)d	7.0				0.23	0.18		3+	0111000110
204729−3034.1	CSRG 954	(R)SA0$^+$	−1.0	0.58	0.26						1101110000
204738−5056.4	CSRG 955	(R'_1)SB(s)a	1.0	0.63	0.25	9.4				2	1111111000
204748−7127.9	ESO 74−16	SB(<u>rs</u>)d	7.0				0.41	0.20	73.4	2	0111000111
204802−5247.3	ESO 187−22	SA<u>B</u>(r)0$^+$	−0.5				0.58	0.28			0222000220
204803−6903.2	CSRG 956	(RL)SA(rl)0°	−2.0	0.73	0.48		0.23	0.20			1111110110
204818−5737.2	ESO 144−7	SB(r)c	5.0				0.38	0.21	23.0	2+	0111000111
204824−4404.8	ESO 286−6	SB(r)0/a p	0.0				0.59	0.26	4.0		0222000222
204832−5314.2	CSRG 957	(R'_1)SB(s)ab	2.0	0.66	0.27	32.4				2:	1111111000
204848−5725.2	IC 5064	(R'_1)SB(r:)a	1.0	0.71	0.45	16.4	0.43:	0.17	0.0:	2	2222222111
204848−7112.8	IC 5054	(R′:)SAB(r)a p	1.0	1.90:	0.39:		0.78	0.15		1+1	1222110220
204901−5225.1	CSRG 958	SA(r)0/a p	0.0				0.44	0.33		2	0333000330
204908−5221.2	ESO 235−9	SB(r)0/a	0.0				0.56	0.34	4.4		0111000111
204923−5203.3	ESO 235−10	SAB(rs)bc	4.0				0.26	0.23		2	0111000110
204925−4951.8	CSRG 959	SB(r)ab p	2.0				0.17	0.16		2	0111000110
204944−5206.9	CSRG 960	(R_1)SB(s)0°	−2.0	0.75	0.56	39.9					3313333000
205020−1909.9	CSRG 961	SA(r)cd	5.5				0.20	0.20		2:	0222000110
205056−4306.2	CSRG 962	(R'_2)SB(s)0/a:	0.0:	0.40	0.32	2.6				2	1111111000
205057−2539.7	ESO 529−11	SB(r)c	5.0				0.34	0.27	26.0	m	0111000111
205100−4416.3	ESO 286−10	(R′)SA(rs)a p	1.0	2.52	1.79		1.63	1.24		1	2222220110
205105−7025.2	CSRG 963	(R'_1)SB(s:)b p	2.5	0.51	0.34	79.6				2	1112111000
205115−4100.0	ESO 341−21	(R'_1)SB(r)ab	2.0	1.40	0.95	79.4	0.63	0.29	16.9	2	1111111111
205121−4316.0	CSRG 964	(R)SAB0°	−2.0	0.44	0.30	12.4					1101111000
205144−4922.7	ESO 235−16	(R′)SB(r)bc	3.5	1.74	0.85	53.6	0.50	0.42	7.5	2	1222111222
205145−3640.7	CSRG 965	SB(r)0$^+$	−1.0	0.66	0.51	101.5	0.30	0.26	14.0		1111111111
205145−6229.3	CSRG 966	SAB(r)bc:	4.0:				0.28	0.27		5:	0111000110
205233−4400.3	CSRG 967	$(R_1R'_2)$SB0/a	0.0	0.51	0.45	87.7					1101111000
〃	〃	〃		0.61:	0.51	−6.2:					0000111000
205302−5145.2	ESO 235−18	SB(<u>rs</u>)a	1.0				0.39	0.38		3+1	0111000110
205312−1828.8	CSRG 968	(R′)SAB(s:)0$^+$	−0.5	0.56	0.36	30.5:				2	2212111000
205340−6137.9	ESO 144−10	(RL)SB(s)0°	−2.0	0.84	0.64	87.2					2212222000
205343−5203.3	NGC 6982	(R)SB(s)0/a	0.0	1.06	0.78	51.8				1	2212222000
205358−2809.6	ESO 464−1	(R)SA:(l)0$^+$	−1.0	1.20	0.37						1111110000
205419−5203.8	NGC 6984	SB(r)c	5.0				0.36	0.29	17.8	2	0222000222
205434−5158.8	CSRG 969	(R)SA<u>B</u>(r)0$^+$	−1.0	1.16	0.47	76.0	0.42	0.24	65.2		3333332222

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
205502−5422.9	ESO 187−38	SB(r)c	5.0				0.34	0.23	3.9:	3+2	0111000111
205503−4928.7	ESO 235−23E	(R)SAB0$^+$	−1.0	1.19	0.61	7.4					1101111000
205503−4928.7	ESO 235−23W	(R)SB(r)a p	1.0	1.12	0.56:	41.0	0.63	0.40	26.4		1222111222
205504−4655.6	CSRG 970	(R'_1)Sab	2.0	0.44	0.15					2	2002220000
205505−6104.2	CSRG 971	(R_1)SB(r)a	1.0	0.67	0.48	71.8	0.30	0.27	24.6	2	2222222222
205506−1808.2	IC 1339	SB(rs)ab	2.0				0.51	0.35	4.6	2+1	0111000111
205513−7200.4	IC 5069	(R′)SA<u>B</u>(rs)cd	5.7	0.82			0.43	0.27	4.7	2	1333100221
205517−6004.2	CSRG 972	SB(rs)b	3.0				0.39	0.35	34.5	2	0222000222
205547−3939.4	ESO 341−23	(R′:)SB(s)bc:	4.0:	1.06	0.28	3.1				2	1111111000
205555−5251.5	ESO 187−42	(R′)SB(s)a	1.0	0.95	0.50	21.0					1333111000
205600−4530.8	CSRG 973	(R'_2)SB(s)a	1.0	0.56	0.26	0.5				2	1111111000
205601−4642.3	CSRG 974	(R)S0/a:	0.0:	0.44	0.16						1001110000
205645−4149.6	CSRG 975	(R′)SAB(s)a	1.0	0.46	0.39	64.7				2	1111111000
205648−5007.0	ESO 235−31	SB(r)b	3.0				0.28	0.23	16.8	2	0111000111
205652−4155.8	CSRG 976	(R′)SA(r)a	1.0	0.63	0.31		0.37	0.16		2	1111110110
205655−4627.5	CSRG 977	(R′)SA(r)0/a	0.0	0.83	0.61		0.28	0.23		2	1111110110
205700−1650.0	MCG −3−53−15	(R'_1)SB(<u>rs</u>)a	1.0	1.01	0.87	81.9	0.56:	0.37	−4.0	2	1111111111
205721−2936.4	ESO 464−11	(R'_2)SB(s)ab	2.0	1.19	0.38	1.5				2	1111111000
205721−4005.0	ESO 341−27	(R′)SA(rs)b:	3.0:	0.73	0.56		0.28	0.27			1111110110
205745−3255.6	ESO 401−27	(R:)SB0$^+$	−1.0	0.75	0.20	6.0					1101111000
205748−3846.4	ESO 341−29	(R′:)SAB(rs)ab	2.0	1.12	0.84	91.3?	0.69	0.49	55.0?	2	1111111111
205801−4606.6	ESO 286−25	SA(rs)c	5.0				0.30	0.16		4	0111000110
205802−2931.9	ESO 464−13	(R'_2)SB(s)a	1.0	0.94	0.38	48.9				2	1111111000
205809−4614.0	ESO 286−26	S(rl)0°	−2.0				0.50	0.32			0011000110
205814−7253.1	IC 5073	SA<u>B</u>(<u>rs</u>)bc	4.0				0.29			2+2	0333000200
205821−4945.2	CSRG 978	(R)SA(rl)0°	−1.5	1.03	0.50		0.41	0.25			2222220220
205832−1738.8	CSRG 979	(R'_2)SB(s)0/a	0.0	0.39	0.38:						2222110000
205901−2447.2	ESO 529−16	(R′)SA<u>B</u>(rs)ab	2.0	0.86	0.70:		0.41	0.28:		2+2	1111110110
205906−4341.3	ESO 286−28	(R′)SB(s)a?	1.0?	0.78	0.13:	3.4:					1111111000
205916−4833.3	ESO 235−39	SA(<u>rl</u>)0°	−2.0				0.76	0.53			0212000110
205919−6847.0	CSRG 980	(R'_2)SB(r)ab p	2.0	0.52	0.42	14.2	0.26	0.16	0.8	2	3333222222
205943−7204.1	IC 5075	(R′)SA:(s:)a	1.0	0.61	0.28					1+1?	1111110000
205956−4941.8	CSRG 981	(RL)SAB0° p	−2.0:	0.63:	0.40:						1101110000
210000−4824.1	ESO 235−42	(R′)SB(r)a	1.0	0.84	0.50	47.0	0.50	0.32	25.5		1111111111
210003−6844.3	CSRG 982	SB(r)ab:	2.0:				0.22	0.12	31.4	2	0222000222
210033−7259.1	CSRG 983	(R′)SA(s)0$^+$	−0.5	0.45	0.34						2212110000
210034−4918.7	NGC 7004	(R'_2)SAB(s)a	0.5	1.08	0.35	4.9				2	2222222000
210047−4641.7	CSRG 984	(R_1)SB0$^+$	−1.0	0.32	0.27	87.3					1101111000
210052−8111.4	CSRG 985	SA<u>B</u>(rs)a: p	1.0:				0.46	0.29			0111000110
210053−4012.2	ESO 341−36	(R)SA(r)0$^+$	−1.0	0.82	0.45		0.41	0.17			1111110110
210055−4331.9	CSRG 986	(L)SB0°	−2.0	0.50	0.30	13.6					1101111000
210101−4826.3	ESO 235−47	SB(r)a	1.0				0.48	0.32	27.8	2	0111000111
210118−5201.3	ESO 235−50	SA(rl)0°	−2.0				0.40	0.37			0111000110
210122−3426.8	ESO 402−5	(R′)SA(r)ab	2.0	0.77	0.51		0.51	0.26		2	1111110110
210128−4719.3	ESO 286−37	$(R_1R'_2)$SA(rs)a	0.7	1.12	0.28					2	2123220000
〃	〃	〃		1.42	0.29					2	0000220000
210130−3954.5	ESO 342−2	(R'_1)SB(s)a	1.0	1.19	0.26	10.3					1111111000
210132−2158.9	ESO 598−20	SB(r)c	4.5				0.44	0.34	12.2	2+	0222000222
210153−2919.1	ESO 464−21	(R)SB0$^+$	−1.0	0.95	0.63	87.0					1101111000
210202−5234.7	CSRG 987	SB(r)b	3.0				0.34	0.28	0.0	4	0111000111
210204−7747.4	CSRG 988	(R′)SA<u>B</u>(rs)a: p	1.0:	0.85	0.39	6.0	0.45	0.19	7.7		1111111111
210211−5154.5	ESO 235−54	(R′)SA:(r)a	1.0	0.95	0.49		0.51	0.22			1111110110

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
210229−4824.4	ESO 235−55	(R′)SAB(rs)bc	3.5	2.85	2.62		0.61	0.61		2i,8o?	1222110210
210238−4712.1	CSRG 989	(L)SAB0°	−2.0	0.51	0.30	1.7					1101111000
210244−4538.0	ESO 286−46	(R?)SABa p	1.0	0.79	0.40	15.3					2202221000
210303−4819.3	ESO 235−58	(PR?)SB:(rs:)cd: p	6.0:				1.50	0.56	42.5	2	1111000221
210313−2432.0	CSRG 990	(R)SA0+:	−1.0:	0.51	0.40						1101110000
210316−2432.9	CSRG 991	(RL)SB(rl?)0+	−1.0	0.49	0.38	15.7	0.22	0.12:	2.3:		1111111111
210327−5452.7	CSRG 992	(R'_2)SAB(s)b	3.0	0.56	0.35	60.0:				2	1111111000
210349−4447.3	ESO 286−56	(R′)SAB(r)b: p	3.0:	0.74	0.63		0.25	0.22		1	1111110110
210349−4745.4	ESO 235−61	SB(rs)d	7.0				0.61	0.34	2.6		0111000111
210414−2414.8	ESO 529−24	($R_1R'_2$)SAB(r)0/a	0.0	0.74	0.40	23.6	0.34	0.17	7.0	2	1111111111
〃	〃	〃		0.96	0.48	10.7					0000111000
210415−3953.3	CSRG 993	(R'_2?)SB(s)a:	1.0:	0.49	0.38	24.6					1111111000
210416−6731.3	ESO 74−25	SA(r)c	5.0				0.26	0.24		4+	0222000220
210428−3953.5	CSRG 994	(R)SB(r)a	1.0	0.89	0.50	76.4	0.31	0.25	46.5		1111111111
210435−2318.5	CSRG 995	(R)SB(rl)0+:	−1.0:	0.53	0.32	21.2	0.29	0.19	4.1		2111111111
210500−2551.3	ESO 530−1	SAB(r′l)a	1.0				0.28	0.17	7.3	2	0111000111
210530−4256.4	CSRG 996	($R_1R'_2$)SB(l)0/a	0.0	0.50	0.41	64.9:	0.25	0.18	0.0		1111111111
〃	〃	〃		0.67:	0.59	2.6					0000111000
210531−4429.5	CSRG 997	(R)S0+	−1.0	0.37	0.22						1001110000
210538−2409.8	ESO 530−3	(RL)SAB?0+:	−1.0:	0.67	0.42						1101110000
210608−4930.4	NGC 7022	(L)SB(r)0−	−2.5	1.34	1.01	16.4	0.56	0.37	5.0		1212111111
210615−4344.3	ESO 286−61	(R′)SA(s)ab p	2.0	0.50	0.39					2	1111110000
210632−4543.9	ESO 286−63	SAB(rs)bc:	4.0:				0.84	0.40	6.7		0111000111
210633−2305.0	IC 5088	SA(r)0/a	0.0				0.55	0.40			0111000110
210708−4742.8	CSRG 998	(R)SA(r)0+	−1.0	1.10	0.86	46.0	0.50	0.47	−11.9:		2222221221
210713−6413.8	NGC 7020	(R)SA(r)0+	−1.0	2.58	1.25		1.17	0.42			2222220220
210719−2943.9	ESO 464−26	(R′)SB(s)ab:	2.0:	1.19	0.28	15.6				2	1111111000
210737−4431.5	ESO 286−68	(R′)SAB(s)b p	3.0	0.67	0.28	24.4				1	1111111000
210744−2316.4	CSRG 999	SB(rs)a	1.0				0.27	0.21	22.5	2	0222000111
210753−4701.0	ESO 286−71	SAB(rs)c	4.5				0.31	0.17		f	0222000220
210836−6831.4	CSRG 1000	(R′:)SA(s)0/a:	0.0:	0.54	0.39						1111110000
210837−4607.1	ESO 286−74	SAB(rl)b	3.0				0.42	0.28	18.5	2	0222000221
210841−3703.3	CSRG 1001	(R'_1)SB(s)b	3.0	0.49	0.32	86.0					1111111000
210844−4715.8	ESO 286−75	SA(rs)c	5.0				0.23	0.22		4+	0222000110
210846−2042.8	CSRG 1002	(R_1)SB0+	−1.0	0.63	0.40	46.0					2202111000
210858−4256.0	CSRG 1003	(R'_1)SAB(s)a	1.0	0.45	0.32	33.7				2	1111111000
210928−5319.2	CSRG 1004	(R_1)SAB(r)0/a:	0.0:	0.55	0.40		0.26	0.15			1111110110
210933−1856.8	CSRG 1005	(R′)SAB(s)0/a	0.0	0.45	0.39					2	2212110000
210950−2321.1	ESO 530−23	SB(r)ab	2.0				0.31	0.26	67.4	2+	0111000111
210957−4809.6	CSRG 1006	(R'_1)SB(s)a	1.0	0.39	0.35	81.5				2	1111111000
211007−2044.8	ESO 598−32	(R′)SB(s)a	1.0	0.66	0.31	74.0:					1111111000
211028−3521.6	ESO 402−16	(R'_2?)SB(r)bc	4.0	1.26	0.87	2.0	0.31	0.25	−39.1	2	1111111111
211050−4338.9	CSRG 1007	(R'_2)SB(s)b	3.0	0.39	0.32	6.9				2	1111111000
211053−4904.1	ESO 235−78	SB(r)ab:	2.0:				0.34	0.17	42.6	2	0111000111
211057−6829.8	NGC 7032	SA(rs)bc	4.0				0.23:	0.20		2	0222000110
211058−4712.7	CSRG 1008	(R'_1)SB(s)a	1.0	0.50	0.28	34.8				2	2222222000
211146−4725.7	NGC 7038	SA(s)c	4.7				0.67	0.50		4+	0333000110
211207−6440.4	IC 5092	(R′)SB(rs)c p	5.0	2.16	1.96	62.2	0.89	0.67	2.5		2222222111
211212−4659.3	ESO 286−80	(R′)SAB(s)b	3.0	1.17	0.56	3.6				2	1222111000
211222−7034.6	CSRG 1009	SA(s)b? p	3.0?				0.59	0.48		2:	0111000110
211243−7054.9	CSRG 1010	(R'_1)SB(s)a	1.0	0.38	0.28	2.4				2	1111111000
211332−6009.4	IC 5095	(R)Sbc	4.0	0.67	0.28						2002220000
211334−6638.3	IC 5094	SB(r)c	4.5				0.31	0.24	28.5	6	0222000212
211359−5203.5	CSRG 1011	(R'_1)SB(s)a p	1.0	0.63	0.18	76.1				2	1111111000
211417−4656.1	ESO 287−3	SB(rs)c	5.0				0.26			4	0111000100
211429−4831.4	ESO 235−83	SB(rl)0°	−2.0				0.43	0.37	63.6		0222000222
211436−2301.5	ESO 530−30	SB(rs)a	1.0				0.73	0.59	39.0	3	0111000111
211450−2258.9	ESO 530−31	SB(rs)ab:	2.0:				0.46	0.32	86.6	2	0111000111
211521−6715.9	ESO 107−20	($R_1R'_2$)SAB(r)0/a	0.0	1.05	0.67	49.7	0.35	0.24	19.3	2	4444344444
〃	〃	〃		1.29	0.89:	22.3					0000111000
211525−2251.6	CSRG 1012	(R′)SB(r)a	1.0	0.56	0.34	40.6	0.22	0.20	39.8	2	1111111111
211633−5116.2	ESO 236−3	SA(rs)bc	4.0				0.37	0.28		3:	0111000110
211658−3958.8	ESO 342−35	(R'_1)SB(rs)a	1.0	1.79	1.17	85.5	0.59	0.53	16.0	2	1111111111
211735−3235.8	ESO 402−24	(R′?)SB(r)0/a:	0.0:	1.40	0.67	22.5	0.49	0.36	18.5	2	1111111111
211748−4743.7	ESO 236−6	SB(rs)cd	5.8				0.50	0.32	5.5	2+	0444000443
211833−6752.4	ESO 75−5	(RL:)SA0° p	−2.0:	0.84	0.47						1101110000
211900−6954.0	ESO 75−6	(R'_2)SB(r)b p	2.7	1.04	0.77	12.5	0.41	0.37	29.7	2:	2333222332
211901−4100.6	ESO 342−36	SB(r:)ab: p	2.0:				0.29	0.23	2.6		0111000111
211926−3653.7	ESO 402−26	(R'_1)SAB(r)b	3.0	1.74	0.64	34.9	0.55	0.27	18.5	2	2222221221
211926−4958.7	CSRG 1013	(R_1)SB(r)0+	−1.0	0.84	0.41	65.9	0.33	0.26	34.5		2222222222
212011−2242.9	ESO 530−42	SA(l)0+:	−1.0:				0.56	0.30:			0111000110
212103−4929.7	ESO 236−8	($R_1R'_2$)SB(s)b p	2.5	0.76	0.55	85.4				2	2222222000
〃	〃	〃		1.04	0.79	37.0					0000222000
212220−4254.7	ESO 287−19	(R)SB0+	−1.0	1.26	0.17	4.0					2102221000
212221−4029.4	IC 5105A	SAB(rs)bc	4.0				1.40	0.50		8	0111000110
212224−4228.4	CSRG 1014	(R′)SAB:(s)c: p	5.0:	0.39	0.34					1	1111110000
212240−4903.9	ESO 236−11	SAB(r)c	4.5				0.40	0.21	80.5	2	0122000221
212241−4237.6	NGC 7060	(R'_1)SB(rs)ab	1.5	1.63	0.84	69.4	0.67	0.45	39.0	2	2222222222
212243−3417.7	ESO 402−28	SB(r)a	1.0				0.34	0.22	71.4	2:	0111000111
212304−2258.7	ESO 530−46	(R'_2)SB(r)c	5.0	0.97	0.85	13.4	0.37	0.28	−7.7	2+2	1111111111
212308−4326.3	ESO 287−26	(R′)SB(s)a	1.0	0.96	0.34	12.0				2	1111111000
212329−5031.1	CSRG 1015	(R'_2)SB(s)a	1.0	0.38	0.38					2	1111110000
212410−6105.4	CSRG 1016	SAB(r)0+	−1.0				0.57	0.22	43.9		0222000221
212411−2312.6	ESO 530−47	(R'_2?)SAB(r)a	1.0	1.29	0.66	9.4	0.56	0.28	5.9	2	1111111111
212413−7417.3	IC 5103	(R′)SB(rs)bc	4.0	0.89	0.64	61.8				4	2222222000
212422−7720.0	ESO 47−32	SA(r)bc	4.0				0.27	0.13		3	0111000110
212457−7407.4	CSRG 1017	(R)SB0°	−2.0	0.61	0.50	39.7					1101111000
212509−8038.2	CSRG 1018	(R?)SA(r)0+:	−1.0:	0.93:	0.86:		0.22	0.22			1111110110
212555−4159.8	ESO 342−52	(R′)SB(r)b p	2.5	0.78	0.73	70.9:	0.35	0.23	5.1:	3	1222111222
212639−2320.2	ESO 530−53	SB(r)0/a?	0.0?				0.55	0.20	1.5	2	0111000111
212641−3948.9	CSRG 1019	(R?)SB(r)0+	−1.0				0.29	0.21	1.8		1111000111
212657−4707.3	CSRG 1020	(R′)SB(r)a p	1.3	0.59	0.50	68.6	0.29	0.22	20.9	1+1	3333222222
212658−6013.3	IC 5110	$SB(r:)_\rho$					0.68	0.56			0110000110
212713−4039.5	ESO 343−1	(R)SB(s:)ab	2.0	0.96	0.38	7.4				2:	1111111000
212725−5410.0	ESO 188−10	SA(rs)c	5.0				0.30	0.26:		5+	0111000110
212801−7200.1	CSRG 1021	SA(rs)b:	2.5:				0.34	0.23		2	0222000220
212807−7253.0	IC 5108	(R′)SB(s)bc	4.0	0.82	0.29	7.0					1111111000
212818−4706.4	ESO 287−33	SAB(r)bc	4.0				0.32	0.29	72.2	3+1	0333000332
212825−3623.4	ESO 403−4	(R'_1)SB(s)a	1.0	0.95	0.51	50.2				2	1111111000
212830−5039.1	CSRG 1022	(R)SAB0/a:	0.0:	0.39	0.26						1101110000
212836−4304.0	NGC 7070A	(R′)SB(l)0/a p	0.0	2.09	1.81	45.6	1.05	1.02		2:	2222222220
212837−4616.8	ESO 287−35	SAB(r)a	1.0				0.52	0.38	11.8	2	0222000222
212906−3102.6	ESO 465−6	(R?)SB0+: p	−1.0:	0.84	0.40	2.0					1101111000
212922−4417.3	NGC 7079	(L)SB(r)0°	−2.0	1.43	0.87	26.0:	0.56	0.46	35.4		2212221111

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
212925−5126.7	CSRG 1023	$(R_2)SB0^+$	−1.0	0.39	0.26	12.6					1101111000
212959−2304.7	CSRG 1024	$(R'_2)SB(s)a$	1.0	0.59	0.17	8.0				2	1111111000
213119−4432.2	ESO 287−37	SB(rs)cd	6.0				1.08	0.85	62.2		0222000111
213126−4533.0	CSRG 1025	(R)SB0/a:	0.0:	0.30	0.27	61.4				1?	1101111000
213140−7929.4	ESO 26−9	(R)SB(l:)0/a	0.0	0.61	0.38	0.8	0.39	0.18:		2	1111111110
213150−6407.7	NGC 7083	SAB(rs)c	5.0				0.77	0.39	12.8		0112000111
213154−5831.2	CSRG 1026	(R′)SAB(rs)b	3.0	0.86	0.56	55.9	0.42	0.30	65.0	4	1222111222
213156−6300.2	ESO 107−37	SAB(rs)b:	3.0:				0.38	0.22		2	0111000110
213205−5726.7	CSRG 1027	(R)SB(s)0/a	−0.2	0.50	0.31	19.4					4414333000
213213−2029.2	ESO 600−1	SA(rl)a	1.0				0.45	0.18		2	0111000110
213231−2652.9	ESO 531−8	$(R'_2)SB(s)c?$	5.0?	0.67	0.38	4.4				2	1111111000
213243−5354.9	CSRG 1028	SA(r)p					0.46	0.44			0110000110
213247−1915.3	ESO 600−2	SA(r)c	5.0				0.45	0.22		4	0111000110
213358−2301.8	ESO 531−9	SB(r)a:	1.0:				0.45	0.18	49.4	3?	0111000111
213412−4715.6	ESO 287−40	RG?p		0.73	0.54						3000330000
213456−4759.9	ESO 236−26	SAB(r)bc p	4.0				0.26	0.20	45.8		0233000222
213551−5333.1	CSRG 1029	$(R'_2)SB(s)ab$	2.0	0.70	0.39	3.9				2	2222222000
213607−4923.2	ESO 236−29	(R)SA(r)0/a	0.0	1.16	0.64		0.65	0.37			2222220220
213636−2239.6	ESO 531−13	$SB(rs)0^+:$	−1.0:				0.35	0.17	87.3		0111000111
213645−4306.4	ESO 287−45	(R′)SAB(rs)b	3.0	1.07	0.39	32.3	0.48	0.29	26.5	2+2	2222221221
213649−4419.3	ESO 287−46	SB(rs)c	4.5				0.51	0.22	6.1	3:	0222000222
213650−3615.8	ESO 403−12	(R:)SAB(r)a p	1.0	1.54	1.23	10.0	0.67	0.67			1111111110
213653−2214.3	ESO 600−6	(R′)SB(r)a	1.0	0.89	0.72	16.7	0.45	0.21	−10.7	2	1111111111
213702−4211.3	CSRG 1030	(R)SBa	0.5	0.49	0.20	3.3					2202222000
213702−4213.0	CSRG 1031	SAB(rs)ab?	2.0?				0.37	0.25		2	0111000110
213727−6408.3	NGC 7096	(R′)SA(rs)ab	1.5	1.46	1.21		0.85	0.60		2	2222220110
213733−4451.2	CSRG 1032	(R′)SB(s)a	1.0	0.41	0.26	39.9				2	1111111000
213750−2243.2	CSRG 1033	SB(r)a:	1.0:				0.28	0.23	3.7		0111000111
213755−5159.4	ESO 236−31	(R′)SB(rs)b:	3.0:	0.89	0.51:	9.1:	0.50	0.26	−4.4	2:	1111111111
213843−2649.2	ESO 531−23	SA(r)bc	3.5				0.40	0.25		3:	0222000220
213846−8002.2	CSRG 1034	SB(r)	?				0.28	0.28:			0110000110
213912−3423.4	NGC 7110	SB(r)b	3.0				0.49	0.25	16.6	3	0111000111
213913−5255.7	NGC 7106	SAB(rs)c	5.0				0.43	0.32	49.5	6+	0333000221
213915−4501.3	NGC 7107	SB(rs)cd	6.0				0.73	0.54			0111000110
213919−7520.5	NGC 7098	(R)SAB(r)a	1.0	3.61	2.15	33.4	2.14	1.09	20.4		2222222222
213928−4813.2	ESO 236−35	SAB(rs)c p	4.5				0.58	0.42:	16.0	3	0222000221
213945−4703.0	CSRG 1035	$(R'_1)SB(rs)a$	1.3	0.51	0.39	71.8				2	3333333000
214005−4832.9	ESO 236−37	SA(rs)bc	3.5				0.40	0.26		m	0222000110
214006−3851.5	ESO 343−21	SA(rl)a	1.0				0.47	0.45		2+1	0111000110
214007−3911.8	IC 5128	$(R_1)SB(r)0^+$	−1.0	0.95	0.50	43.0	0.40	0.23	4.4		1111111111
214016−7239.1	IC 5123	(R)SAB(r)ab	2.0	0.95	0.50		0.59	0.22			1222110220
214052−7503.7	ESO 48−7	$(R'_2)SB(s)b$	2.5	1.37	0.40	0.8				2	2222222000
214054−4326.4	ESO 287−55	SAB(r)c	5.0				0.40	0.25	70.9:	2	0222000221
214107−4630.7	ESO 287−56	$(R'_1)SB(s)a$	1.0	0.73	0.32	34.6				2	1111111000
214115−4524.1	CSRG 1036	SB(rs)b	3.0				0.29	0.17	75.6	2	0111000111
214303−4644.8	NGC 7119A	SB(r)ab p	2.0				0.64	0.37	5.9		0111000111
214312−5355.2	CSRG 1037	$(R'_1)SB(s)a$	1.0	0.48	0.18	87.2				2	2212221000
214436−3604.1	ESO 403−28	SB(r)b	3.0				0.32	0.22:	15.1	2	0111000111
214447−5047.8	NGC 7124	SB(rs)c	5.0				0.71	0.36	1.3	2	0222000222
214450−5512.9	CSRG 1038	SB(rs)b	2.7				0.26	0.25	44.4:	2	0333000331
214453−3421.6	CSRG 1039	$SA(r)0^+$	−1.0				0.39	0.28			0111000110
214525−7158.2	CSRG 1040	$SB(r:)0^+$	−1.0				0.45	0.17			0111000110
214532−5610.1	CSRG 1041	SA(r)c	5.0				0.28	0.12		2	0111000110
214533−4753.8	CSRG 1042	$(R_1)SB0^+$	−1.0	0.38	0.28	79.9					1101111000
214536−5916.2	ESO 145−16	(R′:)SAB(rs)ab	2.0	0.85	0.56:		0.40	0.27		2	1333110330
214537−6056.7	NGC 7125	SAB(s)c	5.0				0.59	0.39		2+7	0222000110
214539−6050.5	NGC 7126	SA:(rs:)bc	3.7				0.56	0.29		2	0333000110
214546−6103.0	CSRG 1043	$(R_1)SB(r)a$	1.0	0.63	0.45	78.0	0.32	0.28	−20.7		2222222222
214553−5723.9	CSRG 1044	$(R_1)SBa?$	1.0?	0.38	0.29	21.5					1101111000
214609−7409.6	CSRG 1045	SB:(r:)0/a	−0.3				0.53	0.20	78.0:		0223000111
214622−4525.4	ESO 288−10	SA(rs)b p	3.0				0.47	0.40		2	0111000110
214647−3801.1	ESO 343−31	SB(r)ab: p	2.0:				0.34	0.25	36.3		0111000111
214702−7513.5	CSRG 1046	(R)SB(r)0/a	0.0	1.29	0.67	27.0	0.50	0.26	26.5		1222111111
214711−7200.0	CSRG 1047	(R)SB(l)0/a	0.0	0.51	0.41	78.0	0.23	0.20			2212111110
214717−4633.2	ESO 288−11	SA(rs)bc	4.0				0.22	0.12		2:	0111000110
214733−5447.2	ESO 189−5	SA(rs)bc	3.5				0.34	0.33		2	0222000220
214849−5548.3	NGC 7141	$(R'_2)SB(rs)b$	3.0	4.19	2.80	12.5	1.90	0.92	2.0	3	1111111111
214854−7115.5	ESO 75−33	SB(rs)cd? p	6.0?				0.45	0.22	47.6	2	0111000111
214908−4726.4	CSRG 1048	SA(r)c	5.0				0.20	0.13		2	0111000110
214915−6911.4	IC 5138	(R′)SB(r)b	3.0	1.39	0.68	1.1	0.56	0.26	17.2	2+2	2222222222
214939−3644.3	ESO 404−3	SB(r)bc p	4.0				0.73	0.39	13.5		0111000111
214943−5943.8	IC 5141	SAB:(r:)b	3.0				0.37	0.32	0.0	4	0333000111
214948−5855.9	CSRG 1049	(R′)SB(s)a:	1.0:	0.39	0.16	71.7				2	1111111000
215036−4345.2	ESO 288−17	(R′)SB(s)d	7.0	0.67	0.49	25.1				2	1111111000
215042−5547.7	ESO 189−9	(R)SAB(r)b: p	3.0:	0.74	0.47	19.4	0.30	0.25	30.9		1111111111
215044−5831.5	CSRG 1050	$(R'_1)SB(r)a$	1.0	0.74	0.42	89.0	0.32	0.22	−9.9	2	1111111111
215047−5850.3	ESO 145−26	SA(r)ab: p	2.0:				0.78	0.59		1:	0111000110
215129−6544.8	IC 5142	SAB(rs)c	5.0				0.54	0.34		m	0222000220
215147−5053.6	NGC 7151	SA(rs)c	5.0				0.50	0.17			0222000110
215152−5548.6	ESO 189−10	(R)SB(s)0/a	0.0	1.01	0.85	83.5				2	1111111000
215154−4538.9	CSRG 1051	SB(r)b: p	3.0:				0.26	0.21	0.0		0111000111
215248−5931.8	ESO 146−1	SB(rs)c:	4.5:				0.36	0.20	19.9:	1+3?	0222000221
215255−4945.5	NGC 7155	SB(r)0°	−1.5				1.07	0.88	87.0		0222000222
215300−4332.2	CSRG 1052	(R′)SB(r)a	1.0	0.61	0.53	47.7	0.38	0.25	−68.2	2	2222222222
215312−5547.6	CSRG 1053	$SA(rl)0^+$	−1.0				0.40	0.34			0111000110
215325−7024.7	ESO 75−43	(R)SB0/a p	0.0	0.48	0.44	32.6					2202221000
215340−4504.3	CSRG 1054	$(R)S0^+$	−1.0	0.50	0.38						1001110000
215346−3643.8	ESO 404−11	$(R'_2?)SB:(r)ab$	2.0	1.62	0.50	9.0:	0.48	0.19	9.3		1111111111
215406−2535.3	NGC 7157	$(R)SB(r)0^+$	−1.0	0.78	0.39	63.8	0.45	0.22	60.9		1111111111
215409−3449.3	ESO 404−12	SAB(r)c	5.0				0.39	0.39		m	0111000110
215427−5506.7	ESO 189−15B	$(R'_2)SAB(s)b$	3.0	0.47	0.29	30.6				2	1111111000
215435−2858.6	ESO 466−19	$(R'_1)SB(r)a$	1.0	0.95:	0.73	93.2	0.45	0.39	6.6	2	1111111111
215440−5722.9	ESO 189−16	$(R'_2)SB(s)0/a$	0.2	0.93	0.49	12.8				2	4444444000
215450−5722.3	CSRG 1055	$SAB(r)0^+:$	−1.0:				0.27	0.17	12.7		0222000222
215456−4845.1	ESO 237−21	$(R)SA(r)0^+$	−1.0	0.82	0.39		0.29	0.16			1111110110
215506−6943.5	ESO 75−45	SB(r)0/a p	0.0				0.45	0.28	6.1		0222000222
215509−5854.6	CSRG 1056	SAB(s)bc	4.0				0.39	0.22		2	0222000110
215519−2737.9	IC 5149	(R′)SA(r)a	1.0	1.15	0.36		0.31	0.17		2	2112220110
215525−2507.6	ESO 532−6	$(R'_1)SB(r'l)a$	1.0	0.96	0.63	50.0	0.45	0.21	13.6	2	1111111111
215537−6541.4	IC 5147	SB(r)bc	4.0				0.56	0.23	3.5	6	0222000222
215544−7154.0	ESO 75−46	$(R_1)SB(r)a$	1.0	0.72	0.42	86.8	0.32	0.30	71.8:	2	2222222222
215606−5459.8	ESO 189−18	(R′)SB(s)a	1.0	0.89	0.17	6.9				2	1111111000
215625−3207.4	NGC 7163	SB?(r)b?	3.0?				0.92	0.31	26.0?	2	0111000111
215633−4332.7	NGC 7162	(R′)SA(r)bc	3.5	2.63	0.95		0.62	0.27		2:	1222110220

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
215756−2003.0	ESO 601−3	SA(rl)a	1.0				0.37	0.36		2	0111000110
215756−5823.2	CSRG 1057	(R'_2)SAB(s)b	3.0	0.64	0.34	2.3				2	2222221000
215833−4240.8	ESO 288−32	(R'_2)SB(s)b	2.5	0.56	0.34	9.4				2	2222222000
215838−6255.9	CSRG 1058	(R'_1)SBa	0.5	0.43	0.28	71.4				2	2202222000
215842−5910.8	CSRG 1059	(R_1)SB0$^+$	−1.0	0.50	0.29	10.6					1101111000
215844−5908.7	CSRG 1060	(R_1)S(l)0/a?	0.0?	0.40	0.23						1011110000
215846−5218.0	ESO 237−25	(R'_2)SB(s)ab	2.0	0.85	0.64	19.0				2	1111111000
215904−2243.6	ESO 532−12	(R'_1)SAB(r)0/a	0.0	0.74	0.61	7.4	0.45	0.18	4.0		1111111111
215912−7120.7	ESO 75−51	(R'_1)SAB(r)ab	2.0	0.67	0.60	55.2	0.34	0.29	−20.9	2	1111111111
215913−4119.9	ESO 344−7	SA:(rs)a	1.0				0.57	0.56		2	0111000110
215917−4600.2	CSRG 1061	(R)SAB(r)0$^+$	−1.0	0.59	0.41	53.5	0.27	0.22	9.0		1111111111
215927−7419.8	ESO 48−15	SB(rs)c	5.0				0.34	0.27			0111000110
215948−3302.7	NGC 7187	(R)SAB(r)0$^+$	−1.0	1.62	1.23		0.61	0.57			1111110110
215950−5041.0	ESO 237−30	SAB(rs)ab p	2.0				0.52	0.25		2+	0222000220
215952−2103.3	NGC 7184	SB(r)c	5.0				1.67	0.43	77.0:		0111000111
220009−7157.9	CSRG 1062	(R'_2)SAB(rs)bc	3.7	0.64	0.59	41.0	0.25	0.16	19.8	2	3333221222
220019−3404.8	IC 5156	SB(rs)ab	2.0				1.18	0.34	11.2		0111000111
220029−4910.5	ESO 237−31	(R′)SAB(s)a	1.0	0.76	0.46	10.3				2	1111111000
220033−5650.6	CSRG 1063	SAB(r)a:	0.5:				0.29	0.22	33.1	3	0222000222
220043−2033.6	NGC 7188	(R'_2)SB(s)bc	4.0	0.97	0.45	79.4					1111111000
220045−7156.8	CSRG 1064	(R'_2)SAB(s)bc	3.7	0.45	0.34	37.0					3313221000
220059−5313.0	CSRG 1065	SB(rs)b	3.0				0.27	0.17		4	0111000110
220105−2007.4	ESO 601−12	SA:(r)ab	2.0				0.51	0.15			0111000110
220108−6417.3	NGC 7179	SB(r)b	3.0				0.89	0.39	1.8	4	0222000222
220141−5744.1	CSRG 1066	SB(rs)ab	1.5				0.34	0.27	0.6	5	0222000221
220153−2638.7	ESO 532−17	SB(rs)d:	7.0:				0.34	0.19	16.1		0111000111
220217−5631.2	CSRG 1067	(R′)SB(s)d	7.0	0.34	0.25	49.1				2	1111111000
220225−7154.9	CSRG 1068	(R'_1)SB(r)a	0.5	0.89	0.50:	78.4	0.34	0.22	57.0	2	2222111111
220310−6452.7	NGC 7191	SAB(rs)c	4.5				0.56	0.23	6.3		0222000111
220324−2812.2	ESO 467−3	SAB(r)b p	3.0				0.61	0.40	4.2	2	0111000111
220327−2732.4	CSRG 1069	(R′)SAB(r′l)a	1.0	0.61	0.53	41.1	0.34	0.18	7.7	2	1111111111
220350−3127.8	NGC 7202?	(R′)SB(r)a	1.0	1.40	0.61	72.9	0.63	0.34	69.0	2	1111111111
220434−7337.6	ESO 48−17	SB(rs)cd	6.0				0.73				0222000100
220440−5329.7	ESO 189−24	(R′)SB(rs)a: p	1.0:	0.84	0.61	84.3	0.34	0.23	75.2:	2+2	1111111111
220448−6457.1	NGC 7199	SAB(r)a	1.0				0.58	0.48	0.0	2	0222000221
220505−5737.9	CSRG 1070	(R)SB0°	−2.0:	0.40	0.38						1101110000
220537−1919.1	ESO 601−21	SB(r)bc	4.0				0.28	0.26	7.5	2	0111000111
220602−2134.3	CSRG 1071	(R'_2)SB(s)bc	3.5	0.50	0.44	41.0				2	1112111000
220621−2724.8	ESO 532−22	SAB(rs)d:	7.0:				0.98:	0.45	82.1:	2	0111000111
220627−6449.4	IC 5165	SAB(rs)ab	2.0				0.61	0.22	43.5	2	0222000222
220639−6544.9	ESO 108−16	(R′)SAB(l)0$^+$	−0.5	0.79	0.39					2	2222220000
220651−4955.3	CSRG 1072	(R)SAB0$^+$	−1.0	0.52	0.41	17.4					2202222000
220700−2746.9	ESO 467−16	(R'_2:)SB(rl)a	1.0	0.95	0.83	7.0	0.36	0.25	−13.4	2	1111111111
220713−3620.1	IC 5169	(R_1)SAB(r)0$^+$	−1.0	2.01	0.84		1.01	0.23			1111110110
220729−1654.5	NGC 7218	SB(r)c	5.0				0.84	0.45	63.0		0111000111
220735−4330.0	ESO 288−45	SB(r)b	2.5				0.45	0.27	10.2	2:	0222000222
220747−2254.2	ESO 532−25	SB(r)bc	4.0				0.49	0.45	13.4	3+	0222000222
220750−2808.6	ESO 467−17	SA(rs)bc	4.0				0.45	0.34		2+2	0111000110
220750−4619.7	IC 5171	(R′:)SB(r)b	3.0	2.57	0.38	19.4	1.18	0.20	12.9	4:	1222111222
220814−4230.3	CSRG 1073	(R)SA(r)ab? p	2.0?	0.61	0.47		0.31	0.17			1111110110
220823−3048.6	NGC 7221	SB(rs)b	3.0				0.74	0.61	71.1	4+	0111000111
220840−5343.0	CSRG 1074	(R)SBab: p	2.0:	0.72	0.22	7.9					1101111000
220848−5618.0	CSRG 1075	SA(r)bc	4.0								0111000110
220903−5432.8	ESO 189−28	SB(rs)ab	2.0								0111000111
220929−6505.7	NGC 7219	(R'_2)SA(r)b	3.0	1.40	0.84						2222220110
220947−3825.2	IC 5174	SB(rs)p									0110000110
221020−4710.1	ESO 289−2	(R′)SAB(rs)bc:	3.5:	0.63	0.29	82.3					1222111221
221035−2259.2	CSRG 1076	($R_1R'_2$)SB:(l:)0/a	0.0	0.34	0.23						1111110000
〃	〃	〃		0.40	0.35						0000110000
221036−4608.5	NGC 7232A	(R′:)Sa	1.0	1.45	0.22:						1001110000
221039−6719.7	CSRG 1077	(R)SB(s)a	1.0	0.40	0.34	61.7					2212111000
221101−5422.2	ESO 189−31	SB(rs)bc	4.0								0111000111
221124−4932.5	ESO 237−48	SB(rs)a	1.0								0222000111
221128−6741.5	CSRG 1078	SAB(r)b	3.0								0222000222
221144−5613.5	ESO 189−32	(R′)SB(s)0/a	0.0	1.30	0.28	7.6					1111111000
221150−2742.8	ESO 467−27	(R′)SA(rs)bc	4.0	0.89	0.45						1111110110
221212−4717.4	CSRG 1079	(R'_1)SB(r)0/a	0.0	0.74	0.36	39.1					1111111111
221224−2114.0	ESO 601−35	(R′)SB(rs)m	9.0	0.86	0.70	19.8					2222222222
221244−4605.8	NGC 7233	SAB(r)a p	1.0								0222000221
221248−4601.8	NGC 7232B	(R'_2)SB(s)dm	7.5	1.68	1.12	7.3					1222111000
221251−4724.8	CSRG 1080	(R)SAB(l)0$^+$	−1.3	0.45	0.41						3323330220
221344−2140.9	IC 1438	($R_1R'_2$)SAB(r)a	0.5	1.79	1.31	66.0					2222222222
〃	〃	〃		2.04	1.91	19.8					0000222000
221355−2144.2	IC 1439	($R_1R'_2$)SB(s)a	1.0	0.77	0.50	16.6					2222222000
〃	〃	〃		1.11	0.54	2.9					0000222000
221414−1814.1	CSRG 1081	(R'_2)SB(s)0$^+$	−1.0	0.37	0.29	25.3					2212111000
221439−4930.7	ESO 237−52	(R'_2)SAB(s)c	5.0	1.45	0.63	17.6					1111111000
221551−3703.1	IC 5186	(R':)SB?(r)ab	2.0	0.67	0.45	69.5?					1111111111
221625−2839.2	ESO 467−42	(R'_1)SB(s)ab	2.0	0.76	0.72	45.5:					1111111000
221629−7835.8	CSRG 1082	SAB(r)bc	4.0								0111000110
221634−4644.6	CSRG 1083	SA:(r)ab	2.0								0111000110
221646−8027.3	CSRG 1084	SA(r)0/a p	0.0								0111000110
221745−4901.6	ESO 238−2	(R'_2)SB(s)b p	3.0	0.82	0.62	8.0					2222222000
221811−6232.7	CSRG 1085	(R:)SAB(r)a: p	1.0:	0.63	0.51						1111110110
221837−3717.0	ESO 405−11	(R'_1)SB(s)a	1.0	0.89	0.39	21.5					1111111000
221838−6601.1	IC 5200	SA(r)a	1.0								0111000110
221905−5225.1	CSRG 1086	(R'_2)SAB(s)0$^+$	−0.7	0.37	0.29	10.2					3313332000
221926−7516.5	CSRG 1087	(R′)SAB(rs)a	1.0	0.56	0.35	71.0:					1222111111
222025−6706.7	IC 5206	SAB(rs)b	3.3								0333000332
222034−2246.8	ESO 533−23	SB(r)b	3.0								0222000221
222046−7957.6	CSRG 1088	SB(r)ab p	2.0								0111000111
222103−8128.6	CSRG 1089	(R)SB(s)0$^+$	−1.0	0.64	0.37	31.8					2212222000
222114−5646.0	ESO 190−5	(R)SAB(r)0/a	0.0	0.71	0.30						2222220220
222130−3356.8	NGC 7267	(R'_1)SB(rs)a	1.0	1.40	1.12	97.0					1111111111
222147−2804.8	ESO 467−53	(R'_2)SB(l)a	1.0	0.74	0.68	11.6					1111111111
222219−5921.0	CSRG 1090	(R'_1)SAB:(s)a	1.0	0.56	0.16	21.3:					1111111000
222225−4939.6	ESO 238−9	SAB(r)c	5.0								0111000111
222236−6332.4	ESO 109−1	(L)SB(r)0$^+$	−1.0	0.64	0.29	66.1					1111111111
222244−2554.0	IC 5225?	(R_1)SB(l)0$^+$	−1.0	1.30	1.08	75.7					1111111111
222302−5310.8	ESO 190−10	(R'_2)SB(s)a	1.3	1.08	0.20	2.2					2333222000
222326−6358.1	CSRG 1091	(R)SAB(s:)0$^+$	−0.7	0.58	0.29	88.7:					3313221000
222333−5059.6	CSRG 1092	(R_1)SAB(l:)0°	−2.0:	0.39	0.27						1111110110
222419−6738.7	CSRG 1093	($R_1R'_2$)SB(s)0/a	0.0	0.60	0.34	21.8					1111111000
〃	〃	〃		0.74	0.38	18.2					0000111000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
222420−3523.7	NGC 7279	SB(rs)c	5.0				0.49	0.34	54.9	2+	0111000111
222436−5459.8	ESO 190−12	RGp	−1.0:	0.98	0.78		0.39	0.31			2121220220
222446−6039.0	IC 5218	SAB(r)b	3.0				0.45	0.15	12.4	2	0222000221
222454−3017.7	ESO 467−65	SA(r)c	5.0				0.23	0.20		2	0111000110
222455−6636.9	CSRG 1094	(R'_2)SAB(s)b	3.0	0.39	0.30	50.8:				2	1111111000
222503−6025.5	NGC 7278	(R')SA(rs)ab	2.0	0.78:	0.50		0.34	0.34		3	1112110110
222510−6609.0	IC 5219	SA(rs)d: p	7.0:				0.50	0.30			0111000110
222520−6636.7	CSRG 1095	SB(rs)0^+	−1.0				0.31	0.22	19.5		0111000111
222533−2241.6	ESO 533−30	(R_1)SB(l)0^+	−1.0	0.88	0.56	64.8	0.40	0.30	24.5		2222222222
222601−5658.1	ESO 190−13	(R'_2)SB(rs)0/a	0.0	0.75	0.36	48.7	0.21	0.11	32.9:	2	2222222111
222602−5840.0	ESO 146−29	RGp		0.38	0.38						1000110000
222622−6555.1	IC 5222	(R)SB(rs)b	3.0	2.35:	1.59:	4.3:	1.49	0.70	7.8	4	2333221332
222650−2004.8	ESO 602−21	(R_1)SB(r)0^+	−1.0	0.94	0.65	90.0	0.39	0.30	3.9		1111111111
222651−2636.1	CSRG 1096	SAB(rl)0/a:	0.0:				0.34	0.26:	6.3		0111000111
222701−2249.4	ESO 533−33	SA(rs)b	3.0				0.32	0.21		2	0111000110
222714−6136.9	ESO 146−29A	SA:(rs)0/a: p	0.0:				0.45	0.21			0111000110
222718−8018.7	CSRG 1097	(R'_2)SAB:(r:)b	3.0	0.44	0.40		0.21	0.21:		2	1111110110
222755−4519.4	CSRG 1098	(R_1)SAB(r)0^+	−1.0	0.64	0.49	87.2	0.30	0.20	−0.3		1111111111
222757−6407.2	CSRG 1099	(R')SAB(s)0/a:	0.0:	0.63	0.38					2:	1111110000
222807−7903.3	CSRG 1100	SA(r)0^+	−1.0				0.35	0.31			0111000110
222816−4644.3	ESO 289−32	(R'_1)SB(rs)a	1.0	0.84	0.36	89.7	0.37	0.23	82.6	2+1	2222222222
222826−2126.2	CSRG 1101	SA(rs)a?	1.0?				0.25	0.25			0111000110
222826−2847.8	ESO 468−5	(R'_2)SB(s)a:	1.0:	0.57	0.22	2.9				2	1111111000
222843−1917.5	ESO 602−25	SA(r)b	3.0				0.45	0.23		2	0111000110
222845−2608.7	ESO 533−42	$(R_1R'_2)$SB(s)0/a	0.0	0.51	0.29	10.0				2	1111111000
"	"	"		0.67	0.29	2.7					0000111000
222859−4200.4	ESO 345−20	(R'_1)SAB(r)a	1.0	0.50	0.31	73.7	0.26	0.17	5.4	2	1111111111
222902−5913.3	CSRG 1102	(R)SB0°	−2.0	0.45	0.39	5.4					1101111000
222904−4320.9	CSRG 1103	(R')SB(r)b:	3.0:	0.50	0.39	23.6	0.23	0.16	48.2	2	1111111111
222921−5912.5	CSRG 1104	(R'_2)SAB(s:)0/a	0.0	0.25	0.23						2212110000
222928−5943.7	CSRG 1105	(R:)SA0^+:	−1.0:	0.73	0.50						1101110000
222944−2555.2	ESO 533−45	SB(r)b	3.0				0.74	0.54	24.5	3+	0111000111
222951−5355.7	CSRG 1106	SB(r)ab	2.0				0.42	0.34	12.0	3	0222000222
223009−4956.6	CSRG 1107	(R')SA(rl)a	1.0	0.67	0.51		0.34	0.26		2	1111110110
223020−3752.7	CSRG 1108	(R_1)SAB(r)0^+	−1.0	0.63	0.42		0.36	0.11			1111110110
223022−4258.3	CSRG 1109	(R'_2)SB(s)c	5.0	0.53	0.22	20.7					1111111000
223034−4326.9	CSRG 1110	SB(r)0/a	0.0				0.23	0.21	46.9	2:	0111000111
223037−6457.4	IC 5227	(R'_1)SB(r)ab	2.0	1.41	1.07	62.8	0.57	0.45	3.0	2	2222222222
223045−4816.9	ESO 238−16	RG?p		0.85	0.78						1000110000
223101−6000.6	CSRG 1111	SA(r)0^+	−1.0				0.32	0.21			0111000110
223117−4253.6	ESO 289−39	SAB(rs)c	5.0				0.27	0.15	64.7	3:	0111000111
223144−7032.4	ESO 76−19	SAB(r)bc	3.5				0.56	0.37	1.9	5+	0222000221
223153−2244.6	NGC 7310	SA(rs)c	4.5				0.28	0.21		2+	0222000220
223201−1915.2	ESO 602−28	SAB(rs)b p	3.0				0.34	0.21	81.2	3	0222000222
223204−2556.2	ESO 533−50	$(R'_1{:}R'_2{:})$SB(r)0/a	0.0	0.96	0.86	96.3	0.40	0.32	2.3	2	1111111111
"	"	"		1.19	1.07:	5.0:					0000111000
223308−4357.4	CSRG 1112	SA(r)b	3.0				0.17	0.11		3	0111000110
223310−2252.8	CSRG 1113	(R'_1)SB(rl)a	1.0	0.56	0.45	83.6	0.31	0.21	21.1:	2	1111111111
223408−6133.4	CSRG 1114	(R_1)SB0^+:	−1.0:	0.56	0.30	24.8					1101111000
223412−2228.8	ESO 602−31	(R')SAB(rs)b	3.0	1.10	0.46	12.0	0.31	0.17		5+	2222221110
223501−4605.8	ESO 289−44	(R'_1)SB(rs)ab	2.0	1.60	0.56	57.2	0.48	0.31	35.6		2222222222
223539−5539.3	CSRG 1115	SA(r)0/a: p	0.0:				0.50	0.50			0111000110

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
223622−2255.6	NGC 7341	SAB(r)b	2.5				1.03	0.52	2.9	2	0222000221
223623−1955.4	ESO 603−1	$(R'{:})$SAB(rs)ab	2.0	1.29	0.39	8.1:	0.37	0.17:		2	1222111110
223631−7511.0	ESO 49−1	$(R_1R'_2)$SB(s)a	0.7	0.50	0.49					2	1333110000
"	"	"		0.91	0.50	3.4					0000222000
223655−4833.9	CSRG 1116	(R')SB(s)0/a:	0.0:	0.51	0.39	8.5					1111111000
223656−6644.4	NGC 7329	SB(r)b	3.3				1.19	0.88	40.0	6+	0333000333
223657−5008.2	CSRG 1117	(R)SA(r'l)0^+	−1.0	1.15	0.61		0.67	0.34			1111110110
223825−2334.8	CSRG 1118	(R'_1)SB(s)0^+	−0.5	0.51:	0.28	8.0					2212111000
223827−5752.0	ESO 147−5	SAB(rs)bc	4.0				0.34	0.30		2	0111000110
223843−6802.8	ESO 76−21	(R')SA(s)0/a	0.0	0.94	0.34					2	1111110000
223855−4621.3	ESO 290−1	(R:)SA?(rl:)0^+: p	−1.0:	1.12:	1.12:		0.44	0.39			1111110110
223856−4501.8	IC 5240	SB(r)ab	1.5				1.28	0.83	21.1	f	0222000222
223907−4430.2	CSRG 1119	(R'_2)SB(s)0/a	0.0	0.50	0.39	0.5				2	1111111000
223940−3734.5	ESO 345−42	(RL?)SAB(s)0°	−2.0	0.73	0.60	2.6					1111111000
224037−4535.3	ESO 290−6	(R')SAB(rs)c p	5.0	0.98	0.73		0.50	0.50			1222110110
224039−3707.6	NGC 7355	SAB(rs)b:	3.0:				0.63	0.29	0.7	2	0111000111
224039−4409.6	ESO 290−7	(R')SB(s)b:	3.0:	0.84	0.17	3.4					1111111000
224149−4932.5	ESO 238−24	SA(r)bc	4.0				0.39	0.18		2:	0111000110
224215−6523.0	NGC 7358	(RL)S0°	−2.0	1.17	0.34						1001110000
224232−4439.1	ESO 290−10	(R')SAB(rs)a	1.0	0.84	0.48	5.1	0.49	0.33	11.1	2	1222111222
224234−2608.6	ESO 534−25	(R'_1)SB(s)a	1.0	0.67	0.39	34.1				2	1111111000
224238−6426.3	CSRG 1120	(R'_2)SB(s)ab:	2.0:	0.37	0.27	4.4				2:	1111111000
224309−2818.7	ESO 468−26	SAB(rs)0/a:	0.0:				0.60	0.23	22.8:		0111000111
224440−6910.0	IC 5252	(R'_1)SB(rs)bc	3.5	1.00	0.58	89.0	0.54	0.38	77.8	2+2	2222222222
224442−5206.1	ESO 238−27	(R')SAB:(s:)b	3.0	0.85	0.20					2	1111110000
224442−6140.0	ESO 147−8	SB(r)0^+	−1.0				0.39	0.34	1.7		0111000111
224502−1736.7	ESO 603−14	SAB(r)0/a	0.0				0.49	0.35	8.3		0111000111
224520−5830.9	CSRG 1121	(R')SB(r)ab	2.0	0.72	0.28	68.3	0.30	0.17	57.7	2+2	1112111111
224523−4613.4	CSRG 1122	(R)SA0°	−2.0	0.41	0.35						1101110000
224530−6244.1	ESO 109−24	(R'_2)SAB(s)cd	5.5	0.64	0.48					2+1?	1222110000
224612−7317.4	ESO 49−6	SA(rs)bc: p	4.0:				0.30	0.22			0111000110
224614−5812.1	CSRG 1123	(R)SB0^+	−1.0	0.57	0.48	13.7					1101111000
224655−4402.3	CSRG 1124	(R_1)SB0^+:	−1.0:	0.63	0.38	73.0					1101111000
224656−1932.3	CSRG 1125	(R')SAB(s)0/a p	0.0	0.38	0.34					2	1212110000
224702−8915.5	CSRG 1126	(R'_1)SB(s)ab	2.0	0.53	0.48	86.8				2	1111111000
224734−4404.7	ESO 290−18	SB(r)a	1.0				0.28	0.22	70.7	2	0111000111
224740−2037.0	CSRG 1127	SA(rl)0°	−2.0				0.48	0.45			0111000110
224827−4825.7	CSRG 1128	(R)SB(r)0/a: p	0.0:	0.60	0.40	5.3	0.34	0.27	−1.5	1	1111111111
224900−4432.4	CSRG 1129	(R'_1)SB(s)a	1.0	0.50	0.28	69.2				2	1111111000
224901−4651.1	CSRG 1130	(R)SB(s)0/a	0.0	0.56	0.48	70.9					1111111000
224908−2052.4	NGC 7392	$(R'{:})$SB(rs)ab	2.0	2.91:	1.34:	26.5:	1.43	0.78	−7.4	4i,2o	1111111111
224908−4513.1	CSRG 1131	(R')SB(s)ab?	2.0?	0.42	0.14	46.1:				2	1111111000
225037−4645.6	CSRG 1132	SA(r)ab	2.0				0.36	0.18		2	0111000110
225116−3419.6	ESO 406−17	(R:)SB(r)b	3.0	1.18	1.07	20.2	0.54	0.45	2.6		1111111111
225127−4536.8	NGC 7400	SAB:(r)b	3.0				0.60	0.17	8.2:	2	0111000111
225157−7053.9	ESO 76−30	(R)SB(rs)a	1.0	1.62	1.05	1.0:	0.93	0.51	−1.1		1222111222
225244−6357.7	NGC 7408	(R')SB(rs)c	5.0	1.31	0.96	16.3	0.63	0.45	19.4	3	1111111111
225254−4254.5	NGC 7412	SAB(s)c	4.5				1.40	1.31:		2+3	0222000110
225301−5839.8	ESO 147−14	SB:(r)a: p	1.0:				0.39	0.30	31.3:		0111000111
225343−2138.5	ESO 603−29	(L)SAB0°	−2.0	0.71	0.36	3.5					2202221000
225348−3717.8	NGC 7418	SAB(rs)cd	6.0				0.84	0.56	22.2		0111000111
225406−3736.9	NGC 7421	SB(r)bc p	4.0				0.84	0.67	53.5	m	0111000111

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
225413−2158.3	CSRG 1133	(R'_1)SB(s)b	2.5	0.38	0.30	85.0				2:	2222111000
225420−4802.8	ESO 239−4	$(R'_1R'_2)$SAB(rs)a	1.0	0.92	0.61		0.39	0.19		2,2	3233330220
"	"	"		1.35	0.61						0000220000
225422−4339.8	IC 5267	(R)SA(rs)0/a	0.0	5.09	3.30		2.74	1.93		1i?	2222220220
225436−6518.3	NGC 7417	(R')SB(r)a	1.0	1.68	1.01	40.7	0.77	0.54	23.7	2	3333333333
225452−6919.3	IC 5263	SB(r)0/a	0.0				0.54	0.27	46.6		0222000222
225508−3607.5	IC 5270	SB(rs)c	5.0				0.90	0.26	14.3		0111000111
225545−6522.5	CSRG 1134	(R_1)SB?0$^+$	−1.0	0.38	0.16						1101110000
225613−4423.4	ESO 290−31	$(R'_1:)$SB(s)0/a:	0.0:	0.49	0.45	52.4				2	1111111000
225619−2547.8	ESO 535−1	$(R:)$SA(rs)a	1.0	1.19	1.12		0.51	0.51		2	1111110110
225619−6527.7	IC 5272	SAB(rs)bc	4.0				0.34	0.17:		4:	0111000110
225639−3758.3	IC 5273	SB(rs)cd p	6.0				1.01	0.73:	8.7		0111000111
225655−5246.4	CSRG 1135	(R')SB(s)0/a:	0.0:	0.44	0.34	13.6				2	1111111000
225658−5445.4	CSRG 1136	(R'_1)SB(r)b	2.5	0.50	0.29	58.9	0.27	0.17	32.7		2122111111
225842−5926.6	ESO 147−20	SA(rs)b p	3.0				0.45	0.32		2+3	0111000110
225957−4701.3	CSRG 1137	SAB(s)bc	3.5				0.45	0.29		2+	0222000110
230040−6528.7	IC 5280	(R')SA(rl)0/a	0.0	1.73	0.73:		0.95	0.28		2	1111110110
230112−6342.2	ESO 109−34	(R'_2)SB(rs)d	6.7	1.52	1.29	3.6	0.62	0.45:	3.3:	4	1333111311
230127−4300.5	CSRG 1138	SAB(r)a: p	1.0:				0.28	0.28		2:	0111000110
230140−5000.4	CSRG 1139	(R')SAB(s)0/a	0.0	0.73	0.22	2.5				2:	1111111000
230153−4351.3	ESO 290−44	SAB(rs)c	5.0				0.38	0.34	43.5:	5:	0111000111
230201−5146.7	CSRG 1140	(R)SB0$^+$: p	−1.0:	0.39	0.29	66.7					1101111000
230214−4916.4	CSRG 1141	(R'_1)SAB:(r)b	3.0	0.73	0.11	80.6:	0.26	0.08	77.5:	2	1111111111
230216−4322.2	NGC 7476	(R'_1)SB(r)b p	2.5	1.36	0.91	25.8	0.76	0.40	5.6	2	2222222222
230218−5024.7	CSRG 1142	(R'_1)SAB(r)0/a	0.0	0.61	0.28	76.4	0.26	0.17	17.1		1111111111
230220−5022.9	NGC 7470	(R')SAB(s)cd	6.0	1.42	0.83					2	1111110000
230233−4416.2	CSRG 1143	(R'_1)SAB(s)c	5.0	0.61	0.61					2	1111110000
230319−4649.4	CSRG 1144	(R)SB(l)0°	−2.0	0.67	0 48	8.6	0.46	0.21	7.5		1111111111
230329−1951.5	ESO 604−2	SB(rs)ab: p	2.0:				0.40	0.27	49.6:	2:	0111000111
230355−5104.9	CSRG 1145	SA(rs)b:	3.0:				0.28	0.17		2	0111000110
230420−6145.5	ESO 147−20A	(R)SA(rs)b	3.0	0.80	0.39		0.32	0.19		2	1111110110
230430−5104.8	CSRG 1146	(R')SAB(r)0/a	0.0	0.78	0.52		0.23	0.18			1111110110
230531−3802.6	ESO 346−32	(R)SB(l)0°	−2.0	0.73	0.56	89.0	0.30	0.28			1111111110
230539−4651.3	CSRG 1147	(R)SA(r)a:	0.5:	0.64	0.51		0.32	0.22			2222110110
230619−7217.8	ESO 77−3	SAB(r)c	5.0				0.27	0.23		4	0111000110
230621−6216.1	ESO 147−22	(R'_1)SB(s)a	0.5	1.10	0.18	17.1				2	2222222000
230645−2904.5	ESO 469−16	(R_2)SAB(r)0/a	0.0	0.89	0.48	3.6	0.32	0.28	6.4		1111111111
230659−4342.0	NGC 7496	$(R':)$SB(rs)bc	3.5	3.63	3.07	45.3	2.12	1.52	41.2	4i,2o	1222111111
230711−1731.6	CSRG 1148	SA(r)ab p	2.0				0.28	0.18		2	0222000110
230734−8052.4	CSRG 1149	(R'_2)SB(s)0/a	0.0	0.55	0.35	20.2				2	1111111000
230824−4558.1	ESO 291−4	(R'_1)SB(s)0/a	0.0	0.89	0.22	62.4				2	2212222000
230904−4743.1	ESO 239−15	SAB(rs)bc	4.0				0.44	0.22		2	0222000110
230909−4359.6	ESO 291−5	(R_1)SB(l)0/a	0.0	0.75	0.61	77.6	0.32	0.28	75.3		1111111111
230922−8153.9	ESO 27−24	SA(rs)bc	4.0				0.45	0.29		3+	0222000110
230939−4910.3	CSRG 1150	(R'_1)SAB(s)a	1.0	0.41	0.22	69.5				2	1111111000
231106−6757.8	ESO 77−7	(R)SB(s)0$^+$	−1.0	0.70	0.50	59.5					2222222000
231107−4252.6	CSRG 1151	$(R'?)$SA(rs)a	1.0	0.61	0.36		0.36	0.32			1111110110
231159−6144.4	ESO 148−1	SB(r)ab	1.5				0.56	0.34	8.6	2	0222000111
231202−4352.3	NGC 7531	SAB(r)bc	4.0				0.96	0.39	7.6	2	0222000221
231209−4504.4	CSRG 1152	(R'_1)SAB(r)a	1.0	0.56	0.50		0.39	0.22	0.0	2	1111110111
231225−4500.6	ESO 291−11	(R'_1)SB(s)0/a	0.0	0.73	0.50	54.6				2	1111111000
231236−5807.8	CSRG 1153	(R')SA(r)b p	2.5	0.54	0.40		0.22	0.22		2	2222110110

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
231325−4251.4	NGC 7552	(R'_1)SB(s)b	2.5	3.12	2.63	80.3				2+f	2222222000
231431−7232.2	ESO 49−9	(R)SA(r)0$^+$	−1.0	0.78	0.39		0.27	0.17			1111110110
231443−1736.8	CSRG 1154	(R'_1)SB(s)0$^+$	−0.5	0.44	0.21	13.5				2	1212111000
231505−1856.9	CSRG 1155	(R')SAB(r)a	1.0	0.61	0.40	77.4	0.22	0.22		2	1111111110
231533−4952.9	CSRG 1156	(R)SB0$^+$	−1.0	0.40	0.34	66.2					2202222000
231538−4238.6	NGC 7582	(R'_1)SB(s)ab	1.5	4.42	1.62	10.9				2	2222222000
231540−2126.9	ESO 604−10	SB(r)a	1.0				0.34	0.22	24.2	2+2	0111000111
231607−6657.0	ESO 110−8	SAB(rs)ab	2.0				0.52	0.29	12.8		0111000111
231618−6744.9	ESO 77−13	SAB(r)0/a: p	0.0:				0.47	0.17	10.2	1:	0111000111
231639−2913.0	ESO 470−1	(R)SB(l)0$^+$	−1.0	1.23	0.79	58.1					1111111000
231707−6725.4	CSRG 1157	(R)SAp		0.55	0.42						1100110000
231744−4448.2	CSRG 1158	(R_1)SB(s)0/a	0.0	0.70	0.51	46.0				1	1111111000
231815−2025.7	ESO 605−2	SA(r)cd	6.0				0.34	0.19		2	0111000110
231904−2634.0	ESO 536−1	(R)SB(l)0$^+$	−1.0	0.97	0.61	32.4	0.53	0.26	13.2		1111111111
231917−4245.2	NGC 7632	(RL)SB(l:)0$^+$	−1.0	1.69	0.74	86.3	0.71	0.44	−78.5:		2112221111
231951−5145.4	CSRG 1159	(R'_2)SB(s)a p	1.0	0.40	0.29	56.6				2	1111111000
232002−6755.6	NGC 7633	(R'_1)SB(rl)0/a	0.0	2.06	1.62	45.3	1.17	0.80	17.3	2	3333333333
232049−4415.4	CSRG 1160	(R'_2)SAB(s)a	1.0	0.40	0.37	6.7				2	1111111000
232101−1917.1	ESO 605−4	(R'_2)SB(rs)b	3.0	1.57	1.12	1.0:	0.56	0.50		2	1111111110
232116−4426.7	CSRG 1161	(R')Sb:	3.0:	0.50	0.16						1001110000
232151−4328.9	CSRG 1162	(R_1)SB(l)0$^+$	−1.0	0.41	0.28	85.5	0.18	0.17			1111111110
232154−1920.1	NGC 7656	RG		0.54	0.28						1000110000
232201−4447.3	CSRG 1163	(R_1)SB(s)0$^+$	−1.0	0.61	0.51	49.3					1111111000
232219−7457.6	ESO 49−11	$(R':)$SAB(rl)a	1.3	1.57	0.78	51.4	0.63	0.33	60.4	1+	1333111333
232231−5803.9	NGC 7650	SAB(s)c p	5.0				0.51				0222000100
232234−4311.9	CSRG 1164	(R'_2)SB(s)ab:	2.0:	0.56	0.41	15.6				2	1111111000
232242−8211.2	NGC 7637	SA(r)bc p	4.2				0.49	0.41		2i,fo	0444000220
232247−5809.7	NGC 7652	(RL)SA(l)0$^+$:	−1.0:	0.89	0.54		0.44	0.30			1111110110
232316−7928.4	CSRG 1165	(R'_2)SB(s)a	1.0	0.50	0.29	18.6				2	1111111000
232348−2757.7	ESO 470−6	(R')SB(rs)cd:	6.0:	0.95	0.74	55.5	0.51:	0.41	6.7	2	1111111111
232419−6532.8	NGC 7661	SB(rs)cd	6.0				0.64	0.40	14.9	2	0111000111
232438−6805.4	IC 5323	(R'_1)SAB(s)a p	1.0	1.21	0.74	76.9				2	2333221000
232458−8234.7	CSRG 1166	(RL)SAB0°	−2.0:	0.50	0.26						1101110000
232504−4558.3	ESO 291−25	SAB(r)ab	2.0				0.54	0.29	17.4		0111000111
232504−4739.4	ESO 240−3	SB(rs)c	4.5				0.26	0.21	11.4	2	0222000111
232515−7112.6	CSRG 1167	(R')SAB(s)a	1.0	0.29	0.23						2212110000
232516−2012.0	CSRG 1168	(R')SA(r)ab	2.0	0.63	0.29		0.26	0.11		2:	1111110110
232516−2815.4	ESO 470−8	SB(rs)bc	4.0				0.38:	0.28	80.3	2	0111000111
232556−6927.3	CSRG 1169	(R)SA0$^+$:	−1.0:	0.46	0.28						1101110000
232623−6619.6	CSRG 1170	(R'_1)SAB(r)0/a	0.0	0.50	0.40	73.6	0.21	0.15	11.4	2	1111111111
232626−4519.8	CSRG 1171	(R')SB(s)b:	3.0:	0.28	0.22	48.4				3	1111111000
232701−1934.0	CSRG 1172	(R'_2)SB(s)a	1.0	0.73	0.51	22.7				2	2222111000
232721−2009.5	CSRG 1173	SAB(r)a: p	1.0:				0.29	0.16		2	0111000110
232734−3924.2	ESO 347−19	$(R':)$SB(r)ab	2.0	0.80:	0.73:	61.7	0.29	0.23	4.3	2	1111111111
232754−2905.4	ESO 470−15	$(R:)$SB(r)ab	2.0	1.02	0.56	28.5	0.42	0.31	24.7		1111111111
232759−4130.9	CSRG 1174	SB(rs:)b:	3.0:				0.29	0.25	25.5	4	0111000111
232903−1714.3	CSRG 1175	SA(r)b	2.5				0.25	0.18		2	0222000110
232909−3808.5	ESO 347−21	(R)SB(s)0/a:	0.0:	1.40	0.28	6.4				2	1111111000
232921−1902.9	CSRG 1176	(R'_2)SB(l:)ab	2.0	0.39	0.29	3.0	0.15	0.09		2	1111111110
232925−2800.1	ESO 470−18	(R_1R_2)SB(s)0/a	0.0	0.87	0.73	45.7					1111111000
"	"	"		1.17	0.97	31.1					0000111000
232929−2337.8	CSRG 1177	(R_1)SB0$^+$	−1.0	0.45	0.34	87.6					2202222000

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
233031−5422.2	NGC 7689	SA(r)c	5.0				0.46	0.38		8:	0111000110
233046−4032.4	CSRG 1178	SB(r)b	3.0				0.28	0.20	79.5		0111000111
233053−2141.1	ESO 605−10	SAB(rs)b:	3.0:				0.37	0.34		2	0111000110
233130−4022.7	CSRG 1179	(R'_2)SB(s:)b	3.0	0.70	0.28	6.4					1111111000
233132−7054.5	ESO 77−23	SAB(r)a	1.0				0.52	0.27			0222000220
233146−3837.3	CSRG 1180	(R')SB(r)b	3.0	0.73	0.42	31.2	0.39	0.22	14.5	2	1111111111
233204−6528.7	CSRG 1181	(R'_2)SAB(s)0^+	−0.5	0.38	0.28	20.1					2212111000
233209−4359.9	CSRG 1182	(R'_1)SAB(rs)b	3.0	0.63	0.40		0.37	0.26		2	1111110110
233236−2301.2	ESO 536−8	(R')SB(s)bc	3.5	0.65	0.18	14.8				2	2222222000
233241−4056.5	ESO 347−25	(R'_1)SB(rl)a	1.0	0.95	0.39	55.4	0.27	0.18	27.6:	2	1111111111
233244−5617.2	NGC 7702	(R)SA(r)0^+	−1.0	2.33	1.40		1.06	0.48			2222220220
233323−1945.1	CSRG 1183	(R'_2)SB(s)ab	2.0	0.42	0.25	8.7				2	1111111000
233355−6305.5	ESO 110−16	SAB(r)a p	0.6				0.52	0.38	13.2	2i,1o	0555000552
233431−2044.5	ESO 605−16	SB(rs)c	4.5				0.50	0.40	57.4:	4	0222000111
233456−3733.7	CSRG 1184	(R')SB(rs)ab	1.5	0.59	0.36	73.5	0.22:	0.22		2	2222111110
233502−4056.5	ESO 347−31	SB:(r)b	3.0				0.27	0.17	13.0:	2+1	0111000111
233514−1731.0	CSRG 1185	SB(rs)ab	2.0				0.28	0.12	49.3	3	0222000111
233602−5645.3	ESO 192−11	SA(r)c p	4.5				0.40	0.26		3	0222000220
233622−6455.7	CSRG 1186	SAB(rs)c	5.0				0.25	0.11	57.8:	2	0222000111
233625−5641.6	ESO 192−12	SA(rs)c	5.0				0.29	0.22		2	0111000110
233626−2556.8	ESO 536−14	(R?)SA(r)b	3.0	1.36	0.72		0.32	0.19			1111110110
233637−2149.6	CSRG 1187	RG?		0.28	0.23						1000110000
233646−4803.0	ESO 240−13	(R'_1)SAB(rs)b	2.7	1.29	0.85	54.4	0.77	0.40	40.9	2	3333332332
233744−4447.6	ESO 292−9	SAB(r)b	2.5				0.45	0.34	12.4	2	0222000221
233817−2837.0	ESO 471−2	SA(r)bc	4.0				0.45	0.22		f	0111000110
233821−4505.9	ESO 292−11	SB(r)b:	3.0:				0.38	0.18	57.0		0111000111
233823−5407.4	CSRG 1188	SA(r)0/a:	0.0:				0.29	0.24		1	0111000110
233908−6328.4	CSRG 1189	(R'_1)SB(rs)a	1.0	0.67	0.47	89.2	0.35			2	1111111100
233926−6600.3	ESO 110−21	SA(rs)c?	5.0?				0.49	0.34		4i,2o	0111000110
233930−3931.0	CSRG 1190	(R')SB(rs)b	3.0	0.45	0.41	45.8:	0.41:	0.18	0.0:	2	1111111111
233945−4623.9	CSRG 1191	(R)SB0^+	−1.0	0.57	0.10	4.2					1101111000
233947−6614.1	NGC 7733	(R'_1)SB(s)bc p	4.3	0.83	0.44	13.5				2	3333333000
233957−6613.3	NGC 7734	(R')SB(rs)b p	3.0	1.10	0.73	83.8	0.61	0.38	40.0	2+2	3333333333
234004−3920.6	ESO 348−5	SAB(r)b	3.0				0.26	0.19		4:	0111000110
234011−5213.6	CSRG 1192	(R'_1)SB(s)a:	1.0:	0.38	0.22	88.9				2	1111111000
234058−4134.5	ESO 348−2	(R')SB(s)b	3.0	0.95	0.11	1.8				2	1111111000
234103−6759.6	ESO 77−28	(R:)SAB(r)a p	0.8	1.86	1.01	4.5	0.52	0.18	13.4		1444111443
234106−5319.3	ESO 192−16	(R'_1)SB(s)0^+	−0.5	0.56	0.32	29.2				2	2222222000
234110−3659.5	ESO 408−21	SAB(r)bc	4.0				0.40	0.23	8.9	2	0111000111
234137−3826.8	ESO 348−7	$(R'_1R'_2)$SB(rl)0/a	0.0	0.67	0.51	75.6	0.27	0.22	17.7	2	1111111111
"	"	"		0.75	0.63	22.5					0000111000
234209−4923.4	ESO 240−16	(PR?)		0.56	0.50						1000110000
234212−3842.5	CSRG 1193	(R'_2)SB(s)a	1.0	0.62	0.45	17.0				2	1111111000
234239−4117.0	ESO 348−3	SB(rs)b	3.0				0.36	0.22	31.0	4	0111000111
234245−4511.9	ESO 292−18	SAB(rs)ab	2.0				0.58	0.39	11.9	2	0222000111
234250−2403.1	ESO 537−6	(R)SB(l)0°	−2.0	0.75	0.63	83.4	0.34:	0.28:	78.5:		1111111111
234259−5537.8	CSRG 1194	SB(r)a:	1.0:				0.27	0.21	78.0	1+1?	0111000111
234309−4533.1	ESO 292−21	SA(r)b	3.0				0.28	0.12		2	0111000110
234316−2400.5	ESO 537−7	(R_1)SAB(r)0^+	−1.0	0.78	0.61	60.9:	0.29	0.19	24.6:		1111111111
234320−7533.1	ESO 28−2	SAB(r)b	3.3				0.61	0.46	5.0	4+	0333000332
234329−2310.6	ESO 537−8	(R'_2)SB(s)b:	3.0:	0.78	0.27	2.1				2	1111111000
234402−2859.2	ESO 471−13	SA:(r)0^+	−1.0				0.44	0.17			0111000110
234407−3844.8	ESO 348−8	SAB(rs)bc	3.5				0.45	0.26		2	0222000110
234425−4336.6	ESO 292−25	(RL)SA0°	−2.0	0.58	0.33						2202220000
234430−5550.4	CSRG 1195	(R_1)SAB(r)0/a	0.0	0.73	0.40	40.5	0.25	0.11	1.3	2	1111111111
234440−6403.1	ESO 110−28	(R')SAB(r)b p	3.0	1.12	0.95		0.51	0.30		2	2444220440
234515−3048.0	NGC 7755	SB(r)bc	4.0				0.82	0.82		4	0111000110
234527−1852.6	CSRG 1196	(R')SB(s)ab	2.0	0.45	0.44					2+2	1111110000
234554−1837.2	CSRG 1197	(R)SA(r)c: p	5.0:	0.50:	0.45		0.29	0.22			1111110110
234603−3417.0	ESO 408−35	SA(rs)bc	4.0				0.35	0.25		3+	0111000110
234625−1958.2	ESO 606−11	SB(rs)bc	4.0				0.34	0.29	22.3	2+2	0111000111
234636−3736.7	ESO 348−10	(R)SAB(r)0^+	−0.5	1.03	0.54	71.2	0.39	0.23	55.6	2	2222222222
234643−4730.0	CSRG 1198	(R'_2)SB(s)a	1.0	0.55	0.28	4.2				2	1111111000
234707−3843.0	ESO 293−1	(R')SAB(r)a p	1.0	0.68	0.48	45.7	0.35	0.25	51.8	1	2333222333
234711−3750.4	CSRG 1199	(R'_1)SB(r)0/a	0.0	0.63	0.56	85.8	0.34	0.26	−8.4	·	1111111111
234713−3850.3	ESO 293−2	SAB(rs)bc p	4.0				0.28:	0.27		3:	0111000110
234721−2359.2	ESO 537−14	(R'_2)SB(l)0/a:	0.0:	0.75	0.64	16.0	0.22	0.19:	−13.1	2	1111111111
234722−3947.1	CSRG 1200	SA(r)0^+:	−1.0:				0.29	0.19			0112000110
234730−4728.2	CSRG 1201	SAB(rs)b	2.5				0.23	0.21		2	0222000110
234740−2924.8	ESO 471−25	$(R'_1R'_2)$SBb	3.0	0.67	0.45	22.0					1101111000
"	"	"		0.96	0.50	10.1					0000111000
234741−5317.4	CSRG 1202	(R'_2)SB(s)a	1.0	0.70	0.28	9.9				2	3333222000
234741−6148.9	ESO 111−3	RG?		0.27	0.18						1000110000
234755−8435.2	CSRG 1203	SAB(r)c	5.0				0.38	0.23		2	0111000110
234800−3445.6	CSRG 1204	(R'_1)SB(s)0/a	0.0	0.47	0.15	69.4					1212111000
234812−5857.1	CSRG 1205	(R'_1)SB(s)ab	1.5	0.58	0.31	42.9				2	2222222000
234817−3908.9	CSRG 1206	(R')SA(r)a	1.0	0.50	0.44		0.36	0.27			1111110110
234840−4629.1	CSRG 1207	(R')Sb:	3.0:	0.39	0.17					2	1001110000
234858−6351.2	CSRG 1208	(R')SA(r)bc	4.0	0.51	0.29		0.22	0.16		3	2222110110
234935−3452.1	ESO 349−3	(R')SA(rs)c	5.0	0.84	0.61		0.38	0.32		2	1111110110
234942−2952.4	CSRG 1209	(R)SAB(r)0/a	0.0	0.51	0.49		0.23	0.15			1111110110
234947−3030.5	ESO 471−32	(R?)SAB(r)0/a	0.0	1.01	0.56		0.39	0.26			1111110110
234949−6250.5	ESO 78−9	SAB(rs)b: p	3.0:				0.39	0.27	12.0	1	0111000111
234955−2837.2	ESO 471−33	(R'_1)SB:(s)a	1.0	0.92	0.26	8.2:					1111111000
234956−3027.5	ESO 471−34	(R'_2)SB(s)a p	1.0	0.78	0.61	35.1				2	1111111000
235007−6054.9	ESO 111−6	SA(rs)c	4.5				0.44	0.34		4	0222000220
235046−2538.0	CSRG 1210	(R'_1)SB(s)a	0.7	0.41	0.30	35.3				2	3323222000
235052−3708.5	CSRG 1211	SB(r)0/a:	0.0:				0.28	0.17	0.0	1+	0111000111
235054−2510.2	CSRG 1212	(R)SAB(r)0^+	−1.0	0.51:	0.39	66.5:	0.23	0.19	−4.6		2222111111
235056−3816.3	CSRG 1213	(R'_1)SB(s)a	1.0	0.69	0.53	81.7				2	2222222000
235108−5428.9	CSRG 1214	(R')SB(s)b	2.8	0.50	0.29	1.6				2	3444111000
235207−4527.8	CSRG 1215	(R)SAB:p		0.41	0.35						2200220000
235210−4514.4	CSRG 1216	SAB(rs)b	3.0				0.29	0.23	0.0:	4	0222000221
235211−3819.1	CSRG 1217	(R')SB(s)b p	3.0	0.40	0.34	5.3				4	1111111000
235230−2109.5	ESO 538−5	SAB(r)0^+	−0.5				0.48	0.35	10.7	2	0222000221
235235−3347.4	CSRG 1218	(R'_2)SB(s)a	1.0	0.70	0.50	1.9				2	2222111000
235300−5356.8	CSRG 1219	(R')SA(s)a:	0.5:	0.37	0.32						2212110000
235311−3858.4	ESO 293−13	(R)SA(s)0/a	0.0	0.75	0.66					2	1111110000
235319−3450.2	CSRG 1220	(R)SB(rl)0^+	−1.0	0.41	0.40		0.21	0.16	0.0		1111110111
235331−6057.0	ESO 111−10	(R'_1)SAB(rs)b	3.0	1.37	0.82		0.61	0.41		2	2222220220
235334−2740.2	ESO 471−42	SAB:(r)b	3.0				0.28	0.13	90.0:	2	0222000221
235355−2023.6	CSRG 1221	SB:(r)0^+	−1.0				0.46	0.18			0222000110
235401−4842.0	ESO 193−6	SAB(rs)c	5.0				0.39	0.34	49.1	7:	0111000111
235409−3451.6	CSRG 1222	SAB(r)b	2.5				0.17	0.10		2	0222000110

TABLE 3—*Continued*

RA (1950) Dec	Name	Type	T	D(O)	d(O)	θ(O)	D(I)	d(I)	θ(I)	m	N
235424−1702.4	MCG −3−1−3	SB(r)cd	6.0				0.39	0.34	63.9	2	0111000111
235426−3457.5	ESO 349−9	(R_1')SB(rs)b	3.0	1.12	0.73	60.0	0.50	0.40	20.3	2	2222111111
235427−4835.1	CSRG 1223	(R′)SA0/a p	0.0	0.96	0.51						1101110000
235436−3716.8	IC 5365?	SB(r)a	1.0				0.28	0.22	1.7	2	0111000111
235439−1854.5	CSRG 1224	(R′)SA(s)a	1.0	0.96	0.64					2	1111110000
235454−2919.5	ESO 471−49	SB(r)b	3.0				0.63	0.34	39.3	4	0111000111
235521−2223.5	CSRG 1225	(R)SB0$^+$	−1.0	0.47	0.31	31.9					2202222000
235544−7050.2	CSRG 1226	(R_1')SB(s)a	1.0	0.44	0.38	72.9				2	1111111000
235606−1750.7	CSRG 1227	(R′)SB(s)ab	2.0	0.52	0.39	68.5				2	1111111000
235624−6457.0	CSRG 1228	(R′)SAB(rs)ab:	2.0:	0.46	0.30		0.25	0.12		2	1111110110
235651−4142.7	ESO 293−26	(R′)SB(r)c	4.7	0.84	0.74	4.6	0.22	0.19	4.8	3+	1333111332
235654−2202.9	CSRG 1229	(R)SB(r)b	3.0	0.83:	0.67:		0.40	0.39			1111110110
235654−3417.6	CSRG 1230	SA(rs)ab	2.0				0.36	0.28		5:	0222000110
235657−2154.9	CSRG 1231	SB(rs)cd:	5.5:				0.39	0.35	2.1:		0222000221
235729−4933.8	CSRG 1232	(R′)SB(s)b:	3.0:	0.49	0.19	5.3				1?	2222111000
235732−6123.1	CSRG 1233	SAB(r)b:	2.5:				0.30	0.20			0222000220
235734−5407.5	CSRG 1234	SA(rs)c:	5.0:				0.20	0.17		4	0111000110
235747−8104.2	ESO 12−12	SB(rs)c p	5.0				0.40	0.37		2i	0111000110
235819−4738.0	ESO 193−9	(R)SB0$^+$	−1.0	0.99	0.17	3.8					3303333000
235822−4059.4	ESO 293−29	SB(rs)c	5.0				0.34	0.19	8.4	3	0222000221
235832−5416.2	ESO 149−11A	(L)SA(l)0°	−2.0	0.84	0.53		0.44	0.26			1111110110
235848−2528.7	CSRG 1235	(R)SAB0$^+$	−1.0	0.49:	0.42	64.0:					2202111000
235919−3707.7	ESO 349−19	SA(rs)ab	1.7				0.52	0.39		2+	0333000330
235922−2754.3	ESO 409−3	(R′)SA(s)ab	2.0	1.03	0.94					2	1111110000
235923−4056.4	ESO 293−30	SB(rs)c	5.0				0.31	0.22	9.4	4	0111000111
235930−3344.8	ESO 349−20	(R_1')SB(s)a	1.0	0.74	0.42	58.6				2	1111111000

a small fraction of the totality of notes actually compiled, and focus only on the most exceptional cases or the best examples of a given type of feature. The abbreviations used are summarized in Table 5.

The second auxiliary table (Table 6) consists mainly of classifications of nonringed galaxies. These objects were included during the production of CSRG II to facilitate comparing the author's classifications with other catalogs, especially the SGC. Anonymous objects in this list are assigned a running ACSRG number, where the "A" means they are additional to the CSRG.

6. ANALYSIS OF THE CATALOG

6.1. *Completeness*

The total number of galaxies in the main catalog is 3692. In discussing completeness, I note again that the fields most thoroughly searched are SRC numbers J001–J303 (see Fig. 2). Most of these cover declinations south of −42°. An additional 15 fields north of −42° were also thoroughly searched using CSRG II techniques. Figure 2 shows where these fields are located. All CSRG II fields are dotted in this figure. Twenty-two fields north of −42° have not yet been scanned for the catalog, mostly because the films were not available at the time CSRG I was being carried out. These are indicated by an asterisk in Figure 2. For an additional 17 fields, the scans were based on ESO-*B* or ESO-*R* films, again because the J films were not available. Note that the main table does not provide field information on the galaxies; however, the full input file for the CSRG does include this information and will be made available in computer form only.

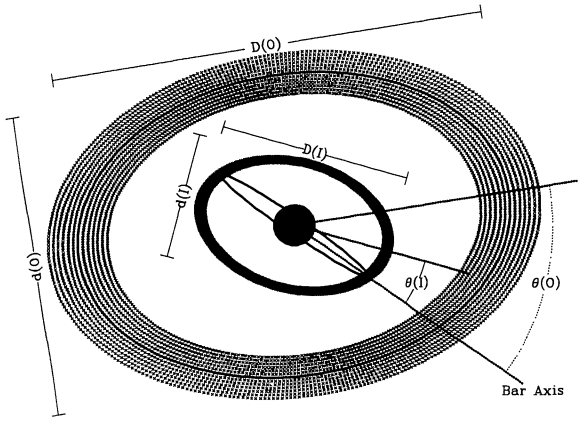

FIG. 1.—Schematic of the meaning of CSRG parameters, where "I" stands for inner feature and "O" stands for outer feature. Most CSRG features are pseudorings formed from spiral structure.

Of interest first is the median major-axis angular diameter of the different features listed in the catalog. The total number of inner features is 2639, for which the median angular diameter is 0.′43. The range in angular diameters is $0.'12 \leq D(\mathrm{I}) \leq 3.'6$. The total number of outer features is 2130,[5] for which the median angular diameter is 0.′78. The range of diameters is $0.'23 \leq D(\mathrm{O}) \leq 10.'5$. Thus, the typical ring feature in the CSRG has an angular diameter less than 1′.

Figures 3*a* and 3*b* show histograms of the distribution of angular diameters for outer and inner features, respectively. Note the large peak for inner features in the 0.′3 bin that may reflect interpretation uncertainties. A comparable peak is not seen in the outer feature distribution. The curves on the histograms represent fits of a uniform density distribution, $n \propto D^{-3}$, to the indicated portions of the diameter distributions. Least-squares fits gave the following:

$$n(\mathrm{I}) = 59.4/D(\mathrm{I})^3, \quad \text{range } 0.'45 \leq D(\mathrm{I}) \leq 4.'0, \quad (1)$$

$$n(\mathrm{O}) = 122.4/D(\mathrm{O})^3, \quad \text{range } 0.'75 \leq D(\mathrm{O}) \leq 4.'0. \quad (2)$$

[5] This number counts the R_1 and R_2' components of R_1R_2' cases separately.

TABLE 4

NOTES TO CATALOG OF SOUTHERN RINGED GALAXIES

RA (1950) Dec	Name	Field	Notes
0008.2−4721	ESO 241−23	J241	v. fine examp. of (R'_2), one of the largest; (rs) is exc., & B is also clr. on R241; sc (lsb) @1.91
0008.4−3529	ESO 349−37	J349	v. fine examp. of R_1R_2; (R_2) is an exc. closed oval, while (R_1) is weaker & clr. on only one side; B is a weak oval lens
0008.9−5714	ESO 149−22	J149	(L) is v. good in this obj.; B is clr. & is mostly an oval; sc @0.55; others also close in grp.
0012.3−6036	NGC 53	J111	v. fine examp.; (r) is one of the best; (R′) is made of two arms which break from (r) at B min. ax.; winding of arms is neither (R'_1) nor (R'_2); scs @1.06 & @2.85; B is exc.
0012.8−5731	ESO 111−22	J111	v. fine examp. of SA(r); SA type sugg. by R111; (R) is pat. & is v. good; sc @3.58
0015.6−3409	ESO 350−7	J350	exc. (R) sys.; B is good & (rl) is weak; (R) is v. good & as bri. as that in N1291; includes weak spir. arcs
0024.7−4116	ESO 294−16	J294	exc. examp. of (R'_2), one of the best; trace of (R_1) part also vis.; B has spir. arcs; sc @2.18 (see Figure 25)
0027.3−5148	ESO 194−21	J194	v. good early−type; (rl) is weak but clr.; B exc. & underfills (rl) ($d_B = 0.40$)
0031.7−2143	ESO 540−1	J539	fine spir. has an exc. (R'_1); B is an ans.−type with esp. bri. ans.; (rl) is clr.; in a small grp. with 4 comps.
0032.1−4356	ESO 242−14	J242	(R) & (l) are exc.; B is weak & seen only on R242; B has ans. char.; sc (edge−on) @0.84
0032.8−3750	ESO 294−23	J294	fine examp.; (R_1) is clrly. dimpd.; (r) & B are both exc.; only 1 clr. arm; scs @5.32 & @6.56
0035.3−3400	ESO 350−40	J350	Cartwheel ring galaxy; two ring feats. noted & meas.
0038.6−6343	ESO 79−5	J079	susp. this is a polar ring case; B overextends a strange ring
0039.6−4811	ESO 194−28	J194	v. good & looks like a case of bar,inner ring misalignment; (R′) is an (R'_2) with respect to the B ends & is v. good; sc @2.05
0040.8−5653	CSRG 78	J150	Exc. case of (R_1); no (r) or (l); B exc. also
0041.1−5028	NGC 238	J195	both rings are exc. but gal. looks tidally perturbed; (R) is beau. rounded oval & is atyp.; sc superposed @0.44; poss. up to 6 arms
0042.3−7652	ESO 29−7	J028	Probably (R′) is an (R'_2); beau. case of highly elong. (r) in rounder disk.
0045.0−3142	NGC 254	J411	(R) is exc.; (rl) is v. bri. on ESO−*B*, & there is no obv. B; appears to be a genuine & fine SA ringed gal.
0050.3−3129	NGC 289	J411	fine multiarmed spir. sim. to NGC 3261, 6902, & many others; (rs) is v. small compared to the extent of the out. arms; it is seen with the B on ESO−*B*; sec. pseudoring is formed with dimensions 1.40 x 1.11
0053.9−5306	ESO 151−5	J195	(R_1L) v. good & sl. dimpd.; 2 v. faint arms break from maj. ax. of this feat.; on one side (R'_2) formed; prob. $R_1R'_2$ case; large E @3.02
0054.7−4407	NGC 319	J243	exc. examp. of (R'_2), one of the best; OX oval in cent. needs to be checked on R243; NGC 322 @7.03
0059.6−5208	ESO 195−24	J195	exc. examp. with v. good (R′); bulge v. large; hsb
0102.0−4025	ESO 295−31	J296	v. good case with two exc. pseudorings; sc (lsb) @1.42
0105.2−4006		J296	(R'_2) is v. good in spite of small size; no sig. close comps.
0105.5−6136	ESO 113−12	J113	prob. an early (R'_2) case; (R) & B are both exc.; susp. weak spir. arcs off of B ends; CSRG 104 @5.99
0106.7−3733	ESO 296−2	J296	exc. case of (R'_1); feat. is v. faint (see Buta 1986a); (r) is v. bri. & v. elong. even though (R'_1) is nrly. circ.; vscs @1.74 & @2.05
0109.8−3230	ESO 352−18	J412	v. fine examp.; has a v. bri. circ. (r) cent. on a round bulge; there are two larger sec. pseudorings with dimensions 0.77 x 0.74 & 1.29 x 1.29
0110.1−1744	ESO 541−25	J541	exc. examp. of (R'_2); B is clr., & there is a v. sl. trace of an (l); B is clr.; no trace of (R_1) compon.
0112.7−3230	ESO 352−28	J412	(rl) & B are v. good; (R) is made of weak spir. segments; it is atyp.
0113.8−5027	ESO 195−35	J196	v. fine case; (R_1) is exc. & weakly dimpd.; B & (l) are also exc.; sc @3.07
0117.4−5203	ESO 196−3	J195	exc. examp. of (R'_2); exc. B has faint surr. (l); small edge−on comp. @4.45
0118.4−5323	CSRG 126	J151	fine examp. of (R'_1) with clr. dimpling; B is an exc. ans.−type; cc @1.07
0126.5−6806	CSRG 138	J071	exc. examp. of its type; (r) is v. bri. & much rounder than the exc. (R); sc @1.29
0132.6−3645	NGC 619	J353	v. interes. case; (rs) is exc. & is made of two arms emerging from the cent. reg.; (R′) is exc. & is a clr. (R'_1) with respect to the pointy ends,of the (rs); on CCD images, this obj. is a striking case of intrinsic bar,inner ring misalignment (see Figure 32)
0132.7−6204	ESO 113−53	J080	strong dimpling in (R'_1); a v. small but good case
0134.0−4041	CSRG 144	J297	both rings are exc.; (r) is v. bri., & (R) is a clr. dimpd. (R_1); B v. weak even on R297; sc @0.63
0134.8−8526	ESO 3−1	J002	exc., possibly dimpd. case; no comps. (see Buta 1986a)
0136.8−4705	ESO 244−44	J196	v. fine examp. of (R'_2), one of the clearest cases in the cat.; B is exc.; num. scs, nearest @1.16
0139.5−4628	ESO 245−1	J244	v. fine examp. of $R_1R'_2$ morph.; both ring feats. are clr., but the (R'_2) is most prom.; trace of dimpling in (R_1); no close comps; image on J244 much bett. than that on J245 (see Buta 1986a and Figure 25)
0142.7−3834	CSRG 159	J297	though faint, this gal. has a v. good dimpd. (R'_1); (rs) is a weak but clr. feat.; sc @0.53
0143.1−4208	ESO 297−27	J297	obj. has a poss. leading arm; there is one winding arm in inn. parts, then two v. faint outer arms winding in opp. sense; ccs @2.35 & @2.57
0146.7−4854	NGC 692	J197	v. fine (rs); beau. multiarmed spir.; B is oval which is OX on both J197 & R197
0147.7−5618	ESO 152−26	J152	exc. examp. of $R_1R'_2$; both feats. are clr., & the (R_1) part is clrly. dimpd.; (r) is v. bri., but B is weak on R152; sc (CSRG 166) @5.55
0152.1−3802	ESO 297−32	J297	v. good examp. of (R'_2); B is exc., & there are two extra short arms breaking off of it, not sym. placed; sc @6.38
0155.0−4030	CSRG 176	J297	small, but the (R'_1) is exc. & is clrly. dimpd.; B v. good also; cc @6.89
0156.3−6127	ESO 114−16	J114	v. interes. case of well−def. B & (r) & multiarmed out. spir. patt; some sl. asymm. in that core is not cent. in (r) & disk is off−cent. also; no. of scs, nearest @9.80
0158.2−6802	ESO 52−14	J071	(R'_2) is weak on closing but is still good; B is exc. & has ans. char; two arms mainly plus a small third arm off B min. axi.; cc @5.29
0200.6−4302	ESO 245−12	J245	v. good (R'_1) case; feat. is weak near closing points, but a clr. dimpd. shape is vis.; susp. unus. & asymm. out. struc.; sc @3.87
0204.3−5526	ESO 153−20	J153	One of best cases of (R'_1); gal. shows m=4 morph. & (rs) is aff. by it (see Figure 23); in small grp but quite symm.
0204.8−3641	NGC 824	J354	(rs) & B are v. good; B is confused on one side by a foregrd. star; multiple out. arms (see Buta 1986a)
0205.1−5710	ESO 153−23	J153	good case; cc @3.47
0207.6−4107	ESO 298−13	J298	is this a perfectly edge−on (R) system?
0227.5−4318	IC 1810	J246	v. interes. case; tight m=4 patt. & two arms form (rs); short B susp. on R246; part. (R) pres.; sc @2.35, in grp.
0227.5−4843	ESO 198−13	J198	(R) is extr. faint; (r) is doubled with a sec. (rs) having dimensions 1.23x0.76; nr noted by Buta (1986a); ESO 198−14 @8.94

TABLE 4—*Continued*

RA (1950) Dec	Name	Field	Notes
0229.8−4445	NGC 979	J246	v. interes.; B is perfect ans.−type; (l) is v. good, but (R) has a v. shallow lumin. prof.; it is v. diffuse and fades slowly; sc @3.18, ccs @9.06&.@10.5
0231.6−3916	NGC 986	J298	(R_1') is mostly good, but does not close on one side; obj. is a poss. case of intrin. bar,inner ring misaligment; N0986A @18.22
0241.6−2913	NGC 1079	J416	largest examp. of R_1R_2' in cat.; bri. ans.−type B vis. on ESO−*B*; weak (rs) or (r'l); (R_1) is alm. a lens with dimps.; (R_2') is made from two v. weak arms breaking from the (R_1); one arm breaks from near a dimp.; (R_1) is well inside (R_2')(see Figure 26)
0242.5−5203	ESO 198−28	J199	v. good case of (R_1'), which looks more closed on J198; B has ans. char. on R198
0243.7−5557	ESO 154−10	J154	Exc. case of (R_1'); B is exc. ans. type; perf. symm; clr. dimps. (see Buta 1986a)
0245.1−2229	ESO 546−20	J479	(R_2') is exc. in this v. small obj.; (r) is also v. good & is small compared to the (R_2')
0248.4−3136	ESO 416−35	J416	v. good & interes.; both rings are well−def.; (rs) is much rounder than the (R), as in N7187; susp. a third ring in nuc., with dimensions 0.37 x 0.23
0255.8−3655	ESO 356−22	J300	v. fine examp. of the multiarmed, ringed barred spir. type; (r) is a tilted rectan. & is v. bri.; sc @4.36 (see Buta 1986a)
0255.9−3918	CSRG 225	J300	small & faint, but has a clr. dimpd. (R_1) & a strong B; no (r) or (l); two scs close togeth. @7.32
0300.7−4232	ESO 247−14	J247	obj. looks like m=3 barred spir. with out−of−plane ring around the B; related to polar ring galaxies?; v. pec.
0301.3−5803	ESO 116−5	J116	both rings are v. good; (R) is a completely detached examp.
0302.2−5218	IC 1878	J302	promising case of intrinsic bar,inner ring misalignment; (R') does not close well on one side; B is an exc. ans.−type; sev. ccs
0313.7−3719	CSRG 252	J300	small but the (R_1') is v. fine with exc. dimpling on one side; feat. is weak at closing point on other side; B v clr.; in a close pair with a cc @0.51; not obv. interact.
0315.5−4117	NGC 1291	J300	v. fine (R) gal. as is well known (see de Vaucouleurs 1975); out. struc. could be R_1R_2', but the (R_2') part is alm. a detached circ.; struc. resembs. that in N7098 (see Figure 35)
0317.4−1936	NGC 1300	J547	alth. exc. as a prototype SB gal., this obj. has atyp. out. spir. struc.; there is an (R') which is neither (R_1') nor (R_2'); susp. it is a case of intrinsic bar,outer pseudoring misalignment; N1297 is nearby comp.
0317.7−2614	NGC 1302	J481	beau. 3 ring sys. with a weak B inter. to the (rl), which is the smallest feat.; (R') is v. good; intermed. ring is v. clr. & irrly. round (dimensions 2.08 x 2.00)
0318.2−5114	ESO 200−4	J199	v. good case of (R_1'), in spite of prox. to two comps. @0.69 & @1.11; B is ans.−type
0320.2−5150	ESO 200−9	J200	(R) is exc.; sc att. @0.35, but (R) reason. symm.; trace of arm one side of bar
0320.8−3717	NGC 1317	J300	v. interes. case; (rl) is exc., & B is beau. cigar type; (R') is v. v. faint & hard to meas.; N1316 south @6.26
0322.0−3638	NGC 1326	B357	both ring feats. are exc.; (R_1) is dimpd. (see Buta and Crocker 1991); B has ans. char.; two v. v. faint arms break from the (R_1), which is pat. in places
0329.2−3348	NGC 1350	J358	exc., large examp. of (R_1') (see Sandage & Bedke 1988); (r) is v. bri. pat. oval; B has ans. char. & is not strong; much dust in B reg. on B358
0332.9−2506	NGC 1371	J482	obj. has three clr. ring−like zones; B lies inside the (r'l) & is v. diffuse; sec. large ring has dims. 3.02 x 1.96; (R') made of arms breaking from this reg.; susp. more faint struc. bey. (R')
0333.4−3246	ESO 358−22	J358	fine early−type sys. has two clr. lenses, but interpr. as (L) & (l) are unc.
0334.9−3625	NGC 1369	J358	unus. case; (rs) is exc.; susp. this is a case of intrinsic bar,inner ring misalignment; out. disk has lens char. & is much rounder than the (rs)
0336.8−2630	NGC 1398	J482	(rs) is an exc. examp. of the broken spir. type; out. arms exhibit R_1R_2' char.; the (R_1) is more a lens & is quite clr.; (R_2') is also mostly good but does not close well on one side; there are short spurs breaking from this feat. & also much outside struc.
0340.5−4723	NGC 1433	J200	premier examp. of a ringed galaxy (see Buta 1986b); v. small comp. @6.76
0341.7−3601	NGC 1437	J358	obj. has a v. bri. pat. ring that morphologically is an (R_2'); however, feat. has unus. hsb & is imbedded in a beau. extended disk
0342.8−1825	NGC 1440	J548	(L) is exc., one of the best in the cat.; (rs) is made from two v. weak spir. feats. breaking from the B ends
0343.1−1847	NGC 1452	J548	B is exc., & (r) is clr. but weak in some parts; (r) shows a subtle doubling effect; bey. the (r), two spir. arms nrly. form an (R'); feat. looks like an ellipse with the ends missing; one arm breaks from (r) at B min. ax.
0345.2 3352	IC 1993	J358	v. interes.; (R') is exc. & v. pat. (see Buta and Crocker 1991); it is also nrly. circ.; obj. looks like a plan. neb. on J358; resembs. N1437 on the same chart
0356.9−5940	CSRG 305	J117	v. fine case; (R_1) part is clrly. dimpd.
0402.2−8112	ESO 15−5	J014	Both pseudorings exc.; ccs @3.13 & @4.47
0402.3−4329	NGC 1512	J250	(rs) & B are exc.; exten. faint out. struc.; def. signs of interac.; sc (N1510) @5.03 (see Lindblad and Jorsater 1981; Buta 1988)
0402.6−5415	NGC 1515A	J156	v. good m=4 case (like ESO 566−24); big spir. (NGC 1515) @1.90
0402.9−4805	ESO 201−17	J201	exc. case of (R_1), which is not dimpd. but which is enhan. near ends of (rs); latt. is OX on J201 & no B is vis. on R201; weak arms break from (R_1); ESO 201−18 @2.24
0402.9−4805	ESO 201−17	J250	v. fine & interes. case; a genuine SA−type with two pseudorings; SA type def. on R201; (r) is OX on J; ESO 201−18 (type SA(s)d) @2.24
0408.2−3949	IC 2036	J302	an exc., vhsb examp. of (R_2'), one of the best in the catalogue; B reg. still OX on R303; sc @6.86 (see Figure 25)
0408.8−5615	NGC 1533	J156	Exc. example; bar not ans. type on R156
0411.7−5752	NGC 1543	J118	the (R) is exc., one of the largest & best; B is exc., but the (l) is a weak feat.; cc (N1574) @87.65 (see Figure 30)
0412.2−3813	ESO 303−5	J303	obj. in a small grp. has a collosal env.; really spectac. given how small the grp. is
0412.6−3753	CSRG 335	J303	(r) is v. bri. & this is a fine examp. of the type; R303 sugg. SA type, but obj. is still sl. OX there; sc @2.73
0412.8−6447	ESO 84−8	J084	v. good examp. of (R_2'); (rs) is subtle, but the (R_2') is clr.; vsc @0.55 .
0417.9−3917	ESO 303−11	J303	ring galaxy, RK type, a v. fine examp.; sev. scs, nearest @1.38
0427.2−6242	ESO 84−18	J084	v. fine type examp.; sc @1.86
0429.7−5834	ESO 118−28	J118	fine examp. of (R_2'); B is exc. with ans. char.; (R_2') is a litt. weak at the closing points on both sides; sc @1.27
0431.3−3326	ESO 360−15	J360	exc. examp. of (R_1') (see Buta and Crocker 1991); B has ans. char.; (rs) is weak & may not be complete
0432.0−6258	CSRG 367	J084	v. interes. obj.; core is small & round, while (R) is large, thin, & faint; (R) is exc.; many smaller gals. surr., nearest @4.56
0434.1−5418	ESO 157−42	J157	pec.; big (rs) is underfilled by stubby bar; excess. faint (R')
0436.0−6515	ESO 84−26	J084	highly incl. obj. with a hex. (r) as in N7020; no (R), however, just a faint out. disk; core still OX on R084; cc @12.62

TABLE 4—*Continued*

RA (1950) Dec	Name	Field	Notes
0439.2−3740	ESO 304−11	J304	v. fine (R'_2) in this small obj.
0440.1−2032	NGC 1640	J551	(r) & B are both exc.; this is a v. fine case of an SB(r) spir. with an ext. multiarmed, out. spir. patt.; (r) is sl. lemon−shaped (see Fig. 34)
0444.9−5920	NGC 1672	J119	v. fine (rl) in this late−type obj.; though it has 4 arms, patt. differs from ESO 566−24; a rough (R'_1) is formed by two of the arms; both sets of arms break from the oval ends; sc @38.91
0445.4−5726	ESO 158−3	J119	fine examp. of the type; (rs) is weak but measurable; beau. m=1 spir.; ESO 119−8 @28.62; others smaller are closer but prob. bkgd.
0448.1−5745	ESO 119−8	J119	v. interes. obj.; exc. (R) is compl. detached from an inn. spir.; sc @4.25
0448.3−4202	ESO 304−24	J251	both rings are good though the (R′) does not quite close; B is v. good ans.−type on R304, & looks like a poss. case of intrinsic bar-ring misalignment; sc (edge−on) @2.52; cc @7.57
0448.5−5400	ESO 158−7	J158	strange obj. with a strong m=1 patt; (r) is fairly good, & an exc. B greatly underfills it (d_B = 0.21); sc @3.52
0455.1−6017	ESO 119−21	J119	v. fine examp. resembling N2983; B is exc. arch ans.−type with straight ears as in N7098; (R) is thin & reg.; clr. case of (s) −variety; cc (ESO 119−8) @30.97
0457.9−6206	NGC 1765	J119	v. fine S0 with exc. (l) & B; bey. (l) there is a faint disk; sc @4.02
0500.7−4843	ESO 203−16	J203	(R) is exc.; B & (l) also v. good
0505.2−5541	ESO 158−18	J158	appears to be a v. good m=1 spir. where the one arm winds into an (R′); sc @4.64
0506.0−3735	NGC 1808	J305	(R_1) is exc.; no B or (r), just a dusty oval lens that must be the B of the sys.; there is dust in the (R_1) where it breaks from the (l) (see Buta 1986a)
0508.9−3140	ESO 422−41	J423	fine late−type sys. has a clr., weak (r); B is good, but is sl. miscent. within the (r); disk has pat. & weak spir. feats. & is sl. distort.
0514.1−6132	ESO 119−48	J119	there is a v. faint, part. (R) or (R′) in this gal. that is enormous compared to the (l); ccs @4.75 & @9.12
0516.1−5407	ESO 159−4	J159	exc. case of (r) much rounder than (R), like N7187; B is ans. type on R159; sc @0.84, nrly. contact, but (R) is symm.
0519.1−6147	ESO 119−53	J119	all feats. are v. good; B is exc. ans.−type; two v. faint arms break from (R_1); cc (ESO 119−52) @5.25
0519.8−6119	ESO 119−54	J120	(r) & B are exc.; out. ring is v. diffuse & is mostly an (RL); ccs @2.19, @1.17, & @1.34 alm. overlap, but obj. still looks norm.
0532.0−4844	NGC 1998	J204	(R) is exc.; (r) is OX on J204 but meas. on R204; resembs. N7702
0533.5−4840	CSRG 436	J204	both ring feats. are exc.; (R′) is tight spir. patt.; cannot rule out a weak B; sc @1.90
0543.5−3255	ESO 363−21	J363	exc. examp. of (R'_2); B is good, & there is no (r) or (l)
0547.7−3305	ESO 363−31	J364	obj. with two orthog. oval rings; inn. feat. is clr., but out. feat. is v. faint & only a suspic.; rings are much larger than any other gal. in a small assoc. clus.; SA type seems secure
0554.6−3406	ESO 364−17	J364	v. fine examp. of an m=3 spir., one of the best in the cat.; (r) is v. good also & was seen on B364
0556.4−4552	ESO 254−6	J254	both rings are exc.; (R_1) is clrly. dimpd.; B also exc.; sc (edge−on) @3.72
0604.6−4902	ESO 205−19	J205	exc. examp. of $R'_1R'_2$; both feats. are clr.; B reg. is OX on J, but R205 reveals an ans.−type B envd. by a lens
0605.2−4343	ESO 254−16	J254	fine case that resembs. ESO 509−98 (see Buta and Crocker 1991); sc @0.78
0611.5−5929	ESO 121−11	J121	both rings are v. good, esp. the (r) which is v. bri. as in N7702; (R′) is a clr. (R'_1) with respect to the oval (r) & is dimpd. on one side; no ccs
0619.7−2713	NGC 2217	J425	beau. obj. has an exc. B, (rs) of the wrapped arm type, & a v. bri. (R) poss. of the (R_1) type; weak struc. bey. the (R) is reminis. of N1291 & may be an (R'_2) (dimensions 4.02 x 4.02)
0620.3−5101	CSRG 494	J206	v. good example. of (R'_2), small but clr.; scs @0.59 & @1.73
0621.0−5943	ESO 121−26	J121	v. fine examp. of its type; out. arms are v. extensive compared to (rs); no ccs
0621.9−3211	ESO 426−2	J365	exc. examp. resembling N1291 & N4573; B, (r) & (R_1) are all exc.; two weak arms break from the (R_1) & form a faint (R'_2) (see Buta and Crocker 1991)
0627.2−2628	ESO 490−6	J490	fine examp. of SA(r), one of the best in the cat.; (r) is a perf. ellip. feat., from which weak & short arms emerge; susp. obj. is obscured
0628.6−6328	ESO 87−22	J087	(R) is exc. & compl. det. from the clr. B; no (r) or (l); could be an (R_2) case; no close comps.
0635.0−3502	ESO 365−35	J365	exc. examp. of $R_1R'_2$; a weak B is surr. by a clr. (l); outside this region, two out. arms form an exc. (R'_2) (see Buta and Crocker 1991); (R_1) compon. is much weaker but clr. on one side
0636.3−5519	ESO 161−19	J161	(r) & B are exc. in this beau. spir.; arms form an open (R′); sc @0.64; others more distant
0640.2−5122	ESO 206−19	J206	(R'_2) is v. good, but core reg. is OX; R206 sugg. oval in cent., but angle hard to measure
0640.6−6007	CSRG 513	J121	exc. examp. of the type; (r) is v. bri. & R122 confirms SA type; two faint arms break from (r); comp. gal. pair @6.60
0643.7−4624	ESO 255−18	J256	definitely a poss. ring gal. with two clr., off−cent. rings; sc @0.59
0644.4−7411	ESO 34−11	J034	Vela ring gal.; 3 comps.
0648.6−6417	NGC 2307	J087	exc. case of SB(r) with multiarmed out. spir. patt.; perf. examp. of (rs) with minor axis breaks; N2305 @4.04 (see Figure 34)
0653.8−6334	ESO 87−51	J087	v. good; both rings are exc. even on R087; (r) is enhanced near maj. ax., but no clr. B is evid.;
0719.5−6258	NGC 2381	J123	sl. asymm. but a fine case of $R_1R'_2$; B is weak ans.−type seen only on R088; (l) is v. good; (R_1) is weak but clrly. dimpd.; (R'_2) is large & asymm.; N2369A @11.52; sc (diffuse) @4.57
0727.7−5310	CSRG 541	J163	both B & (R'_2) are exc.; resembs. ESO 567−56; no sig. comps.
0754.6−5210	NGC 2502	J208	large SB(rs)0^+, obscured?; or pec. S0?
0804.0−4842	ESO 209−16	J208	exc. examp. of (R'_2); B v. good also
0816.6−2520	NGC 2566	J495	promising case of intrinsic bar,inner ring misalignment; (r) is exc. & of wrapped arm type; feat. is lightly pat. as in N1433; out. arms are v. faint & form a part. (R′), poss. of the (R'_1) type; B shows leading dust lanes; core round & nrly. stell. on ESO−*B*
0830.6−5937	ESO 124−18	J125	v. unus.; prob. bar,inner ring misalignment case; (rs) is v. weak & B sig. underfills (d_B = 0.34); cc @1.81
0839.5−6101	CSRG 559	J125	(R) is exc. (R_1) with weak dimpling on one side; B may be highly foresh.; weak (l) is pres.; vscs @1.41 & @1.79; lc @12.13
0843.8−1907	NGC 2665	J563	the (R'_1) is an exc. examp., one of the best & largest in the cat.; figure eight shape with dimps. is striking; (r) is weak & pat., but B is exc. (see Buta and Crocker 1991)
0859.4−2436	ESO 497−3	J496	(R_1) is v. good; B clr., & there is no (r) or (l); (R_1) shows subtle dimps.; serious misalign. between the B & (R_1) is possible; on J497, ring is more pat. & there is a faint wisp off one side
0912.3−6035	ESO 126−2	J126	v. fine circ. (R′) in a barred gal.; form looks most like (R'_2); no (r) vis. in B reg. on R126
0924.9−1919	ESO 565−6	J565	both (R_1) & B are exc.; (R_1) is dimpd. clrly. on one side but not on the other; it is half ring, half pseudoring
0926.2−2409	ESO 498−10	J498	exc. examp. of (R'_2), even though it is rather small; B clr., & there is no (r) or (l); vsc @0.84

TABLE 4—*Continued*

RA (1950) Dec	Name	Field	Notes
0927.0−2010	ESO 565−11	J565	one of the most interes. CSRG gals. (see Buta and Crocker 1991); (nr) is OX on J, but can be just made out on R565; (R′) is made of two diffuse arms; B has ans. char.; (rs) is pointy oval, & is intrin. misaligned with B (see Figure 32)
0934.4−2054	NGC 2935	J566	large examp. with a pointy oval bar-lens zone & two bri. arms which form a fairly good (R'_2); feat. does not close well on either side, but it is still a def. case (see Buta and Crocker 1991)
0941.4−2015	NGC 2983	J566	(RL) & B are exc.; obj. is an exc. examp. of its type (see Buta and Crocker 1991)
0948.0−2247	ESO 499−9	J499	exc. case; (r) is v. bri. & mostly OX on J499, so had to be meas. on R499; core still OX on R499, so cannot rule out a weak B; all arm feats. are weak
0951.2−1921	ESO 566−24	J566	one of the most interes. objs. in the cat.; (r) & B are both exc., but outside the (r) are four v. bri. arms in a beau., sym. patt.; v. rare to see this sym. in a multiarmed spir. (see Buta and Crocker 1991)
0952.2−2528	NGC 3054	J499	exc., multiarmed ringed, barred spir.; B does not fill (r) (d_B = 0.50)
0952.3−2804	NGC 3056	J435	beau. N1553 type with with exc. large (l); one of the best in the CSRG; feat. is pure (l) on R435, & SA type is secure
0957.2−2235	NGC 3081	J499	(r) is exc., one of the best; (R) is v. faint; B is weak & underfills (r) (d_B = 0.67); see Buta (1990a)
0957.9−3359	IC 2532	J373	beau. SB(r) of the wrapped spir. arm type (as in N5921; see Wray 1988); resembs. N1433 & N1512; B374 shows a round core that may include an (nr); (rs) is diffuse & fairly smooth
0958.8−1912	ESO 567−3	J567	fine examp. of pure (R'_2); B is clr.; near clus.
1001.6−2720	IC 2537	J499	v. fine multiarmed spir. resembling N3054; (rs) is v. open & B is weak; scs @3.96, @4.21, @4.21, & @4.63
1003.1−2132	CSRG 584	J567	(R'_1) is a v. good, sl. dimpd. examp.; B reg. OX on J, but clearer on R567
1003.6−2249	ESO 499−41	J567	this gal. has an exc., sl. dimpd. (R_1); prob. there are also a B & an (r), but cent. is OX even on R499
1004.3−1859	NGC 3124	J567	v. interes. & beau. multiarmed spir. with an exc. (rs); most interes. is the B which looks like a spir. on R567; B has ans. char
1005.7−3459	IC 2548	J374	beau. "plume" barred spir. (see Buta 1984b); B is exc.; (r) is oval & has 4 emergent arms; two main out. arms break from B ends, while plumes break from min. ax. of (r); (R′) is mainly of (R'_1) type but does not close well
1006.6−3951	ESO 316−30	J316	(R) is exc. just as in N7020; check cent. on ESO−*B* for poss. OX (r)
1008.8−2037	NGC 3146	J567	beau. m=3 spir. with poss. OX (r) & B; cent. still OX on R567
1011.1−3544	ESO 374−44	J374	exc. examp. of (R'_2); no (r) or (l); poss. trace of (R_1)
1013.4−2003	ESO 567−32	J567	(rs) & B are exc.; (R) is real but is v. faint; (rs) is bri. in arches near B ends
1019.4−1810	ESO 567−56	J567	one of the best (R'_2) rings in the CSRG; B is an ans.−type as in ESO 509−98; no (r) or (l)
1026.9−4424	NGC 3261	J263	textbook case of (rs)−type; B does not fill (rs); dwarf comps. @1.73, @2.52, & @3.64; d_B = 0.55; out. arm patt. complex
1027.7−3458	NGC 3269	J375	(R'_2) is exc. in this highly incl. obj.; however, no B is vis. on J or B375, although it could be end−on (see Buta and Crocker 1991)
1028.9−1817	ESO 568−13	J568	good case of a dimpd. (R'_1); B is exc. ans.−type
1032.5−2820	ESO 436−46	J436	beau. spir. has well−dev. arms & a good normal (rs); arms break from the (rs) at the B min. ax. & do not form an (R′); out. arms form a pure spir.
1035.1−2504	NGC 3313	J501	(r) & B are both exc.; out. arms v. faint & complex (see Figs. 28,29)
1035.1−2603	ESO 501−51	J501	v. fine examp.; (R′) is exc. & lightly pat.; no B seen on a PSS copy plate
1035.6−2035	NGC 3450	J569	fine multiarmed spir. with a clr. B & circ. (rs); out. spir. patt. is oval along B; sc (edge−on) @3.69; d_B = 0.67 (see Fig. 34)
1037.6−2956	ESO 437−33	J437	(R'_1) is exc., one of the best in the cat.; also a hint of (R'_2); cent. is OX on J, but ESO−*B* reveals an arch ans.−type B, part of an (rl); large, round core (see Buta and Crocker 1991)
1038.5−4603	ESO 264−32	J264	v. beau. SB(r) spir. with v. open arms; (r) is exc.; B does not fill (r) on J264 (d_B = 0.27); in clus., compact grp. of 3; E/S0 @3.80
1041.3−3609	NGC 3358	J376	beau. large examp. of an (R'_2) (see Buta and Crocker 1991); B is weak, & there is a clr. (l); obj. resembs. N4909
1048.1−3835	ESO 318−19	J318	obj. shows the $R_1R'_2$ characteristic & is v. good; core is oval & should be checked for an (r) on an ESO chart; (R_1) compon. is sl. dimpd.
1049.9−3224	ESO 437−67	J376	exc. examp. of an (R'_1), one of the best in the cat.; B is exc. & has leading dust lanes; (r) is v. bri.; obj. resembs. N1433 closely (see Buta and Crocker 1991)
1050.4−4454	ESO 264−47	J264	exc. case; all ring feats. are subtle; scs @1.80, @1.72, & @4.52 (see Buta and Crocker 1991)
1056.3−4619	NGC 3482	J264	exc. example of $R_1R'_2$ (see Buta and Crocker 1991)
1109.0−1801	NGC 3571	J570	(R) is exc. & the (rs) is fairly good; B is only a suspic.; need R570 to be sure; resembs. N3623 in the Hubble Atlas
1116.4−4624	ESO 265−22	J265	exc. case of (R'_2); lsb comp. @5.03 (see Buta 1986a)
1126.5−2212	ESO 571−3	J503	case where an (r) appears rounder than an (R), but the B is not an end−on case; (r) is exc. & is doubled on one side, complic. the min. ax. dimen.; (R) is v. faint but mostly good; B does not fill (r) (d_B = 0.34)
1132.9−3246	CSRG 616	J378	ring is exc. & is v. bri., but since gal. lacks a B, cannot be sure ring is an (r) or (R)
1133.1−3741	NGC 3742	J320	exc. examp. of the type; (rl) resembs. that in N1808; (R′) is good, but obj. may be interact. with N3749
1136.5−3728	NGC 3783	J320	(r) & B are both exc. in this well−known Seyfert; there is an intermed. pseudoring (1.12 x 1.01); (R′) is v. thin & easy to meas. (see Buta 1986a)
1140.7−1807	CSRG 622	J572	the ring is alm. a pure (R_2) case; both (R'_2) & B are exc.; B is ans.−type
1147.9−1818	ESO 572−5	J572	fairly good; susp. (R_1) part; B clearer on R572; sc (type E) @1.16
1150.7−3851	ESO 320−30	J320	(r) is a pat. closed oval; (R'_1) is v. faint & weak on closing; no clr. B, but (r) is at edge of an obv. oval (see Buta 1986a)
1156.0−1804	NGC 4024	J572	fine examp. of the type; sc @1.60
1157.2−2158	CSRG 635	J572	feats. are all mostly good; susp. obj. is a case of intrin. bar,inner ring misalignment; susp. (R′) is an (R'_1) misaligned with clr. B
1158.0−2103	ESO 572−41	J572	(r) & B are exc.; (r) is circ. in an elong. disk, which makes the gal. look like an eskimo; disk is elong. along the B
1205.4−3004	IC 3010	J440	beau. obj. shows a weak but clr. (R'_2), & a trace of an (R_1L)with dimensions 1.10 x 0.95, $\theta = 82.°9$; B is also weak but clr.; only a round core is vis. on ESO−*B*
1209.8−5211	ESO 217−30	J217	fine case; (r) is v. good & SA type is clr.
1219.6−3312	NGC 4304	J380	has open (rs) of the wrapping arm type; B is v. bri. & has leading dust lanes; out. arms are complic., but vaguely form an (R'_1)
1219.9−2204	ESO 573−17	J573	(R) is v. good; susp. v. weak spir. struc. assoc. with it; B is weak & may be arch ans.−type; comp. @3.28
1221.9−2121	ESO 573−18	J573	good, but the (R'_2) is boxy; B is a good ans.−type; arms of the (R'_2) go past the line perpend. to the B; total winding exceeds 360°

TABLE 4—*Continued*

RA (1950) Dec	Name	Field	Notes
1222.5−3930	IC 3290	J322	exc. pure SB spir. near large E (N4373) @1.93
1225.8−3738	CSRG 660	J380	small obj. has an exc. (R_1') with weak dimps.; B is v. good, & there is no (r) or (l)
1226.7−2253	NGC 4462	J574	fine, large examp. resembling N4274; B is strong & bulge is large; disk is partly flocc.
1228.7−2601	ESO 506−15	J506	both rings are v. good, but B is clrly. misaligned intrinsically with them; this is a v. good case of misalignment; sc (edge−on) @0.50 (interact.?)
1233.3−4245	ESO 268−24	J268	exc. case of (R_1) ring; (r) also v. good, but B is weak; a short arm breaks from (r); cc @2.97
1233.4−3910	NGC 4553	J322	exc. examp. of its type; (r) is v. bri. (see Buta and Crocker 1991); (RL) is a weak feat.; sc @2.57
1234.1−4152	ESO 322−31	J322	fine examp.; both B & (r) are exc.; nothing sig. bey. (r); vscs @2.07 & @6.37
1235.0−4321	NGC 4573	J268	feats. v. subtle, but this is an early R_1R_2'
1235.8−2322	ESO 506−25	J506	(r) is exc. & SA type is firm, but (R′) is unus.; on one side it is an (R), and on the other side it is an (R′); (R′) is small compared to (r); sc @4.85; cc @7.49
1239.9−4028	NGC 4622	J322	exc. examp. of type; ccs @7.22 & @7.33; leading spiral arm (see Buta, Crocker, and Byrd 1992)
1240.2−3008	ESO 442−15	J442	beau. obj. shows a good (r), a good ans.−type B, and two out. rings; (R_1) part is v. bri. & mostly closed, while the (R_2') is faint but def.
1247.0−2453	ESO 507−16	J507	obj. shows the R_1R_2' char. with an esp. good (R_1) which is clrly. dimpd.; (R_2') is made of two faint arms breaking from the (R_1) & does not close well on one side; (rl) is exc.; B is weak (see Buta and Crocker 1991)
1249.6−4047	NGC 4744	J322	has a beau. arch ans.−type B where the arcs are straight as in NGC 7098; (l) is v. weak; in clus. with many comps.
1251.4−1955	ESO 575−21	J575	(r) & B are exc.; out. disk has a tightly wrapped spir. patt.; no clr. (R) or (R′); (r) is sl. brok.
1252.0−1802	ESO 575−23	J575	v. interes.; B is good (aff. by a field star on one side); (rs) is weak but clr.; out. arms form a v. fine (R′) that is unus.
1253.1−1952	ESO 575−28	J575	(R_2') is a v. fine examp.; B is ans.−type on R575 & may be surr. by an (l); one of the best examps. of the type in the cat.
1254.1−4251	ESO 269−13	J323	exc. examp.; susp. a v. v. faint (R)
1258.5−1756	ESO 575−47	J575	exc., large examp. of (R_1'), one of the best in the cat.; B is also exc., & (rs) is a v. fine wrapped arm type (see Buta and Crocker 1991)
1259.2−4230	NGC 4909	J269	see Buta and Crocker (1991) for CCD images; on J269, susp. a weak arch ans.−type B at lens maj. ax.; out. arms complex & show weak trace of (R_1) not seen in CCD images; sc @14.53
1301.3−4109	NGC 4930	J323	v. fine examp. of multiarmed, ringed barred spir.; B is exc. & (rs) is v. good
1307.2−4610	ESO 269−57	J269	v. fine example; (r) is exc. with arches at ends of B; (R_2') is also v. good & distinct.; B is weak & core is oval perpend. to B (see Buta 1986a)
1307.8−3920	ESO 323−89	J323	exc. case of a double−lens galaxy with no trace of a B
1307.8−4118	ESO 323−90	J323	obj. is double−barred; angle bet. bars is 44.°3; nothing is vis. bey. the (r)
1309.1−1900	NGC 5006	J576	v. interes. case; (r) is exc.; B seen best on R576; out. arms are complex but an exc. (R′) is formed; three clr. arms follow an ESO 566−24 patt.; there is some asym. bey. the (R′)
1311.4−4242	NGC 5026	J323	B & (r) are both exc.; outside the (r), there is an extensive disk with weak enhancements, alm. an (RL)
1314.8−3150	IC 4214	J382	both rings are exc.; (R) is fine (R_1) type & (r) is v. bri.; no B evid. on ESO−*B*, but susp. an (nr) (dimensions 0.27 x 0.16; see Buta and Crocker 1991, 1993a)
1319.0−2710	NGC 5101	R508	beau., large examp. of $R_1'R_2'$; (rl) & B are both exc.; (R_2') is best def., while (R_1') is clr.
1322.6−2052	NGC 5134	J576	large examp. of an (R), nrly. circ.; also a v. elong. (r) which is pat. near its maj. ax.; sl. traces of spir. struc.; B underfills (r) (d_B = 1.11); (R) among the faintest; lens has dimensions 2.07 x 1.45; lens shape differs from the (r)(see Buta and Crocker 1991)
1322.9−2612	ESO 508−78	J509	(R_1') is exc., one of the best examps. in the cat.; B is exc. & crosses a v. faint (r); (R_1') is made of two arms breaking dir. from the B ends; they do not close exactly to the opp. ends, but ident. as (R_1') is def. (see Buta and Crocker 1991)
1323.0−2934	NGC 5135	J444	beau. barred spir. with an exc. B & a perf. (l); out. arms are v. extensive & nrly. form an (R′) of unc. type; each arms splits in the out. parts
1327.4−8011	ESO 21−3	J021	v. good; arms forming (R_2') come off B min. ax.
1327.9−2754	NGC 5182	J509	beau. examp. of a highly elong. (r) in a disk which seems face−on; (r) is v. bri. & v. oval; B has leading dust lanes; 3 arms break from (r), two of which form an (R_2')
1328.7−2100	ESO 577−3	J577	exc. examp. of (R_2'), one of the best in the cat.; also has a v. bri. (r); B best seen on R577; (R_2') is spectac. & well−def. (see Buta and Crocker 1991)
1330.0−3143	ESO 444−70	J444	obj. is v. sim. to ESO 566−24; (r) is nrly. round & the B is clr. on R444; obj. has four arms in a pinwheel; obj. also resembs. N1433
1330.7−4754	NGC 5206	J220	susp. a v.v. faint ring around early S0; feat. could be artifact of field stars
1332.5−2746	IC 4290	J509	(r) is exc., one of the best in the cat.; it is crossed by an exc. B; two out. arms break from the (r) at the B min. ax. & form an (R′); feat. is v. v. faint (see Buta and Crocker 1991)
1333.0−3008	ESO 444−76	J444	(R) is v. bri. & is prob. an (R_1); B reg. is OX on J444, but B is seen clrly. on R444; no (r) evid. on R444, but J444 suggests pres. of an (l); much diffuse light is bey. the (R)
1334.4−4935	NGC 5234	J220	exc. (R)SA case; (R) filled with light; SA type confirmed on R220; ccs @4.39 & 4.95
1338.1−2750	ESO 445−10	J509	fine examp. showing R_1R_2' char.; B is ans.−type & is wrapped by a v. elong. (rl); (R_1) is plainly vis. & is closed; (R_2') does not close well on one side but is still clr.
1340.6−2541	ESO 509−98	J509	this obj. is the prototype of the R_1R_2' morph.; B is exc. & there is no (r) or (l); both (R_1) & (R_2') components are exc.; (R_1) part is sl. dimpd.; this is a beau. examp. (see Buta and Crocker 1991)
1347.7−3812	ESO 325−28	J325	(R_2') is an exc., nrly. round examp., one of the best in the catalogue (see Buta and Crocker 1991)
1349.5−2739	ESO 445−64	J510	v. fine examp. which resembs. N1291; B is v. good & is surr. by a clr. lens; out. struc. shows a v. good R_1R_2' char.
1350.6−1952	ESO 578−3	J578	obj. has an exc. ring, but morph. is confusing; interpr. of ring as (r) or (R) is unc.; B greatly underfills the ring (d_B = 0.22); susp. it is an (R), but extensive spir. struc. lies bey. it
1354.8−4341	NGC 5365	J271	v. fine, large examp. with an exc. B & a beau. env.; on R271, bri. core is oval perpend. to B; sc @3.60
1357.9−3359	ESO 384−29	J384	beau. examp. of v. early (R_2'); ring is diffuse & barely misses closing; no (r) and only a weak trace of an (l)
1400.3−1812	ESO 578−18	J578	v. good case; (r) is v. bri. & sl. pat.; B is stubby oval which underfills the (r) (d_B = 0.22); two arms break from the (r)

TABLE 4—*Continued*

RA (1950) Dec	Name	Field	Notes
1402.6−3858	IC 4367	J325	fine obj. with a bri., oval, broken (rs); feat. is small compared to the disk size
1403.6−3405	ESO 384−53	J384	beau. spir. has v. well−dev. arms & a large (rs) enveloping a short B ($d_B = 0.34$); susp. B & (rs) are intrins. misaligned
1409.1−1937	ESO 578−33	J579	v. fine examp. of an (R)SA; (R) is exc. & perf. det.; R578 reveals no struc. in the bulge reg.
1410.7−1822	ESO 579−2	J579	exc. examp. of (R'_2); B is well−def., & there is no (r) or (l); ESO 579−1 @4.85
1419.4−3408	ESO 385−15	J385	obj. has an exc. (R′) made of two arms which wind from an elong. cent. reg. which looks like a foresh. (r) on J385
1439.6−1702	NGC 5728	J580	(R_1) is exc., one of the best in the cat.; (r) is brok. near min. ax. & is pointy; B is weak & does not fill the (r) ($d_B = 1.45$); dust lanes are vis. in the B (see Buta and Crocker 1991)
1441.5−4809	ESO 222−16	J272	(R) is exc. & quite narrow; bulge is large & alm. overwhelms the B; no sig. comps. on R222
1454.6−2128	ESO 581−3	J581	(R) is exc. & a v. good examp. of (R_1); B is best seen on R581; no (r) or (l)
1455.7−4147	NGC 5786	J273	(R′) is exc. & seems to be an (R'_2), though it is atyp.; the arms wind an extra 180° before going into the (R′); two extran. arms break from B ends & merge with (R′)
1527.1−1827	ESO 582−13	J582	v. fine examp.; (rs) is a v. bri. brackett type; two out. arms break from the (rs) near the B min. ax. line; B is weak & best seen on R582; two out. arms are v. bri. & do not form an (R′)
1652.1−6553	ESO 101−18	J101	v. fine examp. of the multiarmed type; (rs) has v. low contrast, but the B is exc.
1712.3−6246	NGC 6300	J102	v. fine examp.; interes. multiarmed patt. outside the (rs)(see Buta 1987b)
1736.2−7151	CSRG 817	J070	v. good case of (R'_2)
1738.1−6140	NGC 6398	J139	(R) is exc. & is pat. compared to inn. regs.; there is a trace of (R'_2) on one side; no dimps.
1812.8−7109	ESO 71−6	J071	v. good examp. of $R_1R'_2$; (r) is v. bri., & both out. feats. are clr.; no clr. B, but the (r) is an obv. oval; ACSRG 103 @11.0
1826.2−4247	ESO 281−1	J280	(R'_1) is exc. & is sl. dimpd.; B & (l) are clr.; sc (ESO 281−2) @4.02
1832.9−4706	ESO 281−14	J230	exc. examp. of (R'_2); B v. good also; ESO 281−12 @12.75; sc @5.44
1843.9−5800	IC 4774	J140	v. fine m = 3 barred spiral
1844.0−6414	NGC 6684	J103	B is v. fat on R103 and still somewhat OX; v. large bulge compon.; there is weak struc. in the out. lens; (r) is exc.
1845.1−5119	ESO 231−1	J230	v. interes.; both rings v. good; (R′) striking; sc @6.34
1854.0−6312	IC 4800	J104	B in this one is a v. fine ans.−type; core reg. is boxy, and B does not fill the (r)($d_B = 0.84$)
1903.3−6127	NGC 6739	J141	v. beautiful S0; env. v. smooth with sharp edge
1905.0−6356	NGC 6744	J104	fine multiarmed spir.; B is quite bri.; min. ax. dimension of (r) is subject to interpr.
1907.2−5708	NGC 6753	J141	(R′) is hex. and v. inter.; (r) is best seen on ESO−*B* (see Buta 1986a)
1911.2−5045	NGC 6761	J231	(r) & B are exc.; (R′) looks like a weak 4−leaf clover; vsc @1.79
1912.9−4647	ESO 282−32	J231	(R_1) exc. & dimpd.; B is weak ans.−type on the (r); ccs @6.60 & 4.94; diffuse arms may break from (R_1)
1918.9−5106	ESO 232−4	J232	v. fine case; (r) is exc. & is v. bri.; (R_1) is sl. dimpd.; out. struc. having dimensions 1.26 x 0.73 could be interp. as a third ring or pseudoring; only a v. weak B is susp. on R232; 2 scs, nearest @1.34
1919.6−6001	NGC 6782	J142	v. fine examp. of (R'_1); (r) is exc., v. pointy, & not filled by B ($d_B = 0.67$); (R'_1) is v. faint & poss. dimpd. on one side; cc @30.86 (see Figure 24 and Byrd et al. 1994)
1937.9−5259	CSRG 869	J185	small, but a perf. examp. of (R'_2); may be a (l), but not discernible at this scale
1943.1−3519	ESO 398−31	J398	clr. B crosses an oval (r) perpend.; nrly. circ. shape of out. disk sugg. this is a case of intrin. bar-ring misalignment
1946.5−2634	ESO 526−7	J525	exc. SA(r) sys., one of the best in the cat.; (r) is clr., & is an enhance. at the edge of a lens; extensive multiarmed spir. patt. of lsb emerges from the ring; susp. galactic extinction
1958.2−1712	MCG −3−51−1	J595	exc. examp.; (rl) is clr.; two conspic. arms break from it but do not quite form an (R′); core is clr. & SA type is def.
2002.0−6021	IC 4938	J143	v. inter.; (rs) is v. open & can be interpr. in diff. ways; (R) is half bright, half faint (see Buta 1986a)
2002.8−5632	NGC 6855	J185	v. interes. case; norm. B with weak (rl) is imm. in large lens 1.12 x 1.12, bey. which lies a beau. thin (R); E comp. @2.07
2008.5−5431	ESO 186−12	J185	exc. case of poss. intrinsic bar,inner ring misalign. (see Fig. 32)
2008.8−2058	ESO 596−1	J596	beau. late−type spir.; out. arms form a weak (R'_2); B is an oval with an enhanced rim; could be a ring; small round nuc.
2010.4−4441	NGC 6878	J284	v. fine grand design spir.; two main arms split in the out. parts
2016.2−8144	ESO 26−1	J010	v. good late−type examp. of (R'_2)
2018.5−4809	ESO 234−11	J234	exc. (R) case; pair with ESO 234−9 @2.50
2020.3−5049	CSRG 913	J234	v. good case of possible polar ring galaxy
2021.0−4349	NGC 6902	J285	(r) is exc., so intense that it had to be measured on R285; susp. a v. weak B on R285; out. arms spectac.; sc @5.74
2021.1−7246	ESO 46−10	J074	ring galaxy, a v. fine examp.; sc @0.72
2024.0−3525	ESO 400−24	J400	late−type obj. has two exc. rings; B is v. good; (r) is pat. & nrly. round, while (R_2) is pat. & oval
2026.6−7209	ACSRG 121	J074	prob. polar ring sys., near CSRG 920 @0.89
2026.7−4133	CSRG 921	J340	(R_1) is exc.; B is v. good, & there is no (r) or (l)
2027.3−7220	IC 5009	J074	v. fine case; B is strong arch ans.−type; fainter edge−on @7.33
2033.1−2200	ESO 597−14	J597	(R'_1) is exc.; (r) & B are both also v. good; the two ring feats. are v. elong. in nrly. perpend. dirs.
2034.7−5217	NGC 6935	J186	one of the best SA(r)'s; (r) is v. bri. & sl. boxy; (R) is v. faint and partly missing; N6937 @4.40
2035.1−5219	NGC 6937	J186	beau. examp.; (r) & B v. good; out. arms v. pat. & open; patt. pec.; N6935 @4.40
2035.8−4122	ESO 341−2	J340	v. fine case of $R_1R'_2$; (R'_2) part is v. good while (R_1) part is weak but def. (see Buta 1986a)
2036.7−7348	NGC 6932	J047	(R) is exc., one of the best; B is v. weak & is only two narrow slivers; (r) is arched as in N3081; (R) is prob. an (R_1) without dimps. (see Figure 31)
2036.9−5429	NGC 6942	J186	v. interes. case; (R′) involves a 450° winding of two arms, & is most like (R'_2); B exc.
2051.0−4416	ESO 286−10	J286	(R′) appears made from a single winding arm; bulge v. large; scs @2.01 & @2.39
2057.4−2936	ESO 464−11	J464	obj. has an exc. (R'_2) & a trace of an (R_1) compon.; B has ans. char. & is ring−like; close to ESO 464−13
2058.0−2932	ESO 464−13	J464	fine obj. has an exc. (R'_2), tilted such that the B is highly foresh.; only susp. the B on ESO−*B*; susp. a faint, part. (l); close to ESO 464−11
2100.6−7259	CSRG 983	J074	(r) is exc.; num. scs are near, nearest @0.79
2101.5−4719	ESO 286−37	J286	v. incl., but $R_1R'_2$ still clr.; need R286 for core reg.; cc @8.02
2101.9−2919	ESO 464−21	J464	v. interes. case; obj. has a fine ans.−type B, one of the best in the cat.; (R) is perf. closed oval oriented alm. exac. perpend. to the B; no trace of an (r) or (l)
2103.1−4819	ESO 235−58	J235	B shows dust lane & is prob. an edge−on gal.; may be rel. to polar ring gals. (Buta and Crocker 1993b); ESO 235−57 @3.13

TABLE 4—*Continued*

RA (1950) Dec	Name	Field	Notes
2104.2−2415	ESO 529−24	J529	v. good examp. of R_1R_2'; B is a weak, poss. arch ans.−type; both out. rings are clr. but subtle
2104.3−6731	ESO 74−25	J074	v. fine examp.; beau. spir. with a v. bri. (r); SA type clr.; 4 scs, nearest @2.07
2107.1−4743	CSRG 998	J286	(r) is v. bri. & sl. pat., but there is no spir. struc.; core v. large & round; susp. v. faint (R); N7187 type; ccs 5.74 & @10.7
2107.2−6414	NGC 7020	J107	exc. outer ringed galaxy, one of the best (see Buta 1990c); X char. of inn. regs. not vis. on J107 (see Figure 30)
2108.6−4607	ESO 286−74	J286	v. fine examp.; (r) is v. good & B is arch ans.−type as in ESO 507−16; two faint out. arms, v. open; cc @7.83
2112.1−6440	IC 5092	J107	v. interes.; The (R′) is exc. & has a distinct pentag. shape.
2115.4−6716	ESO 107−20	J074	both rings are v. good; (r) is bri., but the B is v. weak & only evid. on one side; (R_1) is dimpd. weakly on one side; susp. two arms outside this feat.; sc @13.06
2119.4−3654	ESO 402−26	J402	interes. sys. has an exc. (R_1') imm. within a faint, pat. disk; (r) is small; B has ans. char. on ESO−*B*
2122.3−4255	ESO 287−19	J287	v. beau. examp. of a highly incl. (R) sys.; (R) is virt. perfect; need R287 to assess fam. & var.; cc @3.47
2122.7−4238	NGC 7060	J287	v. good; (R_1') is sl. distort. on one side but is still a good case; core v. large; B is arch ans.−type as in N7098; ccs @5.19 & @10.5
2128.4−3623	ESO 403−4	J403	exc. examp. of (R_1') with dimps.; B seen best on ESO−*B*
2131.8−5628	ACSRG 137	J188	beau. m=1 spir.; no good comps.; clus. of small gals. is due east, nearest memb. @4.30
2136.1−4923	ESO 236−29	J236	(r) is exc. in this clr. SA sys.; (R) is also v. good but is broken into weak spir. struc. on one side; ccs @4.19 & @5.56; sc @1.73
2137.5−6408	NGC 7096	J107	v. fine examp. of (R′), sl. dimpd.; susp. an (rs), but could not confirm on R108
2139.3−7521	NGC 7098	J048	exc. (R) gal.; B is fat & unus., with oval ansae at the ends; does not fill (rs) (B dimensions: 1.41 x 0.75); there is clr. struc. bey. the (R)(see Figure 35)
2140.1−3912	IC 5128	J343	both rings are exc.; (r) has hsb & is closed; (R_1) is exc. examp.; B reg. is OX & should be checked on an ESO−*B* chart
2140.9−7504	ESO 48−7	J048	v. good examp. of (R_2')
2141.1−4631	ESO 287−56	J287	one of finest examples of a dimpled (R_1') in the cat. (see Figure 23); B is exc., & obj. is mostly isolated; cc @13.04
2152.9−4946	NGC 7155	J237	B is exc. & (r) is a clr. but faint oval imbedded within a smooth disk
2153.0−4332	CSRG 1052	J288	v. fine example of intrinsic bar,inner ring misalignment; B & (r) are both exc.; (R′) is mostly open spir.; in grp. of 3; ccs (ESO's 288−13 & 288−20) @5.80 & @7.65 (see Figure 32)
2154.7−5723	ESO 189−16	J146	v. fine examp. of (R_2'); B is exc. & may have ans. char.; CSRG 1053 @1.42; two others more distant
2159.8−3303	NGC 7187	J404	both rings are exc.; (r) much rounder than (R); ESO−*B* reveals a very small B in cent. (d_B = 0.26; see Buta 1990b)
2207.2−3620	IC 5169	J404	(R_1) is an exc. examp. with dimps., one of the best in the cat.; no obv. B, just a bri. closed (r) which is pointy on ESO−*B*; obj. resembs. I4214 & N3626
2209.5−6506	NGC 7219	J108	v. fine examp. of (R_2'); however, central area is compl. OX on both R & J; (r) dimensions are based on B108
2212.4−2114	ESO 601−35	J601	exc. examp. of an SBm where one main arm forms an (R′); (rs) is also clr. & is nrly. square
2213.7−2141	IC 1438	J601	exc. examp. of R_1R_2', among the best & largest in the cat.; (r) is pointy & enhanced at B maj. ax.; the two outer rings are about as perfect as they could be for this subclass of objects; I1439 @4.17 (see Figures 27, 28, and Byrd et al. 1994)
2213.9−2144	IC 1439	J601	v. fine examp. near I1438 @4.17; obj. shows the R_1R_2' char., with the (R_2') being best def.; B has ans. char.
2221.1−8129	CSRG 1089	J027	(R) & B are both exc.; susp. the (R) is an early (R_2') from appear. on one side; sc @6.75
2221.5−3357	NGC 7267	J405	obj has two exc., perpend. aligned pseudorings made of diff. sets of arms; (R′) is a v. good (R_1')
2221.8−2805	ESO 467−53	J467	(R_2') is exc.; obj. resembs. N2381; there is a trace of (R_1') (dimensions 0.65 x 0.48, $\theta = 90.°5$), but it is subtle; PSS copy plate reveals an ans.−type B, & OX cent. on J suggests an (l)
2222.7−2554	IC 5225?	J533	(R_1) is exc., one of the best & largest in the cat.; feat. is subtle bec. it is immersed in a more diffuse disk; clr. dimps. are vis. near the B ax.; B is exc., & there is a clr. (l)
2226.8−2005	ESO 602−21	J602	v. good, though (R_1) is sl. asymm.; one side of (R_1) is clrly. dimpd.; cc (type E0) @4.57
2227.9−4519	CSRG 1098	J289	fine case of elong. perpend. inner and outer rings; (r) is v. bri., & (R) is a nondimpd. (R_1); B is v. weak; sc @3.30
2230.6−6457	IC 5227	J109	both rings & the B are v. good; (R_1') is not dimpd. but is sl. boxy; there is def. struc. outside it; third ring with dimensions 2.05 x 1.84?; sc @2.84
2235.0−4606	ESO 289−44	J289	fine case of large (R_1'), not dimpd.; B & (rs) are v. good
2236.4−2256	NGC 7341	J603	(r) is exc.
2236.9−6644	NGC 7329	J109	exc. examp. of multiarmed SB(r)−type spir.; (r) & B are both exc.
2238.9−4502	IC 5240	J289	exc. SB(r) case; (r) is v. bri. & closed; B is strong with slanted boxiness in its inner regions; out. disk shows a flocc. spir. patt.; nearest cc @54.45 (see Figure 33)
2239.1−4430	CSRG 1119	J289	fine example, alm. a pure (R_2); B v. good; ccs @5.51 & @6.92; sev. scs are closer, nearest @2.55
2242.3−6523	NGC 7358	J109	v. beau. examp., highly incl.; cent. is OX on both J & R109; pec. interact. pair @11.52; other large ones a litt. further
2246.2−5812	CSRG 1123	J147	v. fine ringed gal.; the beau. (R) is prob. an (R_2); B is exc., & there is no (r) or (l); ccs @2.09, @3.32, & @4.01
2252.7−6358	NGC 7408	J109	v. interes.; both peudorings are v. good; (R′) is like an (R_2'), but is made of 3 clr. arms; no sign. comps. nearby
2254.3−4803	ESO 239−4	J239	all 3 ring feats. are exc. in this fine examp. of $R_1'R_2'$; only susp. a weak arch ans.−type B on R239; resembs. ESO 507−16; scs @1.45 & @1.12 (see Figure 25)
2254.4−4340	IC 5267	J290	v. fine examp.; (rs) is made of 1 arm; (R) is only part. & is weak on its maj. axis (both sides); IC 5267A @14.09
2254.6−6518	NGC 7417	J109	v. fine examp. of an (R′); arms intersect near B axis after winding nrly. 360°; there is v. v. faint struc. bey. the (R′); cc @6.37; others much smaller are closer
2258.8−6528	IC 5277	J109	exc. m=1 spir.; sc @2.27
2312.0−4352	NGC 7531	J291	fine spir.; (r) is OX on J & v. bri. on R291, which also reveals a weak bar; cc @55.23; d_B = 0.67 (see Buta 1987a)
2316.6−2913	ESO 470−1	J470	(R) is an exc., perf. examp.; B is clr. & is env. by an (l) with weak spir. arcs
2319.3−4245	NGC 7632	J291	v. fine examp. of (RL); B is arch ans.−type, v. bri., & has a v. faint (l) surr.; poss. weak spir. arcs; cc @19.12, but num. scs are near
2320.0−6756	NGC 7633	J077	exc. examp. of (R_1'); feat. is a perfect dimpd. examp. (see Figure 31)
2321.0−1917	ESO 605−4	J605	(rs) & B are good; two thin out. arms form an open (R_2') that is v. good; however, feat. is rectang., so p. a. is diff. to measure; ESO 605−5 @12.86
2322.7−8211	NGC 7637	J027	v. good; (r) is exc.; SA type checked on R012; poss. interact. with neighbor; sc @2.35 (see Buta 1986a)

TABLE 4—*Continued*

RA (1950) Dec	Name	Field	Notes
2332.7−5617	NGC 7702	J192	exc. case descr. by Buta (1991); (r) v. bri. and (R) v. faint
2341.6−3827	ESO 348−7	J348	exc. examp. of $R_1'R_2'$; both feats. are well−def.; (rl) is v. weak; obj. resembs. N1291 (see Buta 1986a)
2342.2−3843	CSRG 1193	J348	resembs. ESO 348−7 nearby; (R_2') is exc.; susp. trace of (R_1) compon.; B is exc., & there is no (r) or (l)
2342.4−4311	NGC 7744	J292	v. fine examp. of the type; env. is bri. & v. extensive; B is boxy
2344.7−6403	ESO 110−28	J110	v. fine examp. where (rs) is an N5248−type of feat.; resembs. ESO 111−10; (R′) roughly resembs. an (R_2'), but does not close on one side; sev. distant scs
2348.2−5857	CSRG 1205	J111	v. good examp.; (R_1') is clr. case with dimpling on one side; B is exc. & there is no (r) or (l); sc @3.06
2353.5−6057	ESO 111−10	J111	exc. examp. of (R_1'); has N5248 type of spir. oval (see Fig. 23) & a bri. round core; outside the spir. is a beau., sm. (R_1'); ESO 111−9 @1.57
2356.9−4143	ESO 293−26	J293	v. interes. obj.; has a B, weak (r), a two−armed spir., then a strange hex. out. ring of v. regular shape; sc @1.51
2359.4−2754	ESO 409−3	J409	perf. examp. of an SA gal. with a bri. (R′); no (r) is vis. on ESO−*B*

The fits provide good representations of the diameter distributions over these diameter ranges, and show that the catalog has reasonable completeness for diameters equal to and larger than the median diameter in each case. I will therefore use the median diameters to limit the galaxies that enter into my statistics.

6.2. *Inventory of the Catalog*

Table 7 provides an inventory of the ring features in the catalog. Excluding polar ring and ring galaxy parameters, there are 2610 inner features and 2051 outer features listed. Approx-

TABLE 5

EXPLANATION OF ABBREVIATIONS IN TABLE 4

Abbreviation − Translation	Abbreviation − Translation	Abbreviation − Translation
B − bar	esp. − especially	part. − partial
1.23x0.76 − 1′.23x0′.76	evid. − evident	pat. − patchy
@1.10 − at 1′.10	exac. − exactly	patt. − pattern
OX − overexposed	examp. − example	pec. − peculiar
aff. − affected	exc. − excellent	perf. − perfect
alm. − almost	excess. − excessively	perpend. − perpendicular
alth. − although	ext. − extensive	plan. neb. − planetary nebula
ans. − ansae	extran. − extraneous	poss. − possible or possibly
asymm. − asymmetric	feats. − features	pres. − present or presence
atyp. − atypical	foregrd. − foreground	prof. − profile
ax. − axis	foresh. − foreshortened	prom. − prominent
beau. − beautiful	gal. − galaxy	prox. − proximity
bec. − because	grp. − group	reason. − reasonable
bet. − between	hex. − hexagonal	rectan. − rectangle
bey. − beyond	hsb − high surface brightness	reg. − region or regular
bri. − bright	imm. − immersed	rel. − related
brok. − broken	incl. − inclined	reminis. − reminiscent
cat. − catalogue	inn. − inner	resembs. − resembles
cc − comparable companion	interact. − interacting	sc − small companion
ccs − comparable companions	interes. − interesting	scs − small companions
cent. − center	intermed. − intermediate	sec. − secondary
char. − character	interpr. − interpret or interpretation	sev. − several
circ. − circular	intrin. − intrinsically	sig. − significant
clr. − clear	irrly. − irregularly	sim. − similar
clus. − cluster	lc − large companion	sl. − slightly or slight
comp. − companion	litt. − little	sm. − smooth
compl. − completely	lsb − low surface brightness	spectac. − spectacular
complic. − complicates	lumin. − luminosity	spir. − spiral
compon. − component	maj. − major	struc. − structure
comps. − companions	meas. − measured	sugg. − suggested
d_B − bar diameter	min. − minor	surr. − surrounding
def. − definite	misalign. − misalignment	susp. − suspect or suspicion
descr. − described	morph. − morphology	symm. − symmetry
det. − detached	norm. − normal	togeth. - together
dimpd. − dimpled	nr − nuclear ring	unc. − uncertain or unclear
dims. − dimensions	nrly. − nearly	unus. − unusual
dirs. − directions	nuc. − nucleus	v. − very
distort. − distorted	num. − numerous	vhsb − very high surface brightness
ellip. − elliptical	obj. − object	vis. − visible
elong. − elongated	obv. − obvious or obviously	vsc − very small companion
enhan. − enhanced	orthog. − orthogonal	vscs − very small companions
env. − envelope	out. − outer	
envd. − enveloped	p.a. − position angle	

imately 42% of the outer features are subclassified into the OLR ring and pseudoring categories, indicating that these categories are not rare among the disk galaxy population. However, when the sample is restricted to only those features larger than $D(O) = 0.'78$, then the percentage drops to about 34%. The far sample thus appears to have a larger fraction of these categories (about 50%), but the significance of the difference is unclear.

Table 7 also lists the number of galaxies having an inner feature but no outer feature, and the number having an outer feature but no inner feature (last line). A substantial number of galaxies (1593) with inner features do not have a recognized outer feature. For some fraction of these, an outer feature may be present but is too faint to distinguish because of low intrinsic surface brightness or excessive Galactic extinction. The 267 galaxies having a recognized outer feature but no inner feature are potentially interesting. This sample is restricted to only those cases where the family (or bar classification) was clearly distinguishable. Although for some the family may be confused with a poorly resolved ring or lens, some fraction of these galaxies really do not have any inner feature.

The distributions of CSRG galaxies by revised Hubble stage and family are shown in Figures 3*c*–3*f*. These histograms are restricted to rings larger than the median for each feature type. The distributions in Figures 3*c* and 3*d* show that outer and inner features are found over a similar range of types: $-2 \leq T \leq 4$ versus $-2 \leq T \leq 5$, respectively. Very few CSRG galaxies have types later than Scd. These ranges of rings agree with the earlier results of de Vaucouleurs (1963, 1975) and de Vaucouleurs & Buta (1980b). The dashed histogram in Figure 3*d* shows the distribution for double-featured galaxies, i.e., those galaxies having both inner and outer features. More than 500 of the 1325 galaxies in the plotted sample are of this type.

The histograms in Figures 3*e* and 3*f* show the distributions by family. The majority of CSRG galaxies are SB types, which constitute 50% or more of both feature types. However, the number of nonbarred (SA) galaxies in the CSRG is not negligible, especially among inner features.

6.3. *Comparison of Morphological Information with Other Catalogs*

The morphological interpretations in the CSRG are a very important part of the work. Figure 4 compares CSRG types with three other major catalogs: the ESO-*B* catalog, the SGC, and the Revised Shapley-Ames Catalog (Sandage & Tammann 1981, hereafter RSA). For the purpose of comparing my types with these catalogs, I will use not only the types in the main CSRG (Table 3) but also the types in the auxiliary Table 6. The latter objects extend the range of types for comparison, since ringed galaxies are rare for types earlier than S0 and later than Scd. The galaxies in Table 6 are also biased toward less inclined galaxies, as are the CSRG galaxies proper (§ 6.5.2).

The comparison with SGC types is shown in Figures 4*a*–4*d*. These types are on the same system as CSRG types and afford a comparison not only between stage indices but also between family and variety judgments. The raw comparison of stage indices is illustrated in Figure 4*a*, which shows that there are some cases of extreme disagreement. The most serious disagreements are for ESO 115–15, IC 3829, ESO 219–37, ESO 272–44, ESO 287–6, and ESO 239–19. On average at each type, however, the agreement is fairly good. Figure 4*b* shows the mean CSRG stage index versus SGC stage, and the mean SGC stage versus CSRG stage, after rejection of the above six cases. Setting T_S = SGC type and T_r = CSRG type, the impartial least-squares relationship between the two data sets is (for 1726 objects)

$$T_r = 2.51 + (0.936 \pm 0.010)(T_S - 2.75)\,, \qquad (3)$$

with a standard deviation of 1.18 stage units. This is shown by the dashed line in Figure 4*b*. The small but significant scale error was noted before from CSRG I data used in the production of RC3 (see Buta et al. 1994a). The previous slope of 0.87 covered the more limited range of types available in CSRG I, and did not include the auxiliary galaxies such as those in Table 6. The standard deviation indicates individual errors of about 0.83 stage units for each data set. This is reasonable for the mostly low-inclination galaxies involved in the comparison.

The comparisons between CSRG and SGC family and variety judgments are shown in Figures 4*c* and 4*d*, respectively. For least-squares comparisons, numerical indices were assigned to the judgments as follows. For family, $F = -1$ for SA, -0.5 for SAB, 0 for SAB, $+0.5$ for SAB, and $+1$ for SB galaxies. For variety, $V = -1$ for r, -0.5 for rs, 0 for rs, $+0.5$ for rs, and $+1$ for s galaxies. (Note that the intermediate estimates such as rs or SAB, which follow the notation of de Vaucouleurs 1963, are not given in the SGC.) The impartial least-squares relationships (*dashed lines*) are as follows:

$$F_r = 0.22 + (1.057 \pm 0.039)(F_S - 0.43)\,, \qquad (4)$$

$$V_r = -0.06 + (0.992 \pm 0.036)(V_S - 0.04)\,. \qquad (5)$$

The standard deviations are 1.20 for families and 1.06 for varieties, implying individual errors of 0.85 and 0.75 units, respectively. It appears that agreement is better on variety estimates than on family estimates. SGC families tend to be more barred than CSRG families, and SGC varieties slightly less ringed than CSRG varieties. The comparison with ESO-*B* types is shown in Figure 4*e*. The plot shows the mean CSRG type and standard deviation for a given ESO-*B* type. The agreement is fairly good for the 2631 galaxies represented. There may be a small scale difference over the intermediate range S0/a to Sc (compare mean points with solid line in Fig. 4*e*). The comparison with RSA types is illustrated in Figure 4*f*. Here the individual points are shown.

6.4. *Errors of the Measured Parameters*

6.4.1. *Internal Error Analysis*

The considerable overlap between CSRG I and CSRG II means that many galaxies had multiple estimates of their ring diameters and relative bar/ring position angles. This allowed a thorough internal error analysis to be carried out. The diameters and angles in Table 3 are unweighted averages of all of the estimates made. The internal error analysis I present here is based on the residuals from these means. The major- and minor-axis diameters of all features provided 5403 residuals, while the angle estimates provided 1606 residuals. Figures 5*a*–

TABLE 6

ADDITIONAL CLASSIFIED GALAXIES

RA (1950) Dec	Name	Type	T	m	RA (1950) Dec	Name	Type	T	m
000013−5302.8	ESO 149−13	SB(s)m	9.0		010543−7008.6	NGC 406	SB:(s)c	5.0	
000049−5450.3	ACSRG 1	SB(s)a p	1.0		010608−5837.5	ESO 113−15	SAB(s)c	5.0	2
000127−4628.6	ACSRG 2	SA(s)bc	4.0	5	010621−8034.4	ESO 13−12	Sa	1.0	
000200−5053.9	ESO 193−15	SA(s)c	5.0	2	010820−4603.6	ACSRG 14	SB0°	−2.0	
000215−6220.4	NGC 7823	SA(s)ab	2.0		010857−5608.1	ESO 151−27	E^+:	−4.0:	
000257−4953.9	ESO 193−18	SAB(s)ab:	2.0:	1?	010950−6147.5	NGC 432	$SA0^-$	−3.0	
000404−5008.0	ACSRG 3	SA(s)bc	4.0	2+1?	011020−3809.7	ESO 296−6	SAB(s)b:	3.0:	
000641−6023.4	ESO 111−15	SB(s)m:	9.0:		011021−4158.6	ACSRG 15	SAB(s)a	1.0	2
000704−4628.2	ESO 241−20	SA:(s)c	5.0		011042−5602.5	ACSRG 16	SA(s)b	3.0	
000730−5717.9	ESO 149−19	$SAB0^-$	−3.0		011205−6239.9	ESO 80−1	SAB(s)cd	6.0	2
000754−4646.2	ESO 241−22	SA(s)c	5.0		011357−5445.4	ACSRG 17	SB(s)m	9.0	
000809−5715.8	ESO 149−20	SB(rs)cd	5.5		011553−4207.0	ESO 296−8	SB(s)dm	8.0	
000934−4734.4	ESO 193−35	SA(s)c	5.0	2	011602−3722.0	ESO 352−38	(PR?)		
001135−4805.4	ESO 193−38	SAB(s)c	4.5	2	011611−4205.6	ESO 296−9	SA(s)cd:	6.0:	
001209−8320.3	ESO 2−5	SAB(r)cd	6.0		011738−5847.2	NGC 484	E^+	−4.0	
001210−3756.0	ESO 293−49	Sb	3.0		011806−4113.6	NGC 482	Sb	3.0	
001442−5905.9	ACSRG 4	SAB(s)c p	5.0	2	011937−6138.2	ESO 113−41	SAB(s)c p	5.0	2
001740−5448.1	ESO 150−1	SA(s)c	4.5	2	011939−6201.5	ESO 113−43	SB(s)a	1.0	2
002001−5355.4	ESO 150−5	SA(s)dm	8.0	2+	012230−3823.3	NGC 534	SB(s)0°	−2.0	
002048−5953.8	ESO 112−2	SAB(s)b	3.0	3:	012257−3821.2	NGC 544	SA0° p	−2.0	
002100−4016.0	ESO 294−7	SAB(s)b	3.0	2	012258−3819.7	NGC 546	Sc p	5.0	
002122−5711.3	ESO 150−6	SAB(s)c	5.0	2	012314−3831.6	NGC 549	Sab	2.0	
002133−4710.8	ACSRG 5	SA(s)a p	1.0	1	012337−3829.6	ACSRG 18	SB(s)b	3.0	2
002203−5057.7	ESO 194−15	SA(s)c	5.0	1+1?	012602−5814.5	ACSRG 19	SB(s)m:	9.0:	
002435−5715.3	NGC 119	SA(l)0⁻	−3.0		012744−6813.4	ESO 52−4	SAB(s)cd	6.0	
002835−3709.9	ESO 350−27	SA0°	−2.0		012841−5123.9	ESO 196−11	SAB(s)d	7.0	4
002943−4032.5	ESO 294−20	SAB(s)m p	9.0		012935−5956.2	ESO 113−52	SA(s)b	3.0	
003203−5456.3	ACSRG 6	Sa?p	1.0?		013051−5927.4	ACSRG 20	SAB(s)ab	2.0	2
003437−8113.1	ESO 12−20	SAB(s)cd:	6.0:	2	013135−6224.1	ACSRG 21	SAB(s)a	1.0	2
003540−4647.6	ESO 242−20	SB(s)d	6.5	5	013325−3936.9	NGC 630	E	−5.0	
003851−3840.5	ACSRG 7	E	−5.0		013329−4132.7	ESO 297−10	SB(s)c	5.0	
003907−4837.2	ACSRG 8	SA(r?)c	5.0		013521−6812.7	ESO 52−8	SA(s)c?	5.0?	
004405−5303.6	ACSRG 9	SA(s:)bc	4.0	2	013610−4059.2	ESO 297−17	SA(s)c	5.0	2+2
004424−5116.4	ESO 194−37	SA(s)b	3.0	2	013631−4246.8	NGC 641	E	−5.0	
004738−4739.6	ESO 195−4N	SA(s)c	5.0	2	013645−4250.3	NGC 644	SB(s)c	4.5	2
004738−4739.6	ESO 195−4S	SA(s)bc	4.0	2	013653−5003.0	ESO 196−14S	SA(s)c	5.0	
005355−5327.6	ESO 151−4	S0°	−2.0		013654−4649.7	ESO 244−45	$SA0^-$	−3.0	
005404−5303.2	NGC 312	E^+:	−4.0:		013826−3856.1	ESO 297−19	SA(s)b	3.0	4
005429−5314.8	NGC 323	E^+	−4.0		013839−4127.9	ESO 297−20	SB(s)d	7.0	2
005435−5322.1	ESO 151−12	SAB(s)0/a	0.0		014227−6122.4	ESO 114−4	SA0°	−2.0	
005442−4540.9	IC 1603	Sc	5.0		014446−5855.3	ESO 114−7	SB(s)m	9.0	
005452−4359.8	NGC 322	(PR?)S0°	−2.0		014505−4054.4	ESO 297−29	SAB:(s)bc	4.0	
005601−3655.8	ESO 351−25	SB(s)b	3.0	2	014531−3351.1	IC 1728	SAB(s)bc	4.0	
005728−4036.1	IC 1609	SA(s)0°	−2.0		014559−7909.2	ESO 13−22	SA(s)b	3.0	
005828−5801.1	ACSRG 10	(PR?)			014649−4846.5	ESO 197−4	SA(s)ab:p	2.0:	
005841−5330.8	NGC 348	SA(s)bc	4.0	2	014659−7002.9	ACSRG 22	SA(s)ab	2.0	
010011−5435.7	ESO 151−19	SA(s)dm	8.0		014755−4854.7	ESO 197−7	SB(s)m	9.0	
010041−6048.1	ESO 113−7	SBa:	1.0:	2:	015049−4908.2	ESO 197−9	SA(s)bc	4.0	2
010056−6010.0	ACSRG 11	SA(s)bc	4.0	2	015116−4948.3	ESO 197−10	E	−5.0	
010136−5915.8	ACSRG 12	SB0°	−2.0		015140−6240.4	ESO 81−1	SA0°	−2.0	
010157−8030.1	ESO 13−9	SB(s)cd	6.0	2	015148−3816.8	ESO 297−31	SA(s)b	3.0	
010245−5738.7	ESO 113−9	SB(s)m?p	9.0?		015224−5656.1	NGC 745	$S0^+$	−1.0	
010325−5316.1	ESO 151−22	SA(s)c	5.0		015543−3313.8	IC 1759	SA(rs)b	3.0	
010422−8024.1	ESO 13−10	SAB(s)c:	5.0:		015550−3815.8	ESO 297−36	SAB?(rs?)c	5.0	
010520−4207.3	ACSRG 13	SB(s)m	9.0		015627−6725.6	ACSRG 23	Sb	3.0	
015721−5640.8	ESO 153−5	SA(s)bc	4.0	2	032915−4808.0	IC 1948	SAB(s)c	5.0	2
015726−5602.7	ACSRG 24	SB(s)bc	4.0	2	032918−4808.9	IC 1949	SB(s)c	5.0	3
015856−7838.4	ESO 13−26	SAB(s)ab p	2.0	2	033006−5204.4	IC 1954	SA(s)c	4.5	
020021−5848.7	ESO 114−21	SA(s)b	3.0	2	033055−4055.5	ACSRG 38	SB(s)bc	4.0	
020029−6840.9	NGC 813	$SA(s)0^-$	−3.0		033236−6629.9	ACSRG 39	SB(s:)c	5.0	3
020037−4139.3	ESO 298−3	SA:(s:)b	3.0		033608−5121.1	ESO 200−54	SA(s)c	5.0	3
020202−4141.0	ACSRG 25	SB(s)0°	−2.0:		033848−4229.6	ACSRG 40	SAB(s)0/a:	0.0:	
020231−6037.3	ACSRG 26	SA0°	−2.0		033851−3740.3	NGC 1419	E	−5.0	
020247−5244.5	ESO 153−14	SB(s)a	1.0		034110−6643.9	ACSRG 41	SAB(s)bc	4.0	4
020407−3734.2	ESO 298−7	SAB(s)c	5.0	5:	034256−6616.2	ACSRG 42	SA(s)c	5.0	4
020436−4123.7	NGC 822	E^+	−4.0		034449−4048.1	ESO 302−6	$SAB0^-$	−3.0	
020457−5713.8	ESO 153−22	SAB(s)d:	7.0:		034515−3731.9	ESO 302−7	SAB(s)cd	6.0	2
020507−6112.4	ESO 114−28	SB(s)m:p	9.0:		034544−3843.8	ESO 302−9	SB(s)m	9.0	
020507−7122.0	ESO 52−21	SA(s)c	5.0	2	034843−3931.6	ESO 302−12	SB(s)dm	8.0	2
020551−3947.1	ACSRG 27	S(s)ab:	2.0:	2	034952−3836.0	ESO 302−14	Im p	10.0	
020639−4022.0	ESO 298−11	SA(s)bc:p	4.0:		035018−4934.1	IC 2004	Sa	1.0	
020649−4019.7	ESO 298−12	SB(s)m:	9.0:		035116−4737.5	NGC 1483	SB(s)c	5.0	3
020734−4107.3	ESO 298−13	(R?)S?			035207−4908.1	IC 2009	SB(s)m	9.0	1
020952−3926.4	ESO 298−19	SAB(rs)bc	3.5		035309−6609.8	NGC 1490	E	−5.0	
021102−4216.0	NGC 862	E?	−5.0?		035403−4010.2	ESO 302−20	SB(s)b:	3.0:	2
021154−3833.8	ESO 298−22	SAB(s)dm	8.0		035435−8553.4	ACSRG 43	SB(rs)c	5.0	
021427−3852.6	ESO 298−25	SAB(s)c p	5.0		035629−5215.7	ACSRG 44	SA(s)c:p	5.0:	1
021610−4746.1	ESO 198−2	SAB0°	−2.0		035733−4224.8	ESO 302−24	SB(s)m	9.0	
021707−4158.7	NGC 889	E	−5.0		035920−6125.4	ESO 117−18	SA(s)c	5.0	
021846−5856.3	ESO 115−5	SA(s)c:	5.0:		040008−6756.8	NGC 1511A	SB0°	−2.0	
021937−4119.0	ACSRG 28	SA(s)ab p	2.0	1	040010−4204.8	ESO 302−27	SAB(s)c p	5.0	
022530−8009.0	ESO 14−1	SAB(s)c	5.0	3:	040207−5157.9	ESO 201−16	SAB(s)bc	4.0	3+
022654−4137.5	NGC 954	SA:(s)c	5.0		040303−4806.6	ESO 201−18	SA(s)cd	6.0	
022736−4301.9	IC 1812	$SA0^-$	−3.0		040641−6301.9	NGC 1529	S0°	−2.0	
023042−3930.9	NGC 986A	SB(s)dm	8.0	2	041209−5301.1	ACSRG 45	SAB(s)bc	4.0	3
023815−3841.8	ACSRG 29	S(r)p		1	041212−3813.4	ESO 303−5	cD?		
024256−8934.2	NGC 2573	SAB(rs)c	5.0		041248−6158.2	ESO 118−12	S0°	−2.0	
024457−2225.0	NGC 1102	SAB(rl?)ab?	2.0?		041336−3935.3	ACSRG 46	SB(s)a	1.0	2
024647−3655.3	ESO 356−13	SA(s)c	5.0		041346−6256.2	ESO 84−9	SAB(s)c	4.5	2
025239−5258.1	ESO 154−21	SA(s)bc	4.0	2	041356−4046.2	ESO 303−6	SA(s)a p	1.0	2
025823−4112.8	ACSRG 30	SAB(s)bc	4.0	2	041358−5104.2	ESO 201−26	(PR?)		
030008−4011.3	ESO 300−5	SAB(s)0°	−2.0		041503−4758.3	ESO 202−1	SB?(r?)p		
030149−5041.4	ESO 199−12	(PR?)			041531−6444.8	ACSRG 47	SA(s)ab	2.0	3
030318−4152.3	ACSRG 31	SB(s)c	5.0		041652−4058.9	ESO 303−9	SAB(s)b:	3.0:	3
030410−5039.5	ESO 199−16	SAB(rs)bc	4.0		041701−6254.3	NGC 1559	SB(s)cd	5.5	2:
030412−3913.7	NGC 1217	SA:(s:)a p	1.0	1:	041721−6347.7	ACSRG 48	$SB0^-$:	−3.0:	
030547−3947.8	ESO 300−12	SB:dm	8.0		041803−5822.6	ESO 118−19	S0° p	−2.0	
030747−4113.2	ESO 300−14	SAB:(s)dm	8.0	2:	041806−5101.0	ESO 202−7	E^+	−4.0	
030756−4247.7	ACSRG 32	SB(s)a:	1.0:		041926−6338.0	ESO 84−12	SB(s)d:	7.0:	
031148−5732.6	ESO 116−12	SB(s)m	9.0	1	041943−4822.3	NGC 1567	$SA(s)0^-$	−3.0	
031531−3926.4	ACSRG 33	Sbc:	4.0:		042059−5705.4	NGC 1574	$SA0^-$	−2.5	
031748−5152.6	ACSRG 34	SA(s)0/a	0.0		042314−6714.5	ACSRG 49	S?p		1+1
031751−4946.8	IC 1914	SA(s)cd	6.0		042432−5145.1	ESO 202−17	SAB:(s)cd	6.0	
031839−5222.0	NGC 1311	SB(s)m	9.0		042453−4233.1	ESO 250−21	SA(s)c	5.0	3
032002−5724.2	ACSRG 35	SA(s)b	2.5		042555−4216.5	NGC 1585	SA:(s)bc	4.0	2
032210−3939.6	ESO 301−12	SA(s)a	1.0	2	042605−4245.0	ACSRG 50	SB(s)c p	5.0	4
032220−5750.9	ACSRG 36	SA(s)bc	4.0	2	042623−4256.9	ESO 251−2	$S0^-$	−3.0	
032315−4204.7	ESO 301−13	SA(s)ab p	2.0	2	042656−4755.5	NGC 1595	E^+	−4.0	
032357−5126.5	IC 1929	SB(s)b	3.0	3	042711−6242.1	ESO 84−18	SAB(s)a	1.0	2
032415−4242.2	ACSRG 37	SAB(s)ab:	2.0:	2	042717−4458.3	ESO 251−4	E	−5.0	

TABLE 6—*Continued*

RA (1950) Dec	Name	Type	T	m	RA (1950) Dec	Name	Type	T	m	RA (1950) Dec	Name	Type	T	m	RA (1950) Dec	Name	Type	T	m
042720−3735.3	ESO 303−21	SAB(s)ab	2.0	2	054233−8557.4	ESO 4−20	SAB(s)bc	4.0		092227−2452.6	ESO 498−5	SAB(s)c	5.0		105115−2131.5	NGC 3453	SA(s)b:	3.0:	
042945−5904.7	ACSRG 51	SA(s)bc	4.0	2	054555−5134.1	NGC 2104	SAB(s)cd:	6.0:		092903−7957.6	ESO 18−18	SB(rs)c	5.0		105321−4758.7	ESO 215−5	SB(s)a	1.0	2
043107−4349.2	NGC 1616	S(rs?)bc:	4.0:	2	054626−8208.4	NGC 2144	SA(s)a	1.0		093342−2445.4	ESO 498−15	SA(s)c	5.0	2	105641−4942.3	ESO 215−13	SB(rs)p		
043130−4040.6	ACSRG 52	SB(s)c:p	5.0:	1+1	055208−4444.7	ESO 254−1	SAB(s)c	5.0	2	093930−2757.8	ESO 434−23	SABb:	3.0:		105643−1800.2	ESO 569−31	SA(s)b p	3.0	
043519−5516.6	ACSRG 53	SAB(s)a	1.0	2	055755−5228.7	ACSRG 69	SA(s)a	1.0		094328−3057.6	NGC 2997	SA(s)c	5.0	2	105852−4346.3	ESO 265−3	SAB(s)c	5.0	2i
043529−4838.8	ESO 202−40	SA(s)b:	3.0:	2	055845−4206.5	ESO 307−12	SAB(s)b	3.0	2	094417−2341.2	ESO 499−4	SAB(s)b:	3.0:		110057−2249.0	NGC 3511	SAB(s)c	5.0	
043544−5216.5	ESO 202−41	SB(s)m	9.0		060548−4629.6	ACSRG 70	SB(s)ab	2.0	2	094749−4657.1	ESO 262−8	SA(s)c	5.0	2	110119−2258.5	NGC 3513	SB(s)c	5.0	2
043557−4820.1	ESO 202−42	SA(s)c	5.0		060606−5742.5	ACSRG 71	SB(s)b	3.0	2	094752−3239.1	IC 2513	Sa	1.0		110132−1830.7	NGC 3514	SA(s)c	5.0	4
043632−5131.3	ESO 202−43	E^+	−4.0		060738−1943.1	ESO 556−1	$SAB0^-$	−3.0		094908−2646.5	NGC 3037	IBm	10.0		111445−4855.7	ESO 215−39	SA(s)c	5.0	2
043655−6448.3	ACSRG 54	SB(s)b:	3.0:	2	061155−4226.2	ESO 307−24	SA(s)b	3.0	2	094951−2034.3	ESO 566−20	S(rs)ab?	2.0?		113243−4506.7	ESO 266−5	SA(s)bc	4.0	
043824−4737.4	ESO 202−48	(PR?)			061324−5840.6	ESO 121−18	$S0^+$	−1.0		095100−2541.5	ESO 499−13	SB0°	−2.0		113322−4845.2	ESO 216−21	SA(s)c	5.0	4+
043830−4608.9	ACSRG 55	SA(s)a	1.0	1	061500−5447.8	ESO 160−21	SAB(s)b	3.0	2	095143−2702.9	NGC 3051	(RL:)SB0° p	−2.0:		113625−4624.1	ESO 266−11	SA(s)b:	3.0:	2
043856−6155.1	ACSRG 56	SA(s)a p	1.0	1	062143−8433.8	ESO 5−3	S0°	−2.0		095146−3103.9	ESO 435−5	SB(s)c	5.0	2	113828−4412.2	ESO 266−15	SAB(s)c	5.0	
043900−8141.3	ACSRG 57	SA(s)bc:p	4.0:	1+1	062337−5541.8	ACSRG 72	SAB(s)c	5.0	2:	095258−3254.0	IC 2522	SA(s)cd	6.0		114248−4322.8	ESO 266−21	SA(s)d	7.0	
043958−5408.5	ACSRG 58	SB(s)a	1.0	2	062419−5802.5	ACSRG 73	SA(s)c p	4.5	2	095259−3258.4	IC 2523	Sp			115128−2017.3	NGC 3956	SA(s)c	5.0	7:
044042−4510.5	ACSRG 59	SA(s)a	1.0	2	062645−6232.5	ESO 121−33	SB(s)a:	1.0:	3:	095451−3201.0	IC 2526	SB0°	−2.0		115334−1937.0	NGC 3981	SAB(s)bc p	4.0	2:
044159−6233.5	ESO 84−36	SAB(s)cd	6.0	3	062710−4843.7	ESO 206−14	SA(s)c	5.0		095554−2438.2	ACSRG 80	SAB(s)b	3.0		115349−1916.4	ESO 572−22	Sb	3.0	
044321−6233.3	ESO 84−39	SB(s)cd	6.0	2	063344−5841.4	ACSRG 74	SB(s)a	1.0	2	095603−2456.0	ESO 499−26	SB(s)d	7.0	2	115546−3916.0	ESO 321−1	SA(s)c	5.0	
044343−5824.8	ESO 118−40	SA(s)b:	3.0:	3	064306−5551.4	ESO 161−23	SB(s)bc	4.0	2	095706−1848.5	ACSRG 81	SAB(rs)c?	5.0?		115552−2209.7	ESO 572−30	SB(s)m	9.0	2
044429−6247.8	ESO 84−40	SB(s)m	9.0		064426−4728.6	ESO 255−19	SA(s)m	9.0		095707−2032.0	ESO 566−39	SB(s)c	5.0		115558−1804.0	NGC 4024	$SB0^-$	−3.0	
044431−2107.2	ACSRG 60	SA(s)a p	1.0	1	064710−5745.4	ESO 122−6	SAB(s)bc	4.0	3	095729−2043.2	ACSRG 82	SAB(s)ab	2.0	2	115655−4653.0	ESO 267−5	SA(s)bc	4.0	2
044435−4449.3	NGC 1668	$SA0^-$	−3.0		064719−6034.8	ACSRG 75	SAB(r)ab p	2.0		095741−2922.5	IC 2531	Sb	3.0		115711−2041.5	ESO 572−38	SA(s)a p	1.0	1
044611−6233.2	ESO 85−1	SAB(s)c	5.0	2	064930−5204.8	ESO 207−7	SAB(s)m	8.5	2	095811−1925.3	NGC 3096	$SB0^-$	−2.5		120333−2234.3	ESO 505−13	SB(s)dm	8.0	1+1
044933−5023.6	ACSRG 61	SA(s)c	4.5	3	065516−5359.9	ESO 162−2	SAB(s)cd	6.0		095818−3100.2	IC 2533	(PR?)S0°	−2.0		120404−1920.7	ESO 573−1	SA(s)bc:	4.0:	2+2
044947−5317.8	ACSRG 62	SAB(s)a	1.0	2	065608−4544.5	ESO 256−11	$SAB0^-$	−3.0		095916−3028.1	ESO 435−31	SB(s)c	5.0	3+	120506−1747.7	ESO 573−2	SAB(s)bc	4.0	4
045054−6144.0	ESO 119−16	SA(s)dm	8.0	2	065849−4802.2	ACSRG 76	SA(s)c:	5.0:	2	100016−3126.1	NGC 3108	S0° p	−2.0		120846−1836.0	ACSRG 86	SB(s)c	5.0	2
045203−6304.0	NGC 1706	SA(s)ab	2.0	2	070346−4642.8	ACSRG 77	SA(s)c p	5.0	1	100058−2111.3	ESO 567−10	SB(s)c	5.0	2:	121020−2008.5	ESO 573−3	Sm:	9.0:	
045208−5949.4	NGC 1703	SA(s)c	5.0		070741−4831.4	ACSRG 78	SB(s)a	1.0	2	100302−1733.3	ESO 567−12	SA(s)b:	3.0:		121115−4659.7	ESO 267−29	SBp		1
045603−2026.4	NGC 1716	SA(s)c	5.0		071331−6816.3	ESO 58−25	SAB(rs)bc	4.0	2	100311−3358.6	NGC 3120	Sc	5.0		121350−4302.8	NGC 4219	SA(s)bc	4.0	
045852−7529.8	ESO 33−4	SB(s)bc p	3.5	2	072202−5839.2	ESO 123−8	SB(s)c:	5.0:		100641−3009.1	ESO 435−46	SAB(s)b:	3.0:	2	121522−4315.7	NGC 4219A	SAB(s)bc	4.0	
050152−5236.2	ACSRG 63	SB(s)a	1.0	2	072750−6728.2	IC 2202	SAB(s)bc	4.0		100651−2849.1	NGC 3137	SA(s)d	7.0		121620−4633.9	ACSRG 87	SB(s)b p	3.0	
050258−6010.4	ACSRG 64	SB(s)a	1.0	2	072816−5907.0	ESO 123−13	SAB(s)m?p	9.0?	1	100848−2037.3	NGC 3146	SAB(r?)ab	2.0	3	121623−1948.1	ESO 573−10	SA(s)bc	4.0	3
050409−4938.0	NGC 1803	Sbc:	4.0:		072843−5839.1	ESO 123−14	SA(s)bc	4.0		100928−3123.7	NGC 3157	SAB(s)c	5.0	4	122220−2545.2	IC 3289	$SA0^°$	−2.0	
050429−6133.0	NGC 1796A	Sa p	1.0	1	072945−6141.0	ESO 123−16	Sdm	8.0	1:	101225−2837.4	NGC 3175	SAB(s)b	3.0		122230−3929.9	IC 3290	SB(s)a	1.0	2
050614−5947.3	NGC 1824	SB(s)m	9.0		073003−6155.1	ESO 123−17	$SA0^-$	−3.0		101229−8415.6	ESO 6−7	SAB(rs)c	5.0	2+	122315−2115.6	ACSRG 88	SB(s)cd	6.0	2
050718−6303.2	ESO 85−47	SB(s)m	9.0		073408−6728.1	ESO 88−22	SA(s)c	5.0		101454−1824.8	ESO 567−40	SB(s)d	7.0		122400−4525.2	ESO 268−8	SA(s:)b:p	3.0:	
051125−5727.4	NGC 1853	SAB(s)c	5.0		073501−4731.3	NGC 2427	SAB(s)c p	5.0	2:	101454−4837.9	ESO 213−11	SA(s)c	5.0		122851−2226.1	ACSRG 89	SA(s)0/a	0.0	2
051136−5844.8	ACSRG 65	SB(s)a	1.0	2	073703−5038.5	ESO 208−33	SB(s)m	9.0		102053−4159.0	ESO 317−20	SA(s)bc	4.0	5+	123048−2722.6	ESO 506−17	SB(s)m	9.0	1
051345−6050.8	ESO 119−45	SA(s)bc	4.0	2	073820−6921.5	ESO 59−11	SB(s)0/a	0.0	2	102147−1904.4	ACSRG 83	Sc?p	5.0?		123129−2600.8	ESO 506−19	SABb:p	3.0:	
051402−6217.0	ESO 119−47	SB(s)c:	5.0:	2	074241−5638.7	ESO 163−14	SB(s)c	5.0	2	102316−1855.1	ESO 568−7	SA(s)b	3.0		123255−3938.0	NGC 4507	SAB(s)ab	2.0	2
051409−6114.7	ESO 119−49	E:	−5.0:		074508−5451.3	ESO 163−17	IBm	10.0		102405−1947.2	ESO 568−9	SA(s)b	3.0	2	123654−4027.9	NGC 4603A	SA(s)b	3.0	2
051621−4621.3	ACSRG 66	SA(s)b	3.0	2	074511−6523.5	ACSRG 79	SA(s)ab	2.0	2	102505−1833.3	ACSRG 84	SA(s)bc:	4.0:		123718−4146.0	ESO 322−45	Sb	3.0	
051847−6142.7	ESO 119−52	SA(s)b:	3.0:		075600−6111.7	ESO 124−4	Sd	7.0		102653−4408.8	NGC 3256B	SA(s)b	3.0		123740−8411.4	ESO 7−6	SA(s)d	7.0	
051859−4535.2	ESO 252−19	SAB(s)c	5.0	2	080538−6622.5	ESO 89−10	SB(s)m	9.0		102811−3506.1	NGC 3271	SAB(s)0°	−2.0		123850−4238.5	ESO 268−32	SAB(s)bc	4.0	2
052412−7554.4	ESO 33−18	SB(r)b:	3.0:		081520−7943.9	ESO 18−1	S(rs:)p			102936−3435.8	NGC 3281	SAB(rs)a	1.0		124147−2758.3	ESO 442−18	SAB(s)c	5.0	2
052433−4646.3	NGC 1930	E	−5.0		081837−6720.6	ESO 89−17	$SA0^°$	−2.0		103729−1724.0	MCG −3−27−23	SA(s)c p	5.0		124219−4344.0	ESO 268−37	SAB(s)c	5.0	
052545−4549.8	ACSRG 67	SB(s)cd	6.0	2	081952−6510.9	ESO 89−19	SA(s)a:p	1.0:	2:	103755−8050.2	ESO 19−3	SB(s)dm	8.0		124314−4508.5	ESO 268−38	SA(s)c p	5.0	
052719−4413.0	ESO 253−6	SAB(s)c	5.0	5	082112−7832.2	ESO 18−2	SA(s)b	3.0		104103−4557.0	ESO 264−36	SB(s)b	3.0	2	124412−4118.6	NGC 4677	X galaxy?		
052735−4725.8	ESO 253−7	SAB:(s)c	5.0	4	082541−7737.0	ESO 18−9	SA(s)c	5.0		104335−1725.4	MCG −3−28−2	SA(s)c:	5.0:		124443−4303.7	NGC 4681	SA(s)a	1.0	2
053115−2158.7	NGC 1964	SAB(s)b	3.0		083605−5456.9	NGC 2640	$SA0^-$	−3.0		104604−2122.2	ESO 569−9	SA(s)c	5.0		124446−3917.9	NGC 4679	SA(s)bc	4.0	2
053117−4956.2	ESO 204−14	SAb:p	3.0:		083920−2008.2	ESO 563−11	SB(r)b?	3.0?		104613−4525.6	ESO 264−41	SA(s)c	5.0		124555−4444.1	ESO 268−44	Sb:	3.0:	
053352−5059.9	NGC 2008	SA(s)c	5.0	5	084530−7845.9	ESO 18−13	SB(s)c	5.0		104742−1658.6	NGC 3420	SB(rs)a	1.0	3	124732−4409.3	ESO 268−46	X galaxyp		
053546−4226.3	ESO 306−12	SA(s)bc	4.0	2	084643−6128.6	ESO 125−5	SB(s)a p	1.0	2	104756−2203.4	ACSRG 85	SA(s)a p	1.0	2?	124758−4216.6	ESO 323−10	SA(s)bc	3.5	3+
053904−4243.4	ACSRG 68	SB(r)a:	1.0:		085604−6740.6	ESO 60−18	SB(s)bc p	3.5	2	104948−1651.9	MCG −3−28−16	SA(s)a	1.0	1	124814−2006.1	ESO 575−6	SA(s)bc p	4.0	3
054136−6419.4	NGC 2082	SAB(rs)c	5.0		092152−2757.7	ESO 433−19	Sb	3.0		105034−4524.7	ESO 264−48	SAB(s)bc	4.0		125234−4432.6	ESO 269−8	SB?a?	1.0?	

TABLE 6—*Continued*

RA (1950) Dec	Name	Type	T	m	RA (1950) Dec	Name	Type	T	m	RA (1950) Dec	Name	Type	T	m	RA (1950) Dec	Name	Type	T	m
125320−1859.9	ESO 575−29	SA(s)cd	6.0	m	144433−2211.9	IC 4501	SB(s)dm	8.0		182921−6010.0	IC 4718	Sb:	3.0:		200133−6134.2	IC 4936	SB(s)d:	7.0:	
125517−4559.6	NGC 4835	SAB:(s)b	3.0		144447−1751.7	ESO 580−30	SA(s)c	5.0		182928−4131.4	ESO 336−4	SAB(s)a	1.0		200254−4254.5	ESO 284−16	SA(s)c	5.0	6
125519−4303.6	ESO 269−20	X galaxyp			144821−2111.1	ESO 580−44	S(rs)p	?	1+1	182931−4713.3	ESO 281−5	SA(rs:)ab	1.5		200339−4257.4	ESO 284−17	SAB0$^-$	−3.0	
125902−4136.4	ESO 323−67	SA(s)c	5.0	m	145018−2111.4	NGC 5766	SAB(s)bc	4.0	2+1	183013−5749.9	IC 4722	SA(s)c	5.0		200524−1748.4	ESO 595−15	SB(s)c	5.0	
125926−5003.9	ESO 219−21	SB(s)cd	6.0	2:	145432−1900.9	IC 1077	SA(s)bc	4.0	3	183147−6719.0	ESO 103−30	SAB(s)b	3.0	2	200526−4426.6	ACSRG 114	SB(rs)dm	8.0	2:
130114−3755.8	ESO 323−73	SA(s)b	3.0	2	145501−4730.0	ESO 273−14	SB(s)m p	9.0	1	183316−7712.1	ESO 45−11	E	−5.0		200615−4418.1	ESO 284−21	SAB(rs)c	5.0	5
130638−1941.4	ACSRG 90	(R′)SB(s)b:	3.0:	2	150223−4215.3	IC 4527	SA(s)c p	5.0	2	183322−6528.3	ESO 103−35	SA0°	−2.0		200724−4505.2	ACSRG 115	SB(s)b:	3.0:	2
130655−1842.4	ESO 575−66	SA(s)b	3.0		151016−8715.4	ESO 8−8	Im	10.0		183735−4150.5	ESO 336−9	SB(s)b	3.0	2	200759−4544.5	IC 4956?	E	−5.0	
130754−2129.0	ESO 576−3	SB(s)c p	5.0		151047−4637.6	ESO 274−1	Sd	7.0		183741−6824.5	IC 4740	SA(s)c	5.0	2	200823−4617.6	NGC 6875A	SAB(s)d	7.0	2
130917−4302.5	NGC 5011A	SAB(s)bc	3.5	4	152313−2206.4	ESO 582−12	SA(s)c	5.0	2+	183834−4922.4	ESO 230−7	SA(s)bc	4.0	2	200940−4618.7	NGC 6875	S0° p	−2.0	
130955−1716.6	MCG −3−34−14	SAB(s)c	4.5		153132−7115.4	ESO 68−7	SA(s)c?	5.0?		183838−4226.4	ESO 336−10	SA(s)0/a	0.0	2	200943−4910.7	ESO 233−46	SB(rs)p		
131530−3510.9	ACSRG 91	SAs a	1.0	2	153147−6641.6	NGC 5938	SB(s)bc	3.5		184108−4435.2	ESO 281−26	SA(s)bc:	4.0:	5:	200944−6805.2	ACSRG 116	SB(s)m?	9.0?	
131604−4659.7	ESO 269−80	SA0°	−2.0		153249−8127.8	IC 4545	SA(s)cd	6.0		184257−8143.1	ACSRG 107	SB(rs)bc	4.0	2	201024−4440.7	NGC 6878	SA(s)bc	4.0	6
131613−2046.6	NGC 5068	SB(s)d	7.0		154048−7537.9	NGC 5967A	SB(rs)bc:	4.0:		184747−5722.8	NGC 6699	SAB(s)bc	4.3	3+1	201123−6201.7	ACSRG 117	SB(s)a	1.0	2
131712−4448.7	ACSRG 92	SA(s)a	1.0	2	154405−6710.2	IC 4571	SAB(s)bc	3.5	2	185728−4523.1	IC 4808	SA(s)c	5.0	2	201137−7402.4	IC 4964	SB(s)cd	6.0	2
131743−2020.9	NGC 5087	E$^+$	−4.0		154845−6726.4	ACSRG 98	SB(s)b	3.0		190101−4755.4	ESO 231−17	S0$^+$:	−1.0:		201224−4618.3	ESO 284−37	SA0°	−2.0	
131801−1746.4	ESO 576−39	SB(s)m	8.5		154928−8246.2	ESO 9−1	SAB(s)b:	3.0:		190112−5118.3	ESO 231−18	SA(s)b	3.0		201241−4645.1	ESO 284−40	SA(s)cd	6.0	4
131910−1704.5	MCG −3−34−61	SA0$^-$	−3.0		155527−6614.5	IC 4584	SA(s)d	7.0		190219−4348.0	ESO 282−10	E	−5.0		201302−4451.8	ESO 284−43	SB(s)dm	8.0	2
132722−2040.6	ESO 576−69	(PR?)			155532−6610.9	IC 4585	SAB(s)c	5.0	2	190221−4240.8	ESO 282−11	S0°	−2.0		201303−4707.2	ESO 284−44	SAB0°	−2.0	
133121−7423.8	ESO 40−13	SAB(s)c	4.5		161428−6255.8	ESO 100−18	SB(s)m:	9.0:		190227−4226.6	ESO 337−10	SA(s)0$^-$:	−3.0:		201306−7100.8	NGC 6876	SB0$^-$	−3.0	
134416−3247.5	ACSRG 93	SAB(s)a:	1.0:	2	162300−6518.2	ESO 100−24	SA(s)c	5.0		190811−4516.0	ESO 282−19	SAB(s)b	3.0	2:	201317−4451.0	ESO 284−46	SAB(s)bc p	4.0	2
134715−5224.8	ESO 221−7	SAB(s)cd	5.5	2	162440−6132.0	ESO 137−29	SB0°	−2.0		190921−4551.0	ESO 282−22	SA(s)c	5.0	2	201319−4447.6	ACSRG 118	SAB(s)c	5.0	2
134719−4801.8	ESO 221−8	(PR?)			162743−6441.1	ACSRG 99	SA(s)a	1.0	2	190949−4708.8	ESO 282−24	E	−5.0		201327−4755.6	ESO 233−50	SA(s)b	3.0	2
134736−4842.0	ESO 221−9	SA(s)c	5.0		163449−6616.7	ACSRG 100	SA(s)c p	5.0	2	191053−4640.9	ESO 282−28	S0° p	−2.0		201334−5226.1	IC 4987	SAB(s)bc	4.0	
134824−4750.1	ESO 221−12	SB(s)bc:	4.0:	2	164033−6628.6	ESO 101−13	SAB(s)c?	5.0?		191153−6017.3	IC 4836	SA(s)c	5.0		201346−4556.4	ESO 284−48	SAB(s)d p	7.0	1+2
134859−4755.4	ESO 221−14	SAB(s)c	4.7	3	164308−5720.0	ESO 179−13	SB(s)dm	7.5		191254−4635.9	ACSRG 108	SB(s)cd	6.0	2	201352−4440.3	ESO 284−49	SB(s)m	9.0	
135419−5231.7	ESO 174−3	SB(s)cd	6.0	2	164317−6003.6	ESO 137−42	SAB(s)bc	4.0		191316−8606.8	ESO 10−4	SB(rs)d	7.0		201433−4540.5	ESO 284−51	SB0$^-$	−3.0	
135739−4510.6	ESO 271−10	SA(s)c	5.0	3	164405−6231.0	ESO 101−14	SA0$^-$	−3.0		191414−6038.2	NGC 6771	S0$^+$ p	−1.0		201443−4551.4	ESO 284−52	SB(s)b	3.0	3
140422−4809.4	ESO 221−25	SB(s)bc:	4.0:	2	164647−5854.5	NGC 6215	SA(s)c p	5.0		191530−4751.3	ESO 232−1	SAB(s)c	4.5	2	201643−6703.0	IC 4990	SAB(s)c	5.0	2
140511−4744.0	ESO 221−26	E	−5.0		164826−5908.0	NGC 6221	SB(s)bc p	4.0		192100−6301.9	IC 4849	SA:(s)c	5.0	2	201706−4917.0	ESO 234−4	SB(s)dm p	8.0	
140653−4559.2	ESO 271−18	SBm	9.0		165210−6219.5	ESO 138−7	SA(s)b	3.0	2+	192116−5746.3	IC 4851	SABab	2.0		201753−5018.9	ESO 234−8	SB(s)cd	6.0	2
140718−4305.4	NGC 5483	SB(s)c p	5.0	2	165437−6008.5	ESO 138−10	SA(s)cd	6.0		192153−4253.1	ESO 282−35	SA(s)c	5.0	4	201850−4431.2	ESO 285−2	SB(s)m	9.0	
140850−4551.3	NGC 5489	SA(s)0$^+$	−1.0		165459−6228.2	ESO 138−11	SAB(s)bc	4.0	2	192422−5852.3	IC 4858	SB(s)cd	5.5		201941−4401.8	NGC 6902B	SA(s)c	5.0	2
141153−4345.6	IC 4387	IB(s)m p	10.0		170916−5902.9	ESO 138−17	SA(s)c	5.0		192428−6124.9	ESO 142−13	SB(s)0/a p	0.0	3:	201945−5042.4	ESO 234−16	SAB(s)bc p	4.0	3+
141154−4343.8	IC 4386	SB(s)d p	7.0		171337−5907.1	NGC 6305	SB0$^-$	−3.0		192552−6625.3	IC 4859	SA(s)bc	4.0	3	202008−4836.2	ACSRG 119	SB(rs)a p	1.0	2
141240−4753.0	NGC 5516	E	−4.5		171643−6507.5	ESO 102−2	SA(s)c	5.0		192742−6431.2	ESO 105−4	E$^+$	−4.0		202145−5141.7	ESO 234−24	SAB(s:)b	3.0	
141334−4236.1	ESO 271−27	SAB(s)b	3.0	5:	171708−8008.9	IC 4647	SB0$^-$	−3.0		192905−5813.3	ESO 142−19	Sa	1.0		202350−5149.2	ESO 234−28	SAB(s)bc p	4.0	2:
141349−4444.9	IC 4390	SA(s)b	3.0	2	171846−6457.8	NGC 6328	SA(s)b	3.0	3:	193138−6108.3	IC 4869	SA(s)dm p	8.0		202351−5122.5	ESO 234−29	SB(s)cd	6.0	2
141534−4730.5	ESO 222−1	IBm:	10.0:		171848−6454.7	ACSRG 101	SAB(s)a	1.0	1	193422−5256.0	ESO 185−5	SB(s)bc	4.0		202352−7203.3	ACSRG 120	SB(s)m	9.0	2
141600−4505.3	ESO 272−4	IB(s)m	10.0		172333−8516.5	ESO 9−10	SA(s)c	5.0	2i,f	193823−5855.2	ESO 142−32	SB(s)m:p	9.0:		202407−4711.5	NGC 6909	SA0$^-$	−3.0	
141800−4604.2	IC 4402	Sb:	3.0:		174111−6814.5	ESO 70−13	SAB(s)d	7.0	2	193921−5846.5	NGC 6810	Sa	1.0		202450−4728.5	ESO 285−16	SA(s)b	3.0	2
142054−4446.4	ACSRG 94	SAB(s)c	5.0	2	174555−5932.8	ESO 139−34	SA(s)c	5.0		194020−6016.8	ACSRG 109	SA(s)0/a:p	0.0:	1	202538−1910.0	ESO 596−45	SB(s)c	5.0	3
142137−2032.1	ACSRG 95	(R)SA(r)b p	3.0	3+1	175141−6016.1	ESO 139−41	SB(s)b:	3.0:	2	194142−5027.5	ACSRG 110	SA(s)b	3.0	2	202628−7209.1	ACSRG 121	(PR?)		
142217−4218.4	ESO 326−21	SA(s)b p	3.0	2	175400−6913.9	ACSRG 102	SB(s)c	5.0		194206−5025.0	ESO 232−23	SA(s)c	5.0	5:	202720−7251.9	IC 5008	SBp		
142341−4539.2	ESO 272−9	SAB(s)d	7.0	2	180710−5615.9	IC 4679	SB(s)c	5.0	2	194209−5838.4	ESO 142−42	SB(s)m	9.0		202737−1654.5	MCG −3−52−14	SB(s)m	9.0	
142706−4320.3	IC 4441	SA(s)b p	3.0	2	181507−7109.3	ACSRG 103	SAB(s)m:	9.0:	1	194313−6311.6	ESO 105−13	SAB(s)dm	8.0		202954−4944.8	ESO 234−44	SB(s)bc	4.0	
142811−7810.1	NGC 5612	SAB(s)b	3.0		181820−4348.8	ESO 280−10	SB(s)d	7.0	2	194350−6644.4	ACSRG 111	SA(s)0/a?	0.0?	2	203011−7305.0	ACSRG 122	SAB(s)c:	5.0:	2
142850−4659.5	ACSRG 96	SA:(s)bc:p	4.0:		181942−4310.2	ESO 280−13	Sb	3.0		194639−6142.7	ACSRG 112	SA(s)ab	2.0		203142−5002.2	ESO 234−49	SA(s)c p	5.0	
143220−4544.9	NGC 5670	SAB(s:)0°	−2.0		182032−5143.1	ACSRG 104	Sbc	4.0		194641−2203.7	ACSRG 113	SA(s)a	1.0	1	203322−5120.4	ESO 234−55	p		
143402−4314.4	ACSRG 97	SA(s)a p	1.0	1+1	182200−7138.4	IC 4704	SA(s)0$^-$	−3.0	2	194956−1920.9	ESO 595−1	SB(s)a	1.0	2	203457−7637.6	IC 5022	SAB(s)b p	3.0	1+1
143536−2209.1	IC 4468	SB(s)c	5.0	2	182210−5051.5	ACSRG 105	SB(s)bc p	4.0		195301−5011.3	IC 4909	SA:(rs:)bc	4.0	2i,4	203504−7117.1	IC 5024	SB(s)c:	5.0:	2
143841−4324.4	ESO 272−24	SA(s)b:	3.0:	2	182328−5134.4	ACSRG 106	SA(s:)b	3.0		195618−4623.8	ESO 284−5	SA(s)d	7.0	3	203630−8010.8	NGC 6920	SA0°	−2.0	
144122−1756.5	ESO 580−15	SA(s)cd	6.0	3	182328−6700.8	IC 4710	SB(s)m	9.0		195625−4629.8	ESO 284−6	SAB(s)c	5.0	5	204014−7134.7	ESO 74−7	SAB(s)a	1.0	2
144315−4344.6	ESO 273−2	SA0$^+$:p	−1.0:		182447−6715.4	IC 4713	SAB(s)bc p	4.0		195820−4724.2	ESO 284−10	SAB(s)m?p	9.0?	1	204019−4824.3	ACSRG 123	SB(s)a	1.0	3
144317−1748.8	ESO 580−22	SAB(s)m	9.0		182626−4249.9	ESO 281−2	SB(s)c	5.0	2	200118−5623.9	IC 4937	Sb	3.0		204114−4609.6	ESO 285−48	SB(s)c	5.0	

TABLE 6—*Continued*

RA (1950) Dec	Name	Type	T	m	RA (1950) Dec	Name	Type	T	m
204217−5134.5	ESO 234−69	SAB(s)c	5.0		215036−5751.0	ESO 145−25	SAB(s)dm	8.3	2
204235−4602.0	ESO 285−51	SB(s)m	9.0	1+1	215221−4329.3	ESO 288−20	SB(s)p		
204330−4423.7	ACSRG 124	SA(s)b	3.0	2	215241−4327.5	ESO 288−21	SB(s)bc	4.0	2:
204411−6916.7	ESO 74−9	SA(s)a p	1.0	1	215405−5929.3	ACSRG 141	SA(s)c	5.0	3
204603−4513.9	ESO 286−1	SA(s)c	5.0	3:	215659−5635.8	ESO 189−19	SAB(s)b	3.0	2
204719−7158.6	ACSRG 125	SA(s)c p	5.0		215727−4337.8	NGC 7166	SA0$^-$	−3.0	
204839−4857.9	NGC 6970	Sbc p	4.0	2	215730−4322.9	NGC 7162A	SB(s)m	9.0	
205334−4739.4	ACSRG 126	SAB(s)bc	4.0		215736−4251.3	ACSRG 142	SB(s)b:	3.0:	
205613−7250.3	IC 5071	SAB(s)b	3.0		215851−5159.0	NGC 7168	E$^+$	−4.0	
205647−7147.7	ACSRG 127	SAp			215917−5419.3	ESO 189−21	SAB(s)m	9.0	1
205719−4450.7	ESO 286−23	SB(s)bc	4.0	2	215952−5613.4	ACSRG 143	SAB(s:)c:	5.0:	
205903−6722.7	ESO 107−4	SA0$^-$	−3.0		220129−5742.1	ACSRG 144	SAB(s)c:	5.0:	
210018−4356.6	ESO 286−31	Sbc:	4.0:		220309−6433.6	NGC 7192	SA0$^-$	−3.0	
210024−4723.2	ESO 286−32	SB(s)dm	8.0	2	220321−4405.1	ACSRG 145	SA(s)a p	1.0	1
210045−7006.2	ACSRG 128	SAB(s)b	2.5	2	220408−5742.5	NGC 7205A	SA(s)c	4.5	4
210147−4337.1	ESO 286−41	SA(s)0$^+$	−1.0		220510−5741.3	NGC 7205	SA(s)bc	4.0	2
210155−4426.7	ACSRG 129	SAB(s)0/a	0.0	2	220609−4724.7	NGC 7213	SA(s)0°	−2.0	
210210−4418.7	ACSRG 130	SB0°	−2.0:		220611−5852.0	ACSRG 146	Sa p	1.0	1?
210229−5457.0	ACSRG 131	SAB(s)a:p	1.0:	1?	220843−4550.3	ESO 288−49	SB(s)dm	8.0	6+
210306−4342.5	ESO 286−47	SA0° p	−2.0:		220843−6258.3	ESO 108−18	SA(s)b	3.0	3
210324−4723.3	ESO 286−49	E$^+$	−4.0		220923−4728.2	IC 5170	SB0$^+$	−1.0	
210325−4245.4	ESO 286−50	S0$^-$	−3.0		221004−4905.6	ESO 237−47	SAB(rs)bc	4.0	3
210429−4722.8	NGC 7014	E	−5.0		221015−6846.7	ESO 76−7	S(rs)p		
210500−4407.1	ESO 286−58	SA(s)c	5.0	2+1	221016−4616.0	IC 5181	S0°	−2.0	
210522−4341.3	ESO 286−59	S0$^-$	−3.0		221032−5333.6	ACSRG 147	SA(s)bc	4.0	2
210616−4736.6	ESO 235−67	SB(s)c:	5.0:		221040−2220.7	IC 1435	SA(rs:)b	3.0	2
210802−4243.7	ESO 286−72	SA(s)bc:	4.0:		221050−4250.3	ESO 289−4	SA0$^-$	−3.0	
210824−4411.6	ACSRG 132	SA(r)b:p	3.0:	1	221130−1719.4	NGC 7230	SA(s)bc	4.0	2
210826−4929.3	NGC 7029	E	−5.0		221136−6548.0	ESO 108−21	SB(s)ab:p	2.0:	
210911−4354.8	ACSRG 133	SB(s)c p	5.0		221256−6438.3	ESO 108−23	SAB(s)cd	6.0	
211231−4238.1	ESO 286−82	SAB(s)c	5.0		221257−5029.1	ACSRG 148	SAB(s)c	5.0	2
211337−7011.1	ESO 74−28	SB(s)cd	6.0	3:	221406−2130.0	ESO 602−3	SB(s)m	9.0	
211433−4836.8	ESO 235−84	SB(s)cd	6.0	2	221433−5246.1	ACSRG 149	SAB(s)b	3.0	2
211433−7127.6	ACSRG 134	SAB0$^-$:	−3.0:		221502−5953.5	IC 5188	SA(s)bc	4.0	4
211508−5751.1	ESO 145−4	SAB(s)bc:	4.0:		221537−6008.0	IC 5190	SA(s)c p	5.0	
211524−4513.1	ESO 287−6	SB(s)0/a:	0.0:		221717−4828.9	ACSRG 150	SAB0$^-$	−3.0	
211536−8514.3	ACSRG 135	SB(r)b	3.0		221732−2217.0	ESO 602−7	SA(s)b	3.0	
211956−4559.2	ESO 287−13	Sc	5.0		221747−8014.9	ESO 27−8	SAB(s)c	5.0	2
212146−4240.6	NGC 7057	E	−5.0		221754−4617.2	IC 5201	SB(s)cd	6.0	
212335−6013.9	NGC 7059	SAB(s)c p	5.0		221810−4836.3	ESO 238−4	SA(s)bc	4.0	2
212713−4318.4	NGC 7070	SB(s)c	5.0	3i+f	221913−6001.6	IC 5203	SB(s)cd	6.0	
212713−4325.3	NGC 7072A	SA(s)c	5.0	2	221918−6603.3	IC 5202	SB(s)c	5.0	3
212835−4532.6	ACSRG 136	SA(s)b	3.0	1	221951−2159.3	NGC 7256	S(r?)b	3.0	2
213146−5627.5	ACSRG 137	SA(s)a p	1.0	1	222006−2036.2	ESO 602−15	SB(s)c	5.0	2
213417−4733.1	ESO 236−25	SA(s)b	3.0		222006−6049.1	IC 5207	SA(s)c	5.0	
213600−8025.4	ACSRG 138	SA(s)b	3.0		222007−4932.7	ESO 238−6	SA(s)a p	1.0	1
213653−4220.8	ACSRG 139	SA(s)b	3.0	2	222013−6324.3	ACSRG 151	SA(s)b	3.0	2
213704−4246.0	NGC 7097	E	−5.0		222034−4231.6	ESO 289−26	SB(s)cd	6.0	2:
214502−4546.8	ACSRG 140	SBp		1	222038−6617.5	ACSRG 152	SB(s)b:p	3.0:	2
214548−8145.9	ESO 27−1	SB(s)c	5.0	2	222116−5912.1	ACSRG 153	SA(s)bc	4.0	
214701−8153.3	ESO 27−3	IBm	10.0		222155−6958.3	ACSRG 154	(R$'_2$)SB(s)b:	3.0:	
214750−6846.1	ESO 75−31	SAB(s)b	3.0		222308−8115.3	ESO 27−9	SA(s)cd	6.0	
214833−6859.7	ESO 75−32	SAB(s)a	1.0		222318−5940.5	ACSRG 155	SA(s)b	3.0	2
214839−4321.5	ESO 288−13	SB(s)dm	8.0		222331−6459.6	ACSRG 156	SB(s)0/a:	0.0:	
215007−4807.1	NGC 7145	E	−5.0		222355−5230.9	ESO 190−11	SB(s)m	8.5	f
222406−5053.8	ACSRG 157	SA0$^-$:	−3.0:		231347−2225.5	NGC 7573	SAB(s)c	5.0	
222431−5040.9	ESO 238−12	SAB(s)c	5.0	2	231610−4230.7	NGC 7590	S(r?)bc	4.0	
222753−1749.8	NGC 7301	SAB(s)bc	4.0	2	231617−2058.5	ESO 604−11	SAB(s)bc	4.0	
222830−4219.1	ACSRG 158	SAB(s)b	3.0	3	231624−2259.4	ESO 535−15	SB(s)bc	4.0	4
222914−1724.1	MCG −3−57−18	SB(s)cd	6.0	2	231636−4231.8	NGC 7599	SB(s)c	5.0	6:
223017−2021.1	ESO 602−27	SAB(s)cd	6.0	4	231740−6207.7	ESO 148−6	SAB(s)m	9.0	
223028−1719.6	MCG −3−57−21	SA(s)0$^+$	−0.5		231804−4200.3	ESO 347−8	SAB(s)m	9.0	2:
223040−4904.9	ESO 238−15	SAB(s)c	5.0		232820−6112.4	ESO 148−18	SB(s)c	5.0	
223059−8119.4	ESO 27−14	SAB(s)c	5.0		233018−5158.4	NGC 7690	Sb	3.0	
223141−2033.9	ACSRG 159	SB(s)b	3.0	2	233035−4517.6	IC 5328	E	−5.0	
223148−2257.1	ESO 533−48	IB(s)m	9.0		233111−6030.5	ESO 148−19	SAB(s)dm	8.0	
223240−5108.9	ESO 238−18	SA(s)d	7.0		233139−4616.4	ESO 291−31	SBp		
223245−4659.3	ACSRG 160	X galaxy			233207−6657.4	ESO 110−13	SA?(rs:)ab	2.0	2
223409−2004.0	ESO 602−30	SB(s)d	7.0		233220−6551.8	NGC 7697	SB(s)cd	6.0	2
223426−5105.5	ACSRG 161	SA(s)bc	4.0		233434−1945.2	ACSRG 168	SB(s)b	2.5	2
223655−4407.3	ESO 289−47	SAB(s)ab	2.0	3	233537−2103.6	ESO 605−21	SB(s)a	1.0	2
223803−6652.7	IC 5236	S0°	−2.0:		233548−5816.6	ESO 148−21	SB(s)b	3.0	
224054−6418.3	IC 5244	Sb	3.0		233608−6438.2	ESO 110−18	SAB(s)c	5.0	2
224134−6537.3	IC 5245	SA0/a:	0.0:		234002−6309.7	ESO 110−24	SB(s)m?p	9.0?	
224347−6505.7	IC 5249	Sd	7.0		234027−7250.9	ESO 28−1	SAB(s)b	3.0	
224642−4906.9	ESO 239−2	SA(r?)p			234221−4311.3	NGC 7744	SB0$^-$	−3.0	
224749−4535.7	ESO 290−20	SA0$^-$	−3.0		234353−3950.5	ESO 348−4	SAB(s)c	5.0	2
224841−2030.7	ESO 603−21	(PR?)			234509−5721.0	ESO 149−1	SAB(s)dm	7.5	
225304−4342.1	IC 5267A	SB(s)c	5.0	2	234647−3803.0	ESO 348−9	IBm	10.0	
225542−4756.5	ESO 239−5	SAB(s)c	5.0	2	234721−6029.7	ACSRG 169	SB(s)b	3.0	2
225643−6150.0	ESO 147−17	SB(s)c	5.0	2	234752−8122.7	ACSRG 170	SAB(s)c	5.0	
225848−6528.0	IC 5277	SA(s)0/a	0.0	1	234847−4816.1	ACSRG 171	SA(s)a	0.5	2
225857−2258.8	ESO 535−3	Sp		1?	235050−5958.5	ESO 111−7	SB(s)ab:p	2.0:	2
225932−5019.9	ACSRG 162	SAB(rs)bc	4.0	3	235115−4117.3	ACSRG 172	SAB(s)c	5.0	3
225944−6928.8	IC 5279?	(PR?)			235220−4051.5	ESO 293−12	SB(s)cd	6.0	3
230038−4618.1	ESO 290−39	SB(s)m	9.0		235306−6014.4	ESO 111−8	SAB(s)ab	2.0	
230126−7530.1	ACSRG 163	SAB(s)cd	6.0		235319−6057.6	ESO 111−9	SA:(s)c	5.0	f
230204−7842.7	ACSRG 164	SAB(s)b	3.0		235340−4342.3	ESO 241−6	SAB(s)bc p	4.0	
230303−4300.3	ESO 290−48	SA(s)bc	4.0	2	235344−8150.7	ESO 12−10	SB(s)d	7.0	
230452−4901.2	ESO 239−12	Sc:p	5.0:		235501−4626.1	ESO 241−8	SA(s)c	5.0	3
230507−4441.8	ESO 290−53	SA(s)c	5.0	5	235527−4148.6	ESO 293−22	S(r:)a p	1.0	3
230746−4836.5	ESO 239−14	SAB(s)cd	6.0	2	235625−5544.1	NGC 7796	E$^+$	−4.0	
230816−2256.3	ACSRG 165	SB(s)bc	4.0	3	235649−5636.6	ESO 149−11	SAB(s)b:	3.0:	m
230936−4403.1	NGC 7496A	SB(s)m	9.0		235749−4717.9	ACSRG 173	SA(s)0°	−2.0	
230945−4915.3	ACSRG 166	SAB(s)0/a	0.0		235755−4045.7	ESO 293−27	SAB:(s:)c	5.0	
231112−4300.0	ESO 291−9	SA0$^-$	−3.0		235829−4336.5	ESO 241−10	E$^+$	−4.0	
231144−4343.1	ACSRG 167	SAB(s)a	1.0	2	235919−5045.4	ACSRG 174	SA(s)b	3.0	2
231223−4940.3	ESO 239−17	SAB(s)d	7.0	2	235924−2816.6	ESO 409−4	SA(s)bc	4.0	
231303−7114.3	ESO 77−8	SAB(r)c	5.0		235937−4415.6	ACSRG 175	E$^+$	−4.0	
231340−5041.8	ESO 239−19	SAb:	3.0:						

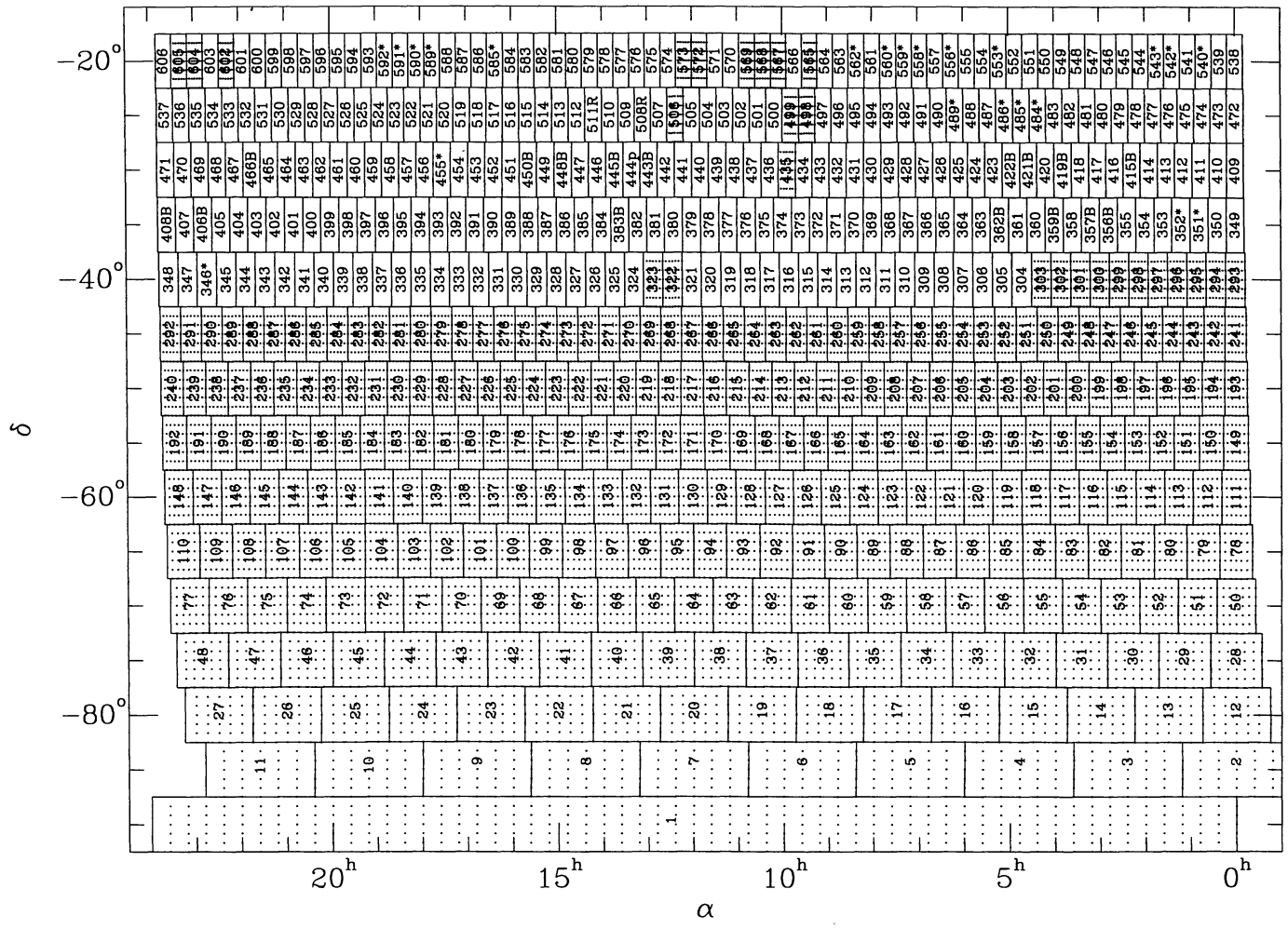

FIG. 2.—SRC field numbers versus right ascension and declination. Dotted fields were scanned using CSRG II techniques, while nondotted fields were scanned using only CSRG I techniques. A "B" or "R" after the field number means that, at the time of the scan, it was necessary to use an ESO-*B* or ESO-*R* film for the search. Fields where the number is followed by an asterisk have not yet been scanned for the CSRG.

5*d* show the diameter residuals versus mean diameter, and the angle residuals versus mean angle, mean diameter, and axis ratio q, which I derive as $\langle d\rangle/\langle D\rangle$. An internal error function for the diameters was derived by sorting the residuals by mean diameter, and computing the standard deviation and mean diameter for successive groups of 400 residuals. The plot in Figure 5*e* shows that the error increases with increasing diameter (the rightmost point on this plot involves only 200 residuals). A least-squares fit gave the following relationship:

$$\sigma(d, D) = 0.0086 + 0.0285\langle d, D\rangle, \qquad (6)$$

where "d, D" means the relation is valid for both major- and minor-axis diameters. Although the absolute error increases with increasing diameter, the percentage error actually decreases. Thus, the smallest diameters have the largest percentage error. Equation (6) is for a single diameter measurement, so that the error for galaxies observed more than once will be less than given by this equation. For the samples that will be analyzed in § 6.5.3, the average number of major-axis diameter estimates per galaxy is $\langle N_O\rangle = 1.4$ for outer features and $\langle N_I\rangle = 1.5$ for inner features (see digits 5 and 8 of the number coded in col. [12] of Table 3). To allow for this in my analysis of the observed axis ratio distributions, I will divide equation (6) by $\sqrt{\langle N_O\rangle}$ or $\sqrt{\langle N_I\rangle}$.

The errors in the axis ratios can be inferred from equation (6). Since the relationship is valid for both major- and minor-axis diameters, we can compute $\sigma(d)$ and $\sigma(D)$ separately. Then the uncertainty in the axis ratio can be derived from

$$\sigma^2(q) = \frac{\sigma^2(d)}{D^2} + \frac{d^2\sigma^2(D)}{D^4}. \qquad (7)$$

For a given diameter the error in the axis ratio provided by this equation will be larger for rounder rings.

Although the scatter in the angle residuals appears to be larger at smaller diameters (Fig. 5*c*), the apparent increase is mostly a size-of-sample effect. The main source of error in the angles is actually the axis ratio, which is not surprising since the angle is undefined for circular rings. For the error function

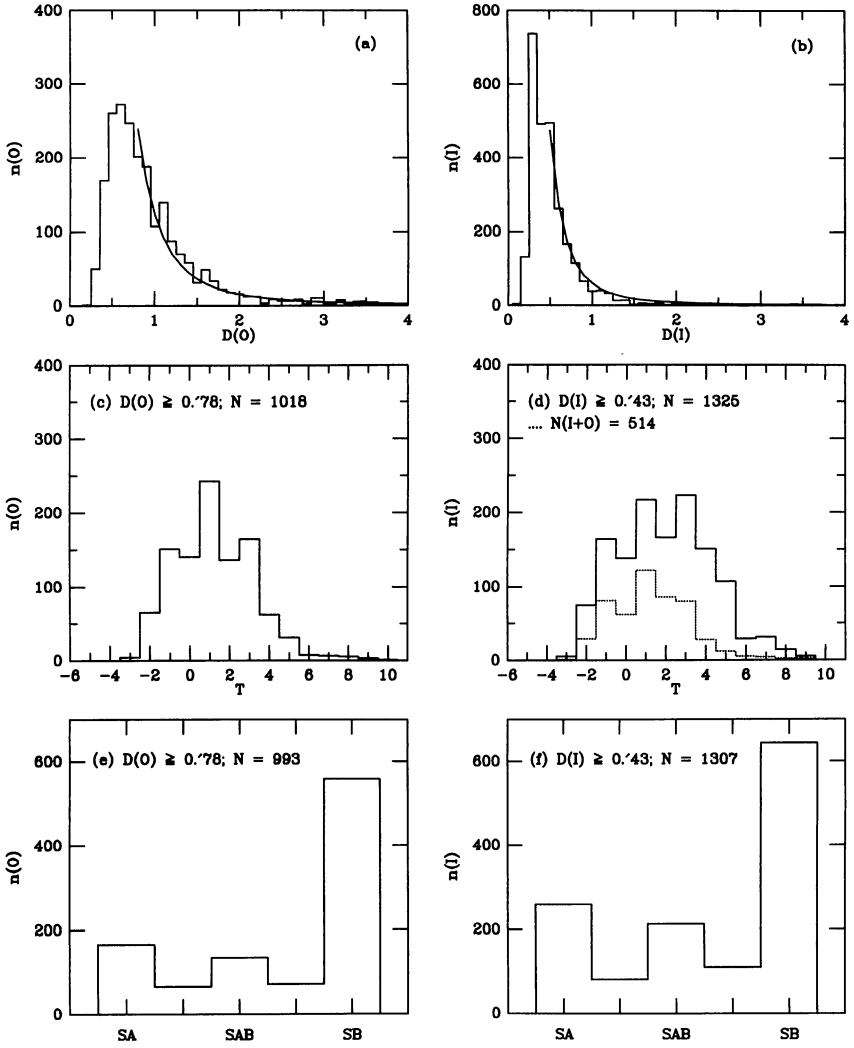

FIG. 3

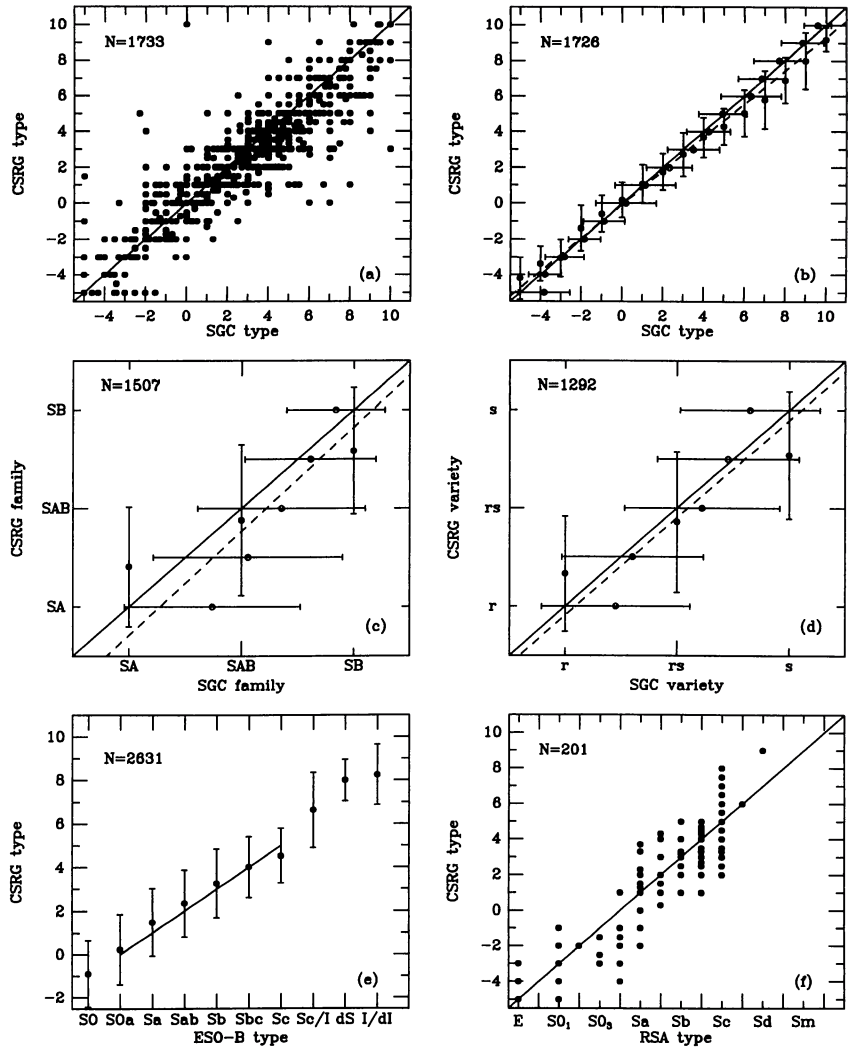

FIG. 4

FIG. 3.—(*a*) Distribution of outer feature angular diameters. The curve is based on eq. (2). (*b*) Distribution of inner feature angular diameters. The curve is based on eq. (1). (*c*) Distribution of galaxies with outer features larger than 0.′78 by Hubble stage. (*d*) Distribution of galaxies with inner features larger than 0.′43 by Hubble stage. The dotted histogram indicates the subset of these galaxies also having outer features. (*e*) Distribution of galaxies with outer features larger than 0.′78 by family. (*f*) Distribution of galaxies with inner features larger than 0.′43 by family.

FIG. 4.—Comparison of morphological classification parameters in CSRG with other catalogs. (*a*, *b*) CSRG stages vs. SGC stages. (*c*) CSRG families vs. SGC families. (*d*) CSRG varieties vs. SGC varieties. (*e*) CSRG stages vs. ESO-*B* types. (*f*) CSRG stages vs. RSA types.

TABLE 7

INVENTORY OF FEATURES

Feature	N	Feature	N	Feature	N	Feature	N
(r)	1341	(l)	115	(R)	495	(R_1)	156
(rs)	266	(rl)	15	(R′)	592	(R_1')	324
(rs)	521	(rl)	133	(L)	34	(R_2)	5
(rs)	144	(rl)	62	(RL)	65	(R_2')	295
nr	2	(r′l)	13	(R′L)	7	(R_1R_2')	78
I but no O	1593	...	...	O but no I	267	...	...

the angle residuals were sorted by axis ratio, and the mean axis ratio and standard deviation of the residuals were computed every 300 points (except for the largest q bin, which involves only 106 residuals). The results are shown in Figure 5*f*. The curve is based on a least-squares fit and has the form

$$\sigma(\theta) = 2\overset{\circ}{.}291 + 0\overset{\circ}{.}805/(1 - q)\,. \qquad (8)$$

As for equation (6), equation (8) is the error for a single measurement. The average number of angle measurements per galaxy for the samples analyzed in § 6.5.3 is $\langle N_O \rangle = 1.4$ for outer features and $\langle N_I \rangle = 1.5$ for inner features (see digits 7 and 10 of the number coded in col. [12] of Table 3). To allow for this in my analysis of the observed angle distributions, I will divide equation (8) by $\sqrt{\langle N_O \rangle}$ or $\sqrt{\langle N_I \rangle}$.

Figure 5*d* shows that very few angles were estimated for $q \geq 0.95$ to define the relation better. Equation (8) is a very good representation of the errors in the range $0.4 \leq q < 0.95$. At axis ratios much smaller than 0.4, I expect that the errors would actually increase again because of the difficulty of measuring the bar position angle, especially if the bar is highly foreshortened. However, highly inclined galaxies are selected against in the catalog, and equation (8) should be adequate for the analysis of the distributions of the angles.

6.4.2. *External Comparisons*

There are two major external sources of ring-diameter data that can be compared with the data in the CSRG. These are de Vaucouleurs & Buta (1980a, hereafter VB80), which is a list of ring major- and minor-axis diameters for 532 bright galaxies across the entire sky; and the SGC, which covers the same sky area as the CSRG. SGC ring diameters were taken from the notes to the catalog, and if more than one set of measurements was listed for a given ring feature (usually because it was measured on different plates or films), then the average diameter was computed. More than 2000 diameters were available from this significant source.

Figure 6 illustrates the triangular comparison between the three sources and includes both major- and minor-axis diameters. Figure 6*a* shows that CSRG diameters tend to be larger than SGC diameters for SGC diameters greater than 4′. A similar trend is seen in Figure 6*c*, which compares SGC diameters to VB80 diameters. The two discrepant points in Figure 6*c* refer to NGC 289, an object with complex outer structure which can be interpreted in different ways. In these comparisons, especially in Figure 6*b*, I have allowed for different interpretations of the rings. For example, the VB80 inner rings of NGC 1437, 3267, and 3269 are recognized as outer features in CSRG. The VB80 outer ring and inner ring for NGC 1317 are recognized as inner and nuclear rings, respectively, in CSRG. Last, the VB80 outer ring of NGC 1079 has been set equal to the R_1 component of a double outer ring, pseudoring feature listed in CSRG. This is uncertain but agrees with the SGC interpretation.

Impartial least-squares fits and variances were computed for the three comparisons. If we set x = SGC diameters, y = CSRG diameters, and z = VB80 diameters, then the solutions are

$$y = 0\overset{'}{.}802 + (1.082 \pm 0.005)(x - 0\overset{'}{.}774)\,, \qquad (9a)$$

$$y = 1\overset{'}{.}506 + (1.035 \pm 0.011)(z - 1\overset{'}{.}454)\,, \qquad (9b)$$

$$z = 1\overset{'}{.}521 + (1.055 \pm 0.012)(x - 1\overset{'}{.}473)\,. \qquad (9c)$$

The last solution is after rejection of NGC 289. All of the slopes are significantly different from unity, but the systematic agreement is better between CSRG and VB80.

For external errors, I computed the variances

$$\sigma_{ij}^2 = \frac{\sum (D_i, d_i - D_j, d_j)^2}{N_{ij}}\,, \qquad (10)$$

where i and j refer to the different catalogs, N_{ij} is the number of measurements in common, and D, d means both major- and minor-axis diameters are used. This yielded the following combined dispersions: $\sigma_{yx} = 0\overset{'}{.}154$ ($N = 2031$), $\sigma_{yz} = 0\overset{'}{.}239$ ($N = 230$), and $\sigma_{zx} = 0\overset{'}{.}250$ ($N = 204$). Since the three sources are independent, we can relate these combined dispersions to the individual dispersions as follows:

$$\sigma_{ij}^2 = \sigma_i^2 + \sigma_j^2\,. \qquad (11)$$

Although in principle we could solve the three versions of equation (11) for the individual errors, equations (9a)–(9c) show that the mean angular diameter in the CSRG-SGC comparison is 0′.8 compared to 1′.5 for the VB80 comparisons. This explains why σ_{yx} is considerably less than σ_{yz} and σ_{zx}. If the CSRG-SGC comparison is restricted to only the same galaxies used in the VB80 comparisons, then $\sigma_{yx} = 0\overset{'}{.}234$ ($N = 195$) and a fair solution can be made. The individual dispersions at 1′.5 angular diameter are then found to be $\sigma_x = 0\overset{'}{.}173$, $\sigma_y = 0\overset{'}{.}157$, and $\sigma_z = 0\overset{'}{.}180$. These are comparable, so we can assume that at 0′.8 the dispersions are $\sigma_x \approx \sigma_y = 0\overset{'}{.}11$.

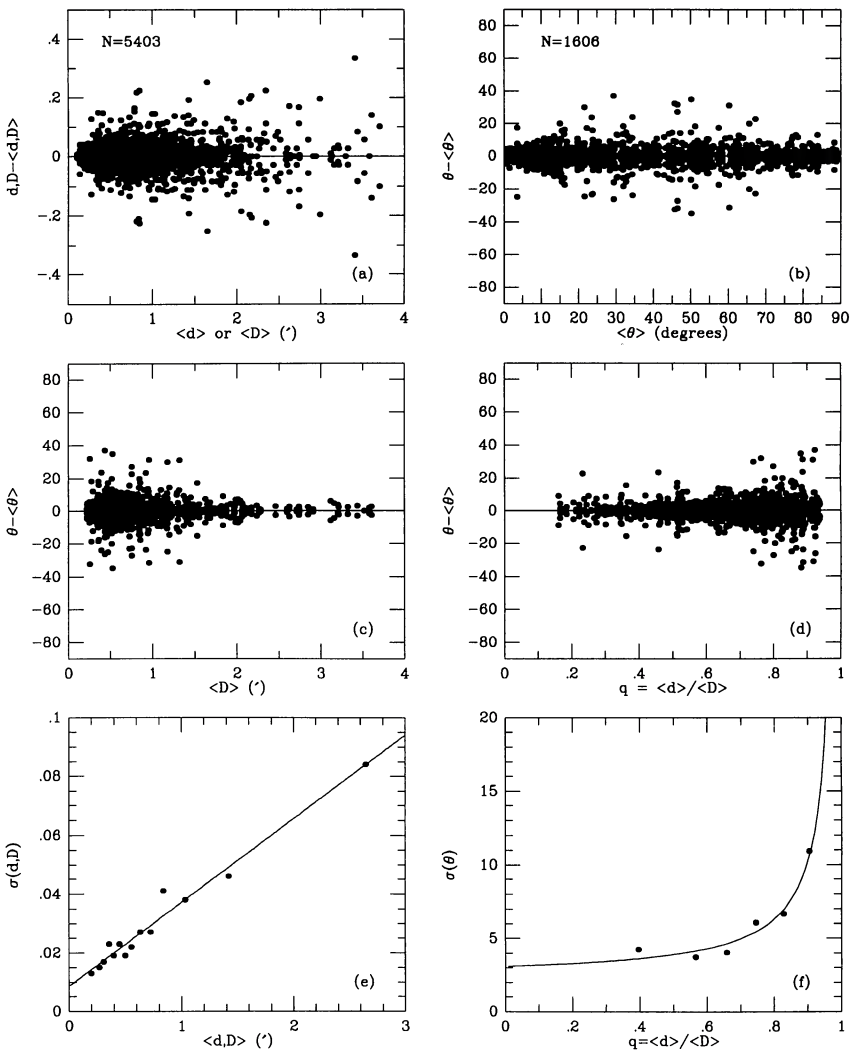

FIG. 5

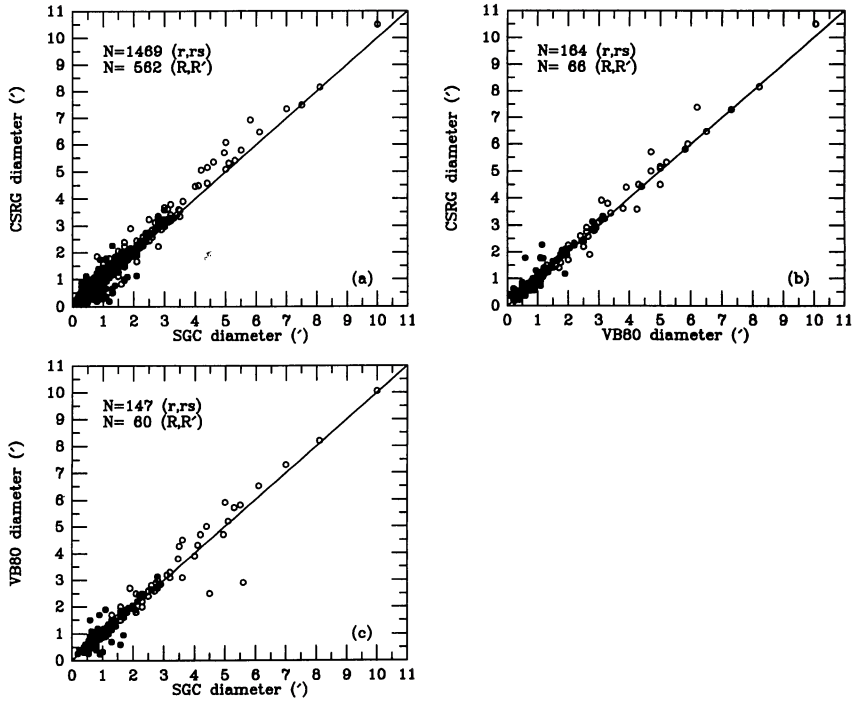

FIG. 6

FIG. 5.—Errors in measured CSRG parameters. (*a*) Residuals of angular diameter measurements vs. mean angular diameter for cases having ≥2 estimates of either the major or the minor axis. (*b–d*) Residuals of bar/ring position angles vs. mean angle, mean diameter, and axis ratio for cases having ≥2 angle measurements. (*e*) Internal error function for angular diameter measurements. The solid line is based on eq. (6). (*f*) Internal error function for angle measurements. The solid curve is based on eq. (8).

FIG. 6.—Comparison of CSRG angular diameters with measurements from the SGC and from de Vaucouleurs & Buta (1980a) (VB80). Filled circles refer to inner rings and pseudorings, while open circles refer to outer rings and pseudorings. The numbers of objects are indicated in each case. The solid lines have unit slope.

The internal errors in CSRG (eq. [6]) are smaller by a factor of 3.2 than these external error estimates, which indicates mainly the homogeneity of CSRG interpretations. The external error for VB80 at 1.'5 is also larger by a factor of about 2 than found by de Vaucouleurs & Buta (1980b) for a subset of 42 (mostly northern and equatorial) SB galaxies in common with Kormendy (1979). The external errors include not only the random uncertainties in ring measurements but also differences of interpretation that result when independent observers use different image material. The CSRG is based on inspection of SRC-J, ESO-B, and ESO-R survey films, but the SGC is based only on the SRC-J films and plates, and the VB80 measurements are based on a variety of plate sources. It is for this reason that I will base my principal analysis of axis ratio distributions only on CSRG diameters. VB80 axis ratios have already been analyzed by Buta (1984a), and SGC axis ratios will be analyzed separately here. There are no significant sources of angles that can be compared with the current CSRG.

6.5. *Intrinsic Shapes and Orientations*

This section is concerned with the analysis of the principal information in the CSRG: the apparent shapes and relative bar position angles of the various ring features. I begin the analysis by first illustrating and discussing the selection effects in the catalog. This is important especially because many CSRG rings have a small angular diameter. I will then describe in detail the method for interpreting the observed distributions. This will involve predicting expected distributions of apparent shapes and apparent bar alignments under the assumption of random orientations. Finally, I will compare predicted distributions with observed distributions to deduce the most important information that can be derived from the CSRG: the *intrinsic* shapes and relative bar alignments of the different types of rings.

6.5.1. *Treatment of $R_1R'_2$ Features*

Of the 2051 CSRG galaxies having outer features, 78 have the $R_1R'_2$ characteristic, that is, a morphology which is a combination of the R_1 and R'_2 subclasses of outer rings. In order to utilize both features in the apparent distributions, I will assign weights according to which feature is strongest (from CSRG notes). The stronger feature will have a weight of 0.67, while the weaker feature will have a weight of 0.33. If both features are equally prominent, then weights of 0.5 will be assigned.

6.5.2. *Observed Distributions and Selection Effects*

Figures 7*a*–7*d* show the distributions of apparent axis ratios and relative bar/ring position angles for all inner and outer features in the CSRG, that is, without any restrictions regarding size, Hubble type, or inclination. The top two panels show that the numbers of inner and outer features of a given apparent shape decrease away from maxima in the bin $0.7 < q \leq 0.8$. The appearance is caused by two different effects. The decrease in numbers for $q < 0.7$ is due mainly to the difficulty of detecting rings in highly inclined galaxies. This selection effect naturally worsens with decreasing apparent axis ratio and also with decreasing angular diameter. It is particularly severe for the inner features, half of which are less than 0.'43 in angular diameter. The decrease in numbers for $q > 0.8$ is, however, not likely to be due to a selection effect, since the galaxies are not highly inclined. Instead, the reduced numbers in the roundest axis ratio bin must be due to noncircular intrinsic shapes, since the rings would not have to be very oval to produce a serious deficiency in this bin (Kormendy 1979). Thus, the histograms suggest that both inner and outer features are intrinsically noncircular.

The angle distributions for the unrestricted samples reveal some interesting characteristics. For both inner and outer features, the maximum number of objects is found in the bin $0° \leq \theta < 10°$. These maxima are due to at least two effects. First, the samples are not restricted in inclination. It is easy to show (Buta 1986a) that apparent bar/ring position angles will tend to be low in highly inclined galaxies because the probability of seeing exactly down the bar axis is very small. Thus, some galaxies in the 0°–10° peaks are simply from the high-inclination halves of the samples. Second, if a sufficient number of rings is intrinsically aligned parallel to the bar, then these will cause an excess in the same bin.

The main difference between the unrestricted angle distributions of inner and outer features lies in the relative number of objects where the bar has a large apparent angle with respect to the ring major axis. Outer features have a notably higher relative frequency of such cases, and in particular a secondary peak in the 80°–90° bin. This is not likely to be an artifact of inclination, but is more likely to be due to an intrinsic bar alignment difference between inner and outer features.

The effects of restrictions according to Hubble stage, angular diameter, and (for the angle distributions) axis ratio are shown in Figures 7*e*–7*h*. These plots begin to show more clearly the signatures of the intrinsic shapes and bar alignments of the different ring types. The distributions are restricted to the type range $-2 \leq T \leq 5$, since this is the range where the majority of rings are found. The axis ratio distributions are also restricted to angular diameters larger than the median for each feature type. For outer features, the selection effect due to inclination appears less serious than in Figure 7*a*, and may be important only for $q < 0.4$. For inner features, the selection effect looks important mainly for $q < 0.5$. For the angle distributions, I have restricted the samples both to these axis ratio limits and to diameters larger than the medians for each feature type. Figures 7*e* and 7*f* show that the deficiencies of objects in the roundest axis ratio bins persist, while Figures 7*g* and 7*h* show that the peaks in the lowest and highest angle bins also persist. The 0°–10° peak is reduced, however, because of the axis ratio restriction.

In Figure 8, I add another restriction to the distributions: the family. Figures 8*a*–8*d* show the distributions strictly for SB galaxies in the samples of Figures 7*e*–7*h*. These comprise nearly half the axis ratios and most of the angles, of course. Figures 8*e*–8*h* show the distributions for SAB (including S$\underline{\text{A}}$B and SA$\underline{\text{B}}$ galaxies. These plots reveal some striking differences between families. The angle distributions for SB and SAB outer features are distinctly different: for SBs there are maxima in the 0°–10° bins and 80°–90° bins, while for SABs there is a maximum only in the 0°–10° bin. The distribution of axis ratios for SAB outer features shows a smaller deficiency of apparently round cases compared to SB outer features. The distribution of inner ring axis ratios for SAB galaxies is peculiar and could be

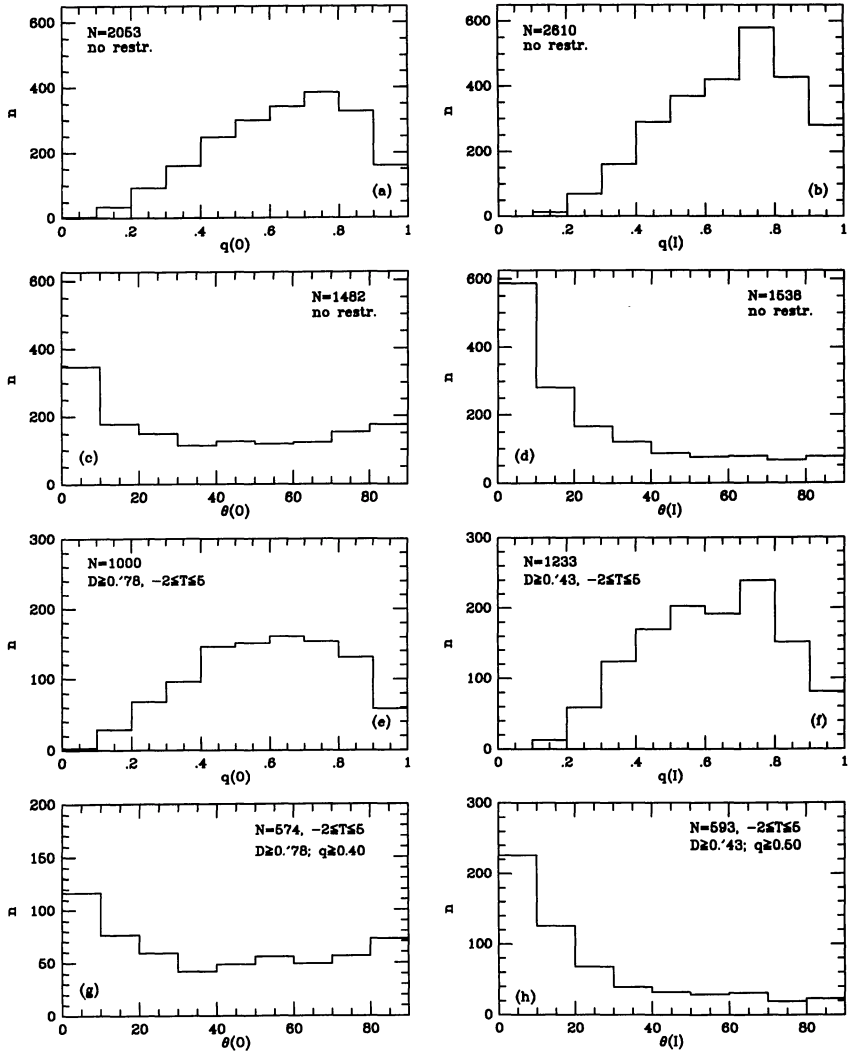

FIG. 7

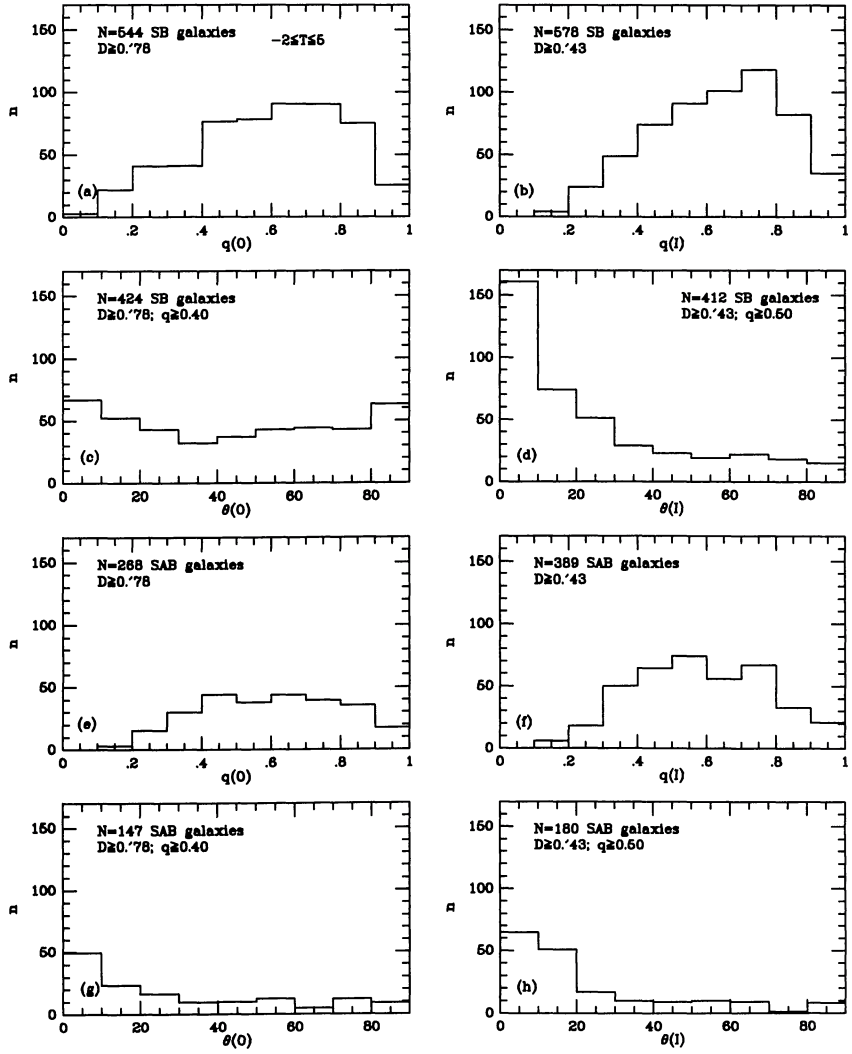

FIG. 8

FIG. 7.—Distributions of inner and outer feature axis ratios and angles for samples designed to illustrate selection effects in the CSRG. (*a–d*) Raw distributions for all features in the catalog, with no restrictions applied. (*e–h*) Distributions restricted according to feature diameter, Hubble stage ($S0^0$ to Sc), and axis ratio.

FIG. 8.—Distributions of inner and outer feature axis ratios and angles for restricted samples divided by family SB or SAB

influenced by a selection effect: in some SAB galaxies the bar is mostly an oval bounded by an inner ring or is simply an oval lens. These are most easily recognized when they are notably elongated, so the large number of SAB inner features having $q < 0.5$ could be partly due to this effect. The full axis ratio distributions for SA features (not shown) are also peculiar. Here recognition is a major problem, and it is likely that some of the SA cases have bars that are not easily identified at high inclination.

Figure 9 shows the distributions for a combined sample of SB, SAB, and plain SAB features. Figures 9*a*–9*d* show the distributions for angular diameters larger than the medians, while Figures 9*e*–9*h* show the distributions for angular diameters smaller than the medians. The angle distributions are very similar between the near and far samples, while the axis ratio distributions are very different. The inclination selection effect is most serious for the smaller galaxies, as expected.

6.5.3. *Simulations of Expected Distributions*

In Buta (1986a), I described the procedure for simulating expected distributions of apparent axis ratios and bar/ring major-axis position angles for infinitesimally thin elliptical rings crossed by infinitesimally thin and narrow linear bars. The principal assumption is that the spin axes of the disks of the galaxies are randomly oriented to the line of sight. Expected distributions were computed for a uniform distribution of intrinsic axis ratios, $f(q_0)$, over a limited range of q_0. The inclination selection effect was allowed for by comparing to the observed distributions a restricted portion of the simulated distributions, using a χ^2 test to determine the best fitting function $f(q_0)$.

In the present analysis, I will make four improvements to my previous paper: (1) the errors in the measured CSRG parameters will be explicitly taken into account; (2) the relatively larger numbers of small features compared to large ones will be taken into account; (3) Gaussian forms of the intrinsic shape and angle distributions will be used; and (4) the lack of measurable angles for nearly round rings will be allowed for.

The basic simulation procedure for axis ratios involves 9000 viewing geometries in one quadrant of a sphere. The rings lie in the (x, y)-plane with the major axis along the x-axis. Steps of 1° in azimuthal angle ϕ and 0.010 in the cosine of the inclination angle, cos i, are used. Equations (1) and (2) of Buta (1986a) are then used to derive the apparent axis ratio for each given viewing geometry (i, ϕ). Axis ratio bins of width 0.1 are defined, and for a single intrinsic axis ratio q_0 the distribution of apparent axis ratios is simply the relative total amount of solid angle that allows the feature to be viewed as having a given apparent shape.

The Gaussian intrinsic distribution of axis ratios was input as a weighting function based on input values of the mean intrinsic axis ratio $\langle q_0 \rangle$ and the dispersion $\sigma(q_0)$. The ranges tried were $0.70 \leq \langle q_0 \rangle \leq 1.00$ and $0.01 \leq \sigma(q_0) \leq 0.25$. Each Gaussian function was divided into 21 discrete values of q_0. If q_0 was greater than unity for any combination of $\langle q_0 \rangle$ and $\sigma(q_0)$, then the distribution was truncated at $q_0 = 1.00$.

The errors in the axis ratios were taken into account as follows. First, a diameter level was assigned to a given set of simulations. For outer features, 12 levels in the range $0.'75 \leq D(\mathrm{O}) \leq 2.'95$ were used, while for inner features the same number of levels in the range $0.'45 \leq D(\mathrm{I}) \leq 2.'65$ were used. These ranges include most of the galaxies for each feature type, the lower limits being set by the median diameters. Then, for each of the 9000 simulation rings, a random number generator was used to add error to the major- and minor-axis diameters according to equation (6), after division by $\sqrt{\langle N_O \rangle}$ or $\sqrt{\langle N_I \rangle}$ (see § 6.4.1), to allow at least approximately for the significant fraction of multiply observed objects that would be involved in any given distribution. The histogram of apparent shapes for a given major-axis diameter is then built up using the ratio of the error-affected minor- and major-axis diameters. The final frequency is derived by using the diameter functions in equations (1) and (2) as weighting functions. This allows for the fact that most of the rings in any observed distribution are near the lower limit of the adopted diameter range.

The predicted distributions of relative bar/ring position angles used a single distribution of intrinsic axis ratios as the principal input. For each value of q_0, the distributions of angles were computed for bar position angles from 0° to 90°, in steps of 1°. The Gaussian intrinsic distribution of angles was input as a weighting function based on input values of the mean intrinsic alignment angle $\langle \theta_0 \rangle$ and the dispersion $\sigma(\theta_0)$. Tests showed that it was necessary to consider only $\langle \theta_0 \rangle = 0°$ and 90°, so that only half of a Gaussian distribution is used in each case. The dispersion was varied from $1° \leq \sigma(\theta_0) \leq 15°$. For a given bar position angle, the final distribution used the same weighting functions as were used for the axis ratios. Integrals were carried over two quadrants of the sphere owing to the lack of symmetry over one quadrant for intermediate bar angles. To allow for selection effects in the observed distributions, the output frequencies were restricted to the range $0.40 \leq q \leq 0.95$ for outer features and $0.50 \leq q \leq 0.95$ for inner features. The lower limits are to avoid the inclination selection effect, while the upper limit allows for the fact that the bar/ring position angle was not, in general, measured when the feature was too round. As for the axis ratios, the errors in the angles were taken into account using a random-number generator. Equation (8) was used and was divided by $\sqrt{\langle N_O \rangle}$ or $\sqrt{\langle N_I \rangle}$ (see § 6.4.1) to allow approximately for the fact that a significant fraction of the objects involved in any given distribution are multiply observed.

6.5.4. *Results of Fits*

For the actual fits to the distributions, the following restrictions on the observed samples were made: (1) rounded-off Hubble stage in the range $-2 \leq T \leq 4$; (2) only outer and inner features larger than the median diameters of $0.'78$ and $0.'43$, respectively, are used; (3) for outer features the axis ratio fits were restricted to $q > 0.4$ to avoid the inclination selection effect, while for inner features the smaller median-diameter limit necessitated restriction to $q > 0.5$; (4) for outer features the observed distribution of angles is restricted to $q \geq 0.4$ to also avoid the inclination selection effect, and for inner features the restriction is to $q \geq 0.5$.

The fits were made in the form of histograms. The bin size chosen for the axis ratio distributions is 0.1 in q. Since the main fits to these distributions involve only two parameters, $\langle q_0 \rangle$ and $\sigma(q_0)$, then for outer features this means the fits restricted

to $q > 0.4$ have 4 degrees of freedom, while for inner features the fits restricted to $q > 0.5$ have 3 degrees of freedom.

The bin size chosen for the angle distributions is 10°. The main fits to these distributions involve four parameters: $\langle q_0 \rangle$, $\sigma(q_0)$, $\langle \theta_0 \rangle$, and $\sigma(\theta_0)$. However, I did not attempt to solve for all four of these parameters from the angle distributions alone, because this was unnecessary. Instead, I used the values of $\langle q_0 \rangle$ and $\sigma(q_0)$ from the axis ratio fits, and computed angle distributions only for this Gaussian intrinsic distribution. Thus, only two parameters were actually fitted to the observed angle distributions: $\langle \theta_0 \rangle$ and $\sigma(\theta_0)$, and for both inner and outer features there are 7 degrees of freedom.

The first fits I illustrate are for all inner and outer features with no restriction according to family (Fig. 10). These fits give an indication of what intrinsic shapes the average inner or outer ring, pseudoring, or lens feature has. The samples satisfying the diameter and type restrictions include nearly 800 objects in each main feature category. The best fits give $\langle q_0 \rangle = 0.87 \pm 0.14$ for outer features and 0.84 ± 0.10 for inner features. *Thus, both inner and outer features have a significant oval average intrinsic shape.* The χ^2 per degree of freedom is less than or equal to 1 in each case, meaning the departures of the observed data points from the simulated distributions are consistent with random sampling errors.

For the fits to the observed samples divided by family, where I will account for the angle distributions, it is necessary to first consider the evidence for subpopulations of outer features. Figure 8 shows that SB inner and outer features have very different observed angle distributions. For SB outer features, there are excess numbers of objects in the 0°–10° and 80°–90° bins, while SB inner features have an excess only in the 0°–10° bin. I initially showed (Buta 1986a) that many of the galaxies associated with the outer feature excesses are subclassified into the type 1 and type 2 OLR categories (Table 1). Figure 11 shows once again that the axis ratio and angle distributions for these two subclasses of outer features are very different. The best-fitting intrinsic axis ratio distribution for R_1 and R'_1 types is for $\langle q_0 \rangle = 0.74 \pm 0.08$, while for R_2 and R'_2 types it is 0.87 ± 0.06. (Since these fits separate the two subclasses, the weighting scheme for $R_1R'_2$ cases described in § 6.5.1 is not used.) Thus, there is a strong indication that the type 2 OLR features are rounder on average than the type 1 OLR features. The best fits to the observed angle distributions give $\theta_0 = 90° \pm 9°$ for type 1 features and $0° \pm 6°$ for type 2 features. Thus, the two types of features have perpendicular alignments with respect to the bar. These results suggest that I should not fit the angle distributions for outer features with only single intrinsic shape and angle distributions. Instead, I will fit outer features by allowing for the shape and alignment differences found for the type 1 and type 2 OLR subclasses, even though many of the outer features were not recognized as such in the catalog.

Figure 12 shows the fitted distributions for SB inner and outer features. The axis ratio distributions have a very similar shape and yield $\langle q_0 \rangle = 0.82 \pm 0.07$ for outer features and 0.81 ± 0.06 for inner features. The χ^2 per degree of freedom is excellent in both cases. The distribution of angles for SB outer features was fitted by combining the relative frequencies shown in Figures 11*c* and 11*d* with weights expressing the relative abundance of the two alignment modes. The best-fitting combined distribution required 64% of the features to be perpendicularly-aligned to the bar and 36% to be parallel-aligned. *Thus, most SB outer rings, pseudorings, and lenses are aligned perpendicular to the bar.* For inner features, Figure 12*d* shows that only a single intrinsic alignment angle describes the observed distribution of apparent angles: $\theta_0 = 0° \pm 1°$. The contrast with outer feature angles is very striking. *Thus, most SB inner rings, pseudorings, and lenses are aligned parallel to the bar.*

To show that these results for SB galaxies do not depend very much on my adopted diameter and type limits, Figure 13 shows the observed and simulated distributions for $-1 \leq T \leq 2$ (type range $S0^+$ to Sab), $D(O) \geq 0.'90$, and $D(I) \geq 0.'50$. These restrictions considerably reduce the sample sizes. The fits for these samples favor a slightly rounder average intrinsic axis ratio for outer features compared to inner features: 0.83 versus 0.78, respectively. The angle distributions again favor the parallel and perpendicular alignments for outer features in the proportion 0.65:0.35, and parallel alignment for inner features.

The results for inner SB rings confirm the early suspicions of G. de Vaucouleurs, who illustrated the probable oval intrinsic shape and alignment of these features in a sketch of a cross section of the revised Hubble system near stage Sb (see Pl. 1 of de Vaucouleurs & de Vaucouleurs 1964). The impression was based mainly on NGC 1433 (de Vaucouleurs 1959), which was part of the Mount Stromlo survey of bright southern galaxies (de Vaucouleurs 1956). Recent kinematic observations of NGC 1433 (Buta 1986b) have demonstrated very clearly that the large inner ring of this galaxy is highly elongated (intrinsic axis ratio ≈ 0.70) and is indeed aligned with the bar as de Vaucouleurs suspected. It is interesting that Sandage (1961) obtained a different impression of inner SB rings. In describing NGC 2523, he comments that in general the bar has a random position angle with respect to the major axis of an inner ring. CSRG data demonstrate very clearly that this is not the case, although a small random component may be present in the distributions (see § 7.4).

The results for SAB outer and inner features (Fig. 14) provide an interesting contrast to those for SB features. The axis ratio distribution for SAB outer features favors a rounder average intrinsic shape and a much broader intrinsic shape distribution than for SB outer features. The best-fitting distribution, $\langle q_0 \rangle = 0.94 \pm 0.16$, was the minimum in a shallow distribution of χ^2 values, and therefore the parameters are not well determined. As for the SB outer features, the angle distribution for SAB outer features favors two alignments being present; however, in this case the distribution requires that 85% of the features be in parallel alignment and only 15% in perpendicular alignment. *Thus, the dominant type of outer feature among SAB galaxies is aligned parallel to the bar.* This type is rounder on average than the perpendicularly aligned type as shown in Figure 11*b*. For SAB inner features, the best fit to the axis ratio distribution favors a more oval average intrinsic shape ($\langle q_0 \rangle = 0.78$) with a larger spread ($\sigma = 0.14$) than for SB inner features. However, as for SB inner features, the distribution of SAB angles favors parallel alignment.

Figure 15 shows the distributions of axis ratios for SA inner and outer features. In both cases, the best-fitting simulations favor rounder average intrinsic shapes than for SB or SAB features. The parameters for SA outer features, $\langle q_0 \rangle = 0.97 \pm$

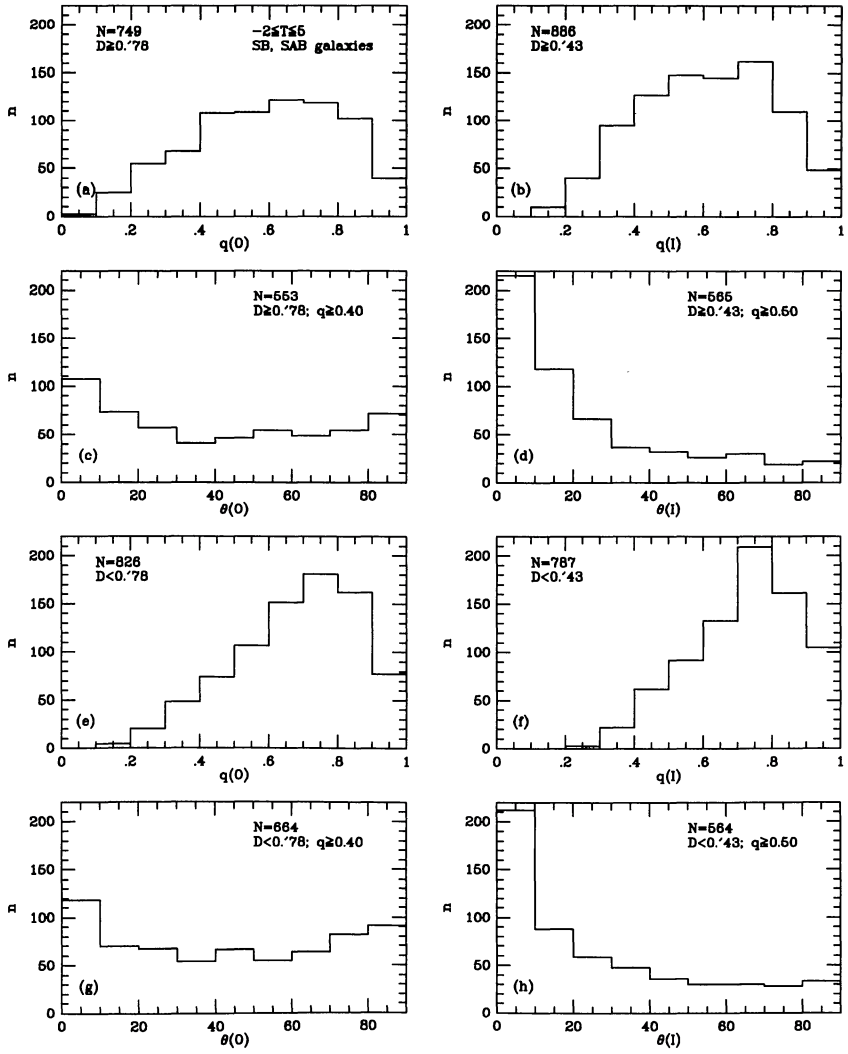

FIG. 9

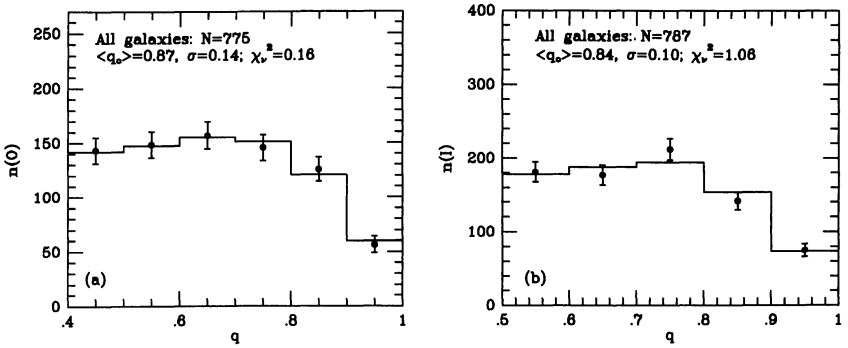

FIG. 10

FIG. 9.—Distributions of inner and outer feature axis ratios and angles for restricted samples divided by angular diameter. This illustrates the strong dependence of the inclination selection effect on angular diameter.

FIG. 10.—Distribution of apparent axis ratios for (*a*) outer features larger than $D(O) = 0.'78$ and (*b*) inner features larger than $D(I) = 0.'43$. The type range is $-2 \le T \le 4$ ($S0^0$ to Sbc). In this and successive plots, the filled circles with $\sqrt{n}$ error bars are the data points and the solid curves are the best-fitting simulated distribution. The mean $\langle q_0 \rangle$ and dispersion $\sigma(q_0)$ of the best-fitting Gaussian intrinsic distribution of axis ratios, and the reduced χ^2 value for the fit, are given in each panel. Fits for which $\chi^2_\nu \le 1$ are considered to be consistent with the data within the random sampling errors.

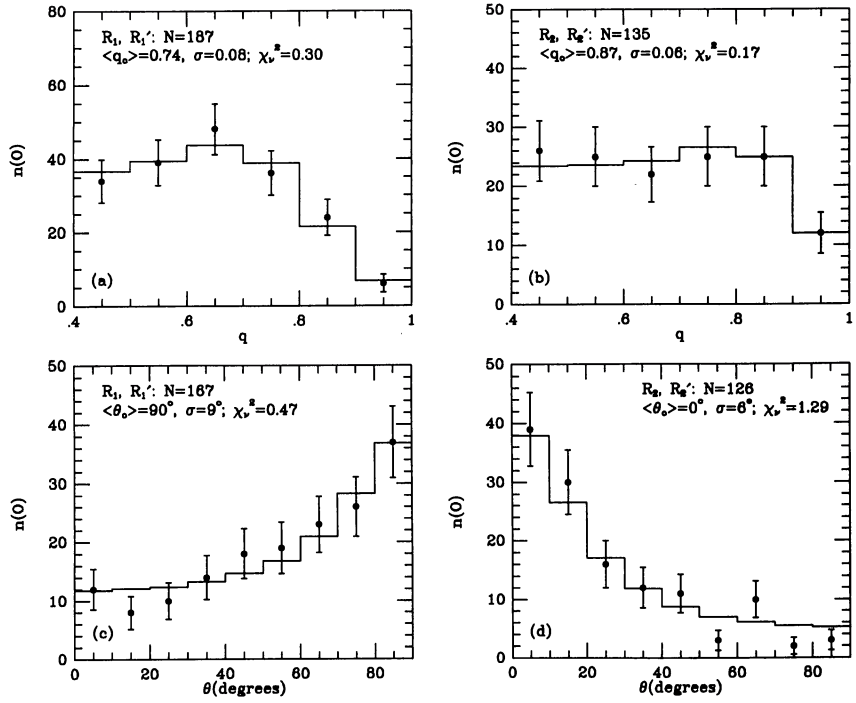

FIG. 11

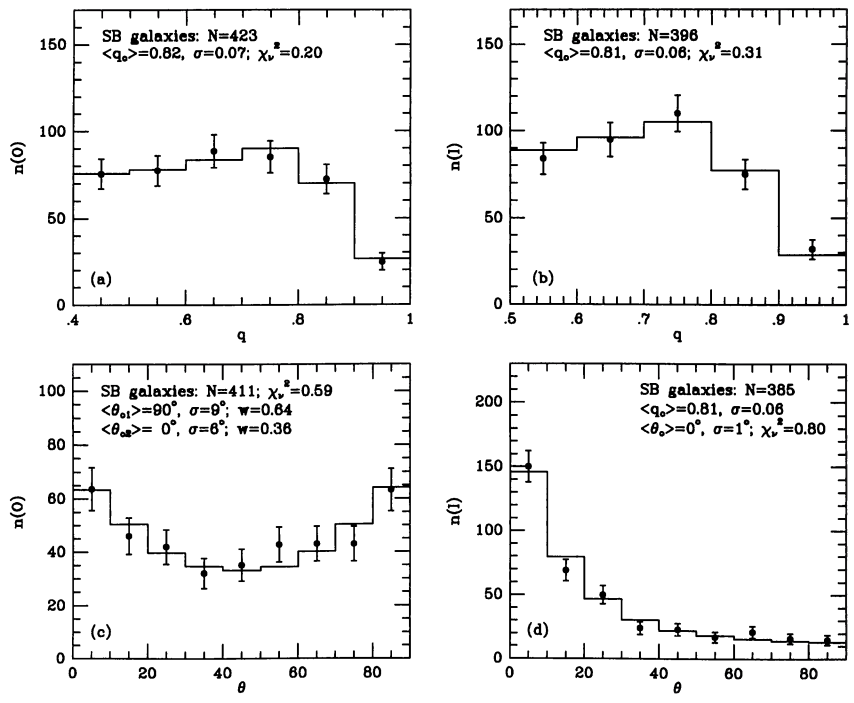

FIG. 12

FIG. 11.—Distributions of apparent axis ratios and angles for outer features of the type 1 and type 2 OLR subclasses. The samples are restricted to $D(\mathrm{O}) \geq 0.78$ and $-2 \leq T \leq 4$. In (c) and (d), the mean $\langle \theta_0 \rangle$ and dispersion $\sigma(\theta_0)$ of the best-fitting Gaussian intrinsic distribution of bar/feature position angles are given. For both feature subtypes, the angle distributions are restricted to $q \geq 0.4$.

FIG. 12.—Distributions of axis ratios and angles for samples of SB galaxies restricted to $D(\mathrm{O}) \geq 0.78$, $D(\mathrm{I}) \geq 0.43$, and $-2 \leq T \leq 4$. In (c) the best-fitting simulation uses the mean intrinsic axis ratios and dispersions from the fits to the type 1 and type 2 OLR subtypes in the previous figure. The relative proportion of each subtype is given by the weight w. In (d) the best-fitting simulated distribution uses the mean intrinsic axis ratio and dispersion from the fit in (b).

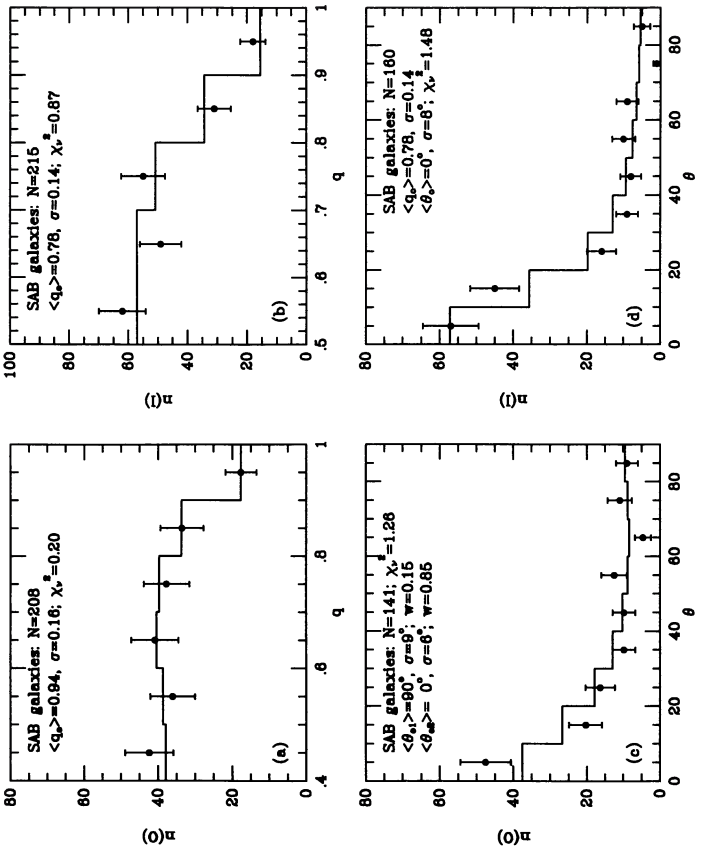

FIG. 13

FIG. 14

FIG. 13.—Same as Fig. 12, but for different restrictions according to type and angular diameter. In this case, the samples are restricted to $-1 \leq T \leq 2$, $D(\mathrm{O}) \geq 0.90$, and $D(\mathrm{I}) \geq 0.50$.

FIG. 14.—Same as Fig. 12, but for restricted samples of SAB galaxies. Note the lack of a strong perpendicular-aligned component for SAB outer features.

0.21, are poorly determined because of a shallow minimum in the distribution of χ^2 values. The parameters are better determined for SA inner features, where the best fit is for $\langle q_0 \rangle = 0.92 \pm 0.09$.

In Figures 16 and 17, pure rings and ring-lenses are separated from pseudorings for outer and inner features, respectively, in SB galaxies. Figures 16*a* and 16*b* show that outer rings, R, and ring-lenses, RL, have an average intrinsic shape slightly less elliptical than for outer pseudorings, R′. The angle distributions (Figs. 16*c* and 16*d*) favor the same two alignment modes in each case, but the scatter is large for the R and RL cases. The fits favor 74% in perpendicular alignment for the R and RL cases, and 58% in perpendicular alignment for the R′ cases. The results for inner SB features (Fig. 17) favor parallel alignment both for r and rl and for rs features, and a significant intrinsic shape difference: r and rl features are more oval on average than rs features.

6.6. *Analysis of SGC Ring Diameters and Axis Ratios*

The SGC provides large samples of inner and outer feature diameters that can be analyzed using the same approach as for the CSRG data. Repeat measurements provide 756 residuals, excluding IC 2068, where the SGC notes suggest that an outer feature was misinterpreted as an inner feature on one plate. These residuals as a function of diameter are shown in Figure 18*a*. The scatter appears to increase with increasing diameter for mean diameters less than 2.′5. Figure 18*b* shows the adopted error function for the SGC diameters. For this plot, the residuals were sorted by mean diameter, and the standard deviations of the residuals about the mean were computed every 150 residuals. A roughly linear dependence is found similar to that for CSRG diameters; the solid line in Figure 18*b* is for the solution

$$\sigma(d, D) = 0.'029 + 0.037\langle d, D \rangle , \qquad (12)$$

where again "d, D" means that the relation is applicable to both major- and minor-axis diameters. This relation shows that the internal errors in the SGC ring diameters are larger than those for the CSRG. There are also few enough repeat measurements that the average number of measurements per galaxy is only 1.1 for both inner and outer features. Thus, I will simulate SGC axis ratio distributions using equation (12) directly. Although very few galaxies define the relation for mean diameters larger than 2.′5, I will use also equation (12) for the full diameter range of the SGC galaxies.

Figures 18*c* and 18*d* show the adopted diameter functions for SGC rings. The median diameters are found to be 0.′55 for inner features and 1.′20 for outer features. The diameter distribution for inner features can be well represented by a D^{-3} curve for diameters larger than 0.′45. A fit to this range gave

$$n(\mathrm{I}) = 38.6/D(\mathrm{I})^3, \quad \text{range } 0.'45 \le D(\mathrm{I}) \le 4.'0 . \qquad (13)$$

For outer features, a D^{-3} function could be fitted down to the median diameter. However, in order to use all of the features down to the peak in the diameter distribution, which is 0.′90, I adopted the following function:

$$n(\mathrm{O}) = 39.7/D(\mathrm{O})^2, \quad \text{range } 0.'85 \le D(\mathrm{O}) \le 4.'0 . \qquad (14)$$

This D^{-2} function provides a better approximation to the diameter distribution than a D^{-3} fit, but does indicate that the SGC is less complete than CSRG to the same diameter limit.

Equations (12)–(14) were used to model the distributions of apparent axis ratios for SGC rings. The results are shown in Figures 19 and 20. Figures 19*a* and 19*b* are for samples restricted to $-2 \le T \le 4$, $D(\mathrm{O}) \ge 0.'85$, and $D(\mathrm{I}) \ge 0.'45$, with no family restriction. For inner features, the best-fitting distribution of intrinsic shapes has $\langle q_0 \rangle = 0.82 \pm 0.02$, while for outer features the best-fitting distribution has $\langle q_0 \rangle = 0.83 \pm 0.01$. Virtually identical results were obtained for SB galaxies alone (Figs. 19*c* and 19*d*). The values of $\langle q_0 \rangle$ are in very good agreement with the values derived from CSRG data, but the dispersions of the intrinsic distributions are smaller to the point of being unrealistic. The larger internal errors of SGC data compared to CSRG data may mean that the observed distributions cannot resolve very well the spread in intrinsic ring shapes. The results for SAB and SA galaxies in Figure 20 are based on small samples and are not well determined. However, the fits are still consistent with CSRG data: SA features are rounder on average than SB or SAB features, and SAB inner features are more oval on average than SAB outer features or SB features.

6.7. *Ring-Diameter Ratios*

The ratios of diameters of outer and inner features in double-ringed systems is a very important diagnostic for resonance identifications, as shown by Athanassoula et al. (1982). Figures 21 and 22 show the CSRG distributions for samples unrestricted by family, and for each family separately. No restrictions according to type or angular diameter are applied, since any galaxy where both features can be recognized must be reasonably well resolved. Two types of ratios are considered:

$$\beta = D(\mathrm{O})/D(\mathrm{I}) , \qquad (15)$$

$$\rho = \sqrt{D(\mathrm{O})d(\mathrm{O})}/\sqrt{D(\mathrm{I})d(\mathrm{I})} . \qquad (16)$$

Equation (15) gives the ratio based on the raw observed major-axis diameters, while equation (16) gives the ratio based on the geometric mean diameters. The distribution of β-values in Figure 21 is slightly skewed toward larger values for all families and for the combined sample. The median value of β is virtually identical in each panel. Figure 22 shows that the use of geometric mean diameters reduces the skewness slightly but has little effect on the medians. Thus, the skewness seen in Figure 21 may be due in part to the noncircular intrinsic shapes of the features.

The median value, 2.2, of both β and ρ is consistent with previous studies by Kormendy (1979), Athanassoula et al. (1982), and Buta (1986a). It was shown by Athanassoula et al. (1982) that the ratio could be explained if outer rings and pseudorings are linked to the OLR and inner rings and pseudorings to a UHR just inside corotation (CR). For a constant-velocity rotation curve, the expected ratio of the radius of OLR to that of CR is 1.7, while the expected ratio of the radius of the OLR to that of the inner 4:1 resonance is 2.6. Since these theoretical ratios only bracket the observed value, but do not match it, Pasha & Polyachenko (1994) have suggested that a better interpretation is for the outer features to be linked to the

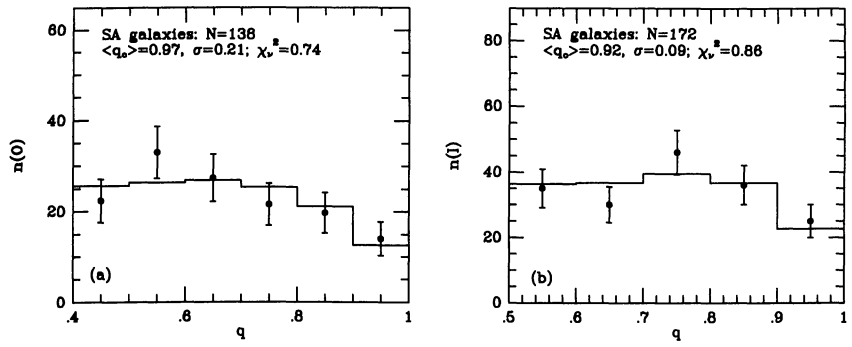

FIG. 15

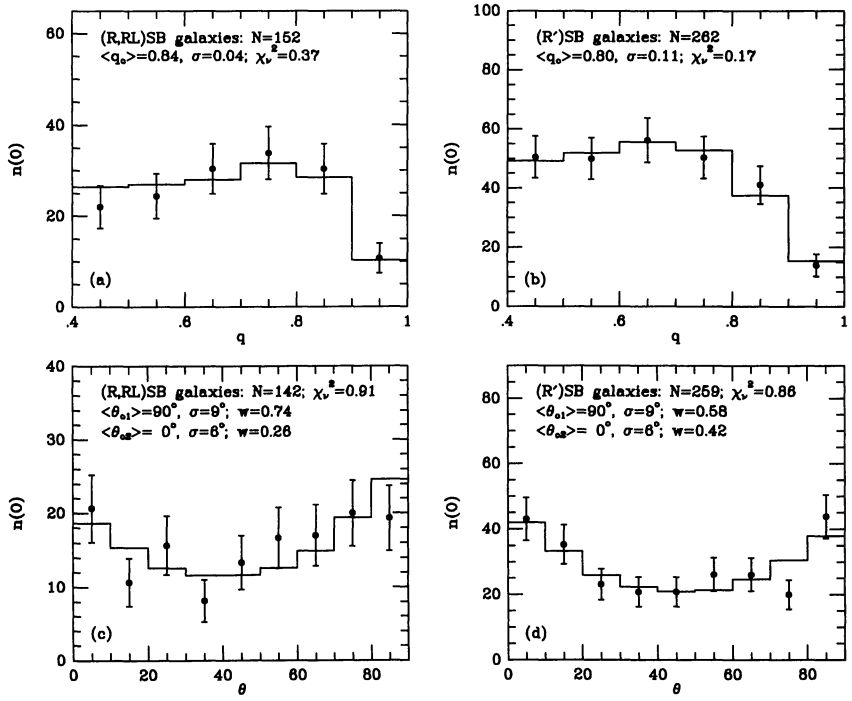

FIG. 16

FIG. 15.—Same as Fig. 12, but for restricted samples of SA galaxies. Only axis ratios can be considered in this case.

FIG. 16.—Distributions of axis ratios and angles for SB outer features divided according to general subclass: (*a*, *c*) closed outer ring R or ring-lens RL; (*b*, *d*) outer pseudorings R′. Samples are restricted to $D(O) \geq 0.78$ and $-2 \leq T \leq 4$. All fits in this figure are restricted to $q \geq 0.4$.

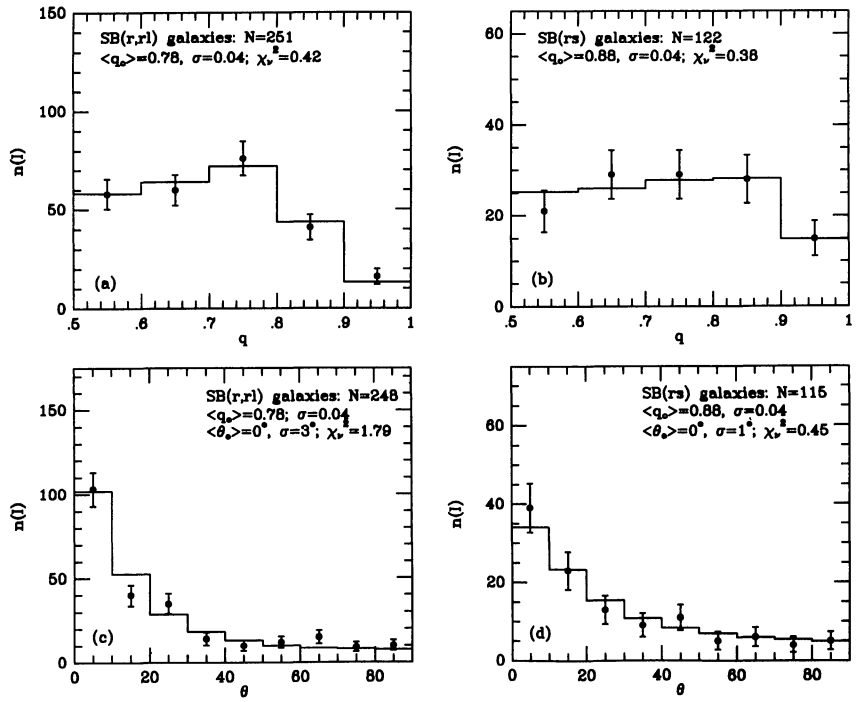

FIG. 17

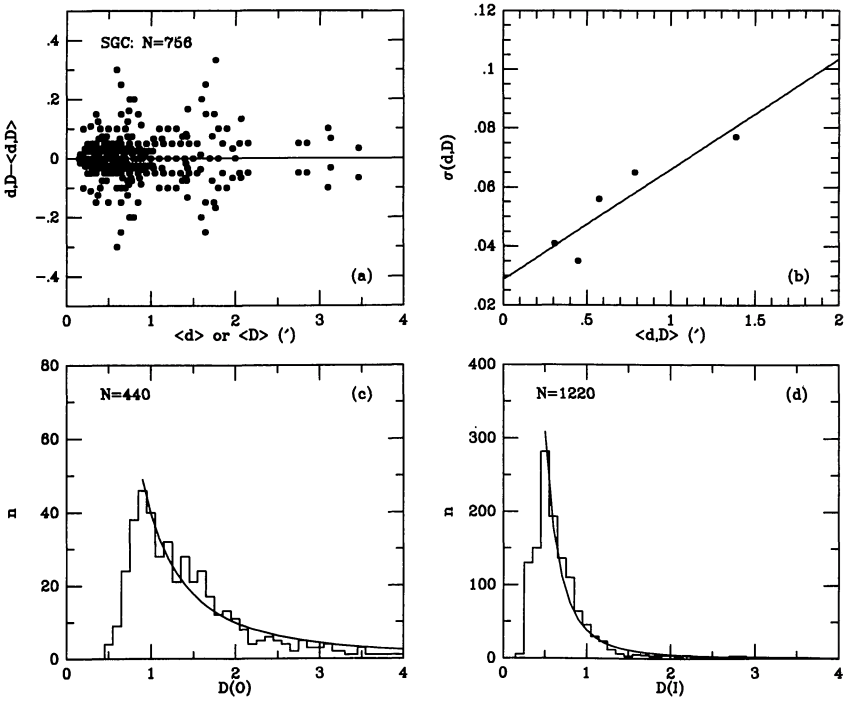

FIG. 18

FIG. 17.—Distributions of axis ratios and angles for SB inner features divided according to general subclass: (*a*, *c*) closed inner ring r or ring-lens rl; (*b*, *d*) inner pseudorings rs. Samples are restricted to $D(I) \geq 0'.43$ and $-2 \leq T \leq 4$. All fits in this figure are restricted to $q \geq 0.5$.

FIG. 18.—(*a*) Distribution of 756 ring diameter residuals from the SGC based on objects having two or more diameter estimates from different SRC fields. (*b*) Internal error function for SGC ring diameters. The solid line is based on eq. (12). (*c*) Diameter distribution for SGC outer features. The solid curve is based on eq. (14). (*d*) Diameter distribution for SGC inner features. The solid curve is based on eq. (13).

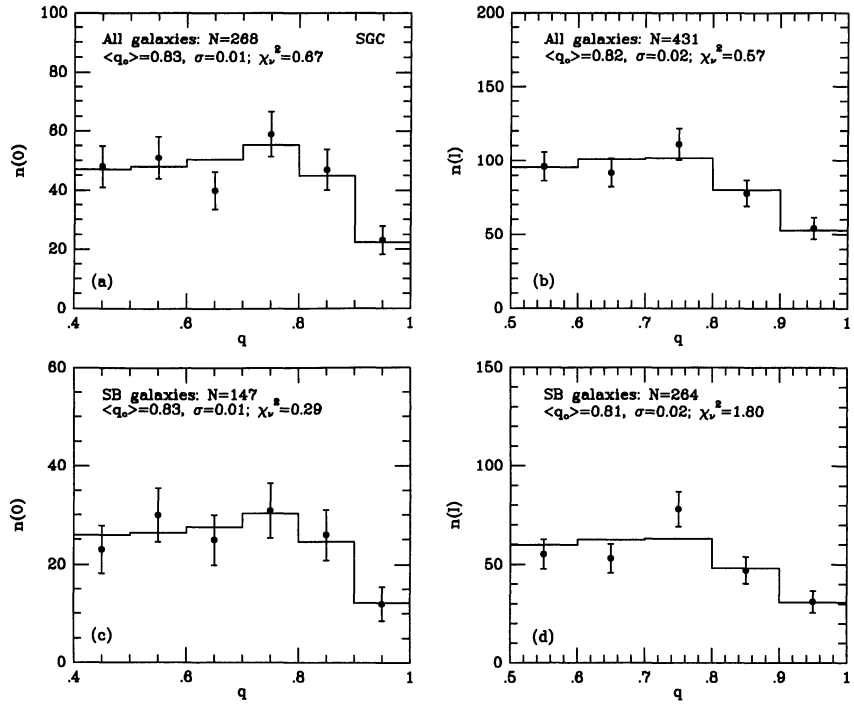

FIG. 19

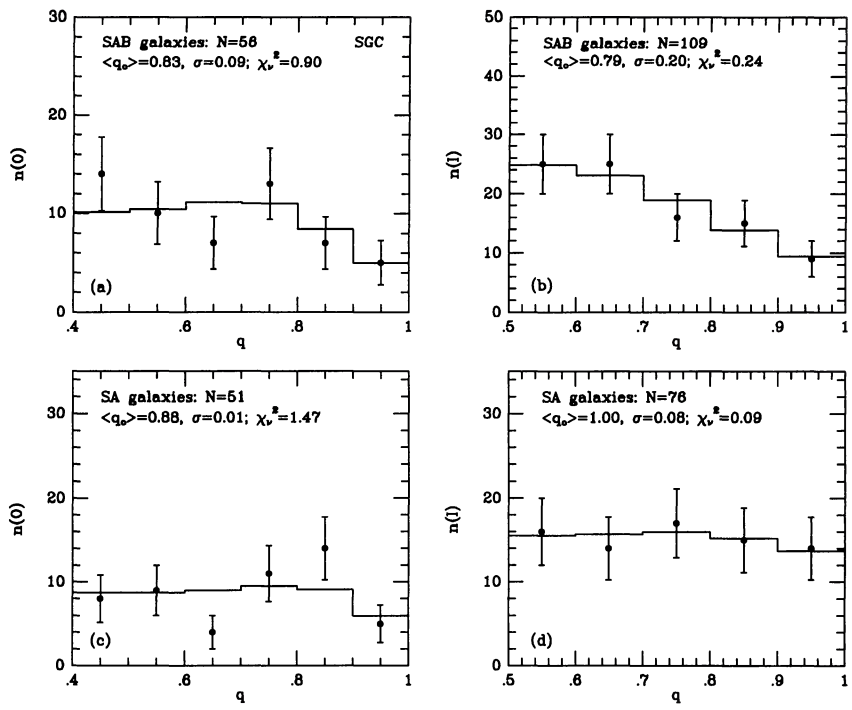

FIG. 20

FIG. 19.—Distributions of axis ratios for SGC inner and outer features for samples restricted to $D(O) \geq 0.'85$, $D(I) \geq 0.'45$, and $-2 \leq T \leq 4$. In (*a*) and (*b*) all features regardless of family are included, while (*c*) and (*d*) are for SB galaxies only. The solid histograms are the best-fitting simulated distributions with parameters indicated in each panel.

FIG. 20.—Distributions of axis ratios for SGC inner and outer features in SAB and SA galaxies for samples restricted to $D(O) \geq 0.'85$, $D(I) \geq 0.'45$, and $-2 \leq T \leq 4$. The solid histograms are the best-fitting simulated distributions with parameters indicated in each panel.

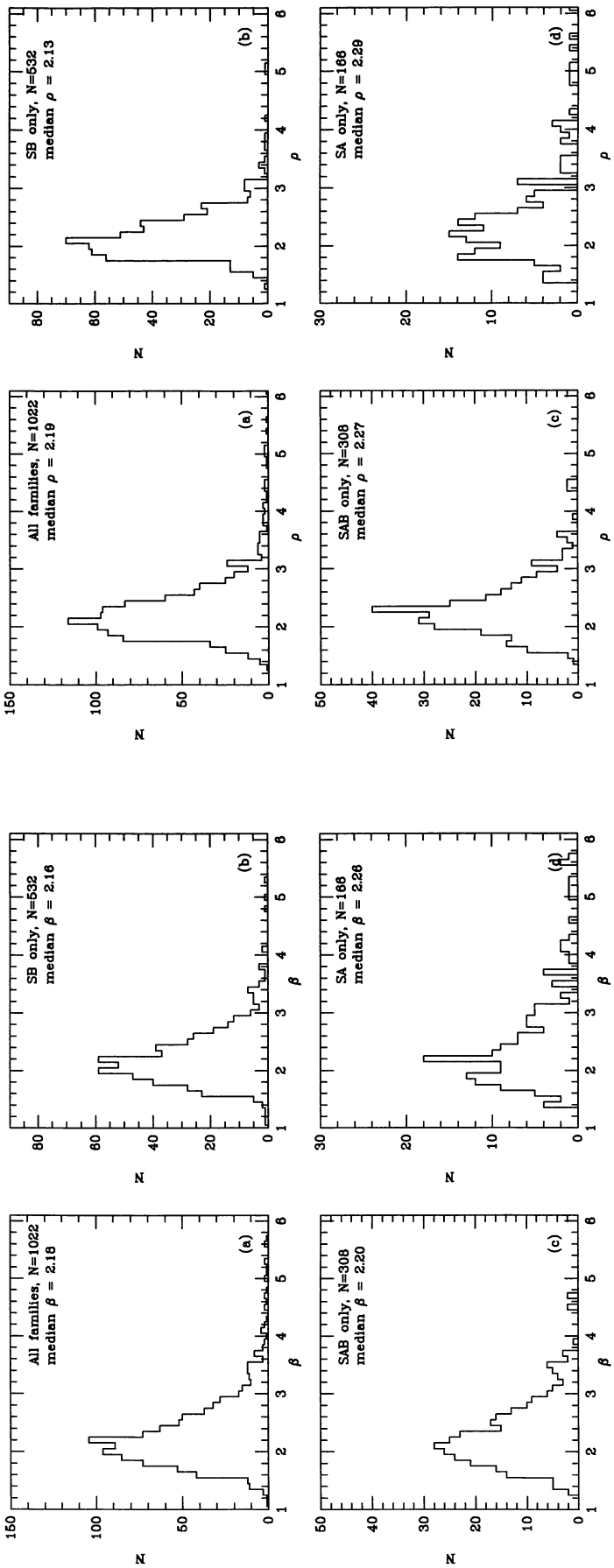

FIG. 21

FIG. 22

FIG. 21.—Distribution of the outer to inner feature diameter ratio, $\beta = D(\mathrm{O})/D(\mathrm{I})$. No type or diameter restrictions are applied. Note slight skewness of the distributions.

FIG. 22.—Distribution of the geometric mean feature diameter ratio ρ (eq. [16]). Note reduced skewness compared to Fig. 21.

inner 4:1 resonance and inner features to the ILR, because the expected ratio for this combination is 2.2. However, ring-diameter ratios alone cannot be relied upon for resonance identifications. The noncircular shapes, preferred alignments, and morphologies of inner and outer features favor the Schwarz interpretations in spite of the intermediate ring-diameter ratio.

7. OTHER CSRG RESULTS

In this section I present CSRG results of a more morphological rather than statistical nature. This parallels the paper of Buta & Crocker (1991), which provided images of various CSRG galaxies having R'_1 or R'_2 outer features. Here I provide images of a few additional examples of such features, as well as some morphologies not discussed in that paper, such as intrinsic bar and inner ring misalignment, bars underfilling inner rings, multiple-armed and flocculent-armed ringed galaxies, and old population R_1 rings. The images are all based on observations with large format (1024 × 1024 pixel) CCD arrays attached to the CTIO 1.5 m telescope and the KPNO 0.9 m telescope. For cases where the signal-to-noise ratio was high, the image presented is in the *B* band. However, in some cases, *B*, *V*, and *I* intensity images have been combined into a composite image. This was usually done to make the features of interest more clearly visible.

7.1. *The OLR Subclasses*

The first objects I illustrate are more examples of the OLR subclasses: R'_1, R'_2, and $R_1R'_2$. Figure 23 (Plate 1) shows four interesting examples of R'_1 outer pseudorings. The upper left-hand panel displays UGC 12646, a non-CSRG galaxy that was imaged at KPNO. It was identified in a cursory search of the PSS prints during the summer of 1990. I show this object because it has a very fine dimpled R'_1 pseudoring that, in projection, is oriented nearly perpendicular to an oval inner ring. Thus, the object appears to illustrate beautifully the findings from statistics: inner rings and R'_1 outer pseudorings are oriented perpendicular to each other with the inner ring aligned along the bar axis. It is important to note, however, that the object is not exactly face-on, since it has a measured 21 cm line width: 194 km s^{-1} at the 20% level (RC3). The upper right-hand panel of Figure 23 shows a small but nevertheless very interesting case of a dimpled R'_1 pseudoring: ESO 287−56. The image is a composite *BVI* display, and the figure-eight shape of the outer pseudoring is obvious. It is rare to find an example of dimpling that is so clear cut. It is also interesting that ESO 287−56 lacks an inner ring or lens.

The two objects in the lower panels of Figure 23 are distinctive for their inner regions, and provide a good contrast to UGC 12646. In ESO 111−10 (*lower left-hand panel*), the region where an inner ring and a bar would be is occupied by a bright spiral pattern. I refer to this as an NGC 5248 type of structure, since it is reminiscent of what is observed in NGC 5248 (see Sandage 1961). In this case, the bar must be the oval region which contains the bright inner spiral. The R'_1 feature has low contrast, and the object has a close companion (ESO 111−9) which is only partially visible in the frame. The lower right-hand panel of Figure 23 shows ESO 153−20, whose inner feature is a very open secondary spiral. In color index maps, this object shows a circumnuclear dust ring near the center of the bar.

Another interesting example of R'_1 is NGC 6782, which is illustrated in Figure 24 (Plate 2). The R'_1 also has a low contrast in this case. The object has several remarkable features: a pointy oval inner ring, a nearly circular nuclear ring, and a small secondary or nuclear bar inside the nuclear ring (see Byrd et al. 1994 for an illustration of this small bar). The inner and nuclear rings are sites of recent star formation, as shown by the $B - I$ color index map in the right-hand panel of Figure 24. The bar has leading dust lanes, and the R'_1 is strongest in the quadrants just trailing the bar. The pointy oval shape of the inner ring suggests that along its major axis the material in the ring nearly reaches the corotation resonance. Test-particle models easily produce this shape for a UHR ring (Simkin, Su, & Schwarz 1980; Byrd et al. 1994).

Figure 25 (Plate 3) illustrates four examples of R'_2 or $R_1R'_2$ pseudorings. The upper left-hand panel shows IC 2036, an R'_2 case having unusually high surface brightness compared to the others illustrated. The bar is conspicuous, and there is no inner feature. The upper right-hand panel of Figure 25 shows ESO 239−4, which illustrates a variation on the $R_1R'_2$ morphology: in this case the inner component is also a *pseudoring,* so that the classification is actually $R'_1R'_2$. The R'_1 component is slightly dimpled and stronger than the R'_2 part, and the bar is weak with a trace of an inner feature. The remaining two cases in Figure 25 (ESO 294−16, *lower left;* ESO 245−1, *lower right*) are $R_1R'_2$ types where the R'_2 component is dominant. Both objects have weak bars and inner features.

Figure 26 (Plate 4) illustrates NGC 1079, which ranks as the largest clear-cut example of the $R_1R'_2$ morphology in the CSRG. In this case, the R_1 and R'_2 components are equally prominent. The R_1 component is also slightly dimpled on one side. In the overexposed central region, there is an arch-ansae–type bar and an inner pseudoring-lens. The optical and H I properties of NGC 1079 are discussed by Gallagher & Bushouse (1983), who note that the galaxy is gas-rich compared to other galaxies of similar luminosity and Hubble type. These authors also suggest that NGC 1079 has a large amount of dark matter.

7.2. *Old Population R_1 Rings*

The imaging survey of CSRG galaxies has led to the identification of an interesting new phenomenon: the existence of R_1 rings which, though weak in blue light, are the dominant outer feature in the near-infrared (*I*) passband. Figure 27 (Plate 5) shows the prototype example: IC 1438, a large $R_1R'_2$ case having both an oval inner ring and a nuclear ring as well. In the blue-light image in the left-hand panel, the R'_2 component is the dominant feature in the outer disk. However, in the *I*-band image in the right-hand panel, the R_1 component is the dominant outer feature. This remarkable dichotomy suggests that the *R_1 component formed first and has left behind a stellar remnant* (see Byrd et al. 1994 for a detailed interpretation). The color index map in the left-hand panel of Figure 28 (Plate 6) shows that the R'_2 component is a prominent blue feature. One cannot see the R_1 component in this map except where it merges with the R'_2 component. The inner and nuclear rings are also clear blue features in this map.

I have also identified an infrared R'_1 component in the unusual multiarmed spiral NGC 3313 (Fig. 29 [Pl. 7]). The upper panel shows a *B*-band image, which reveals the very extensive

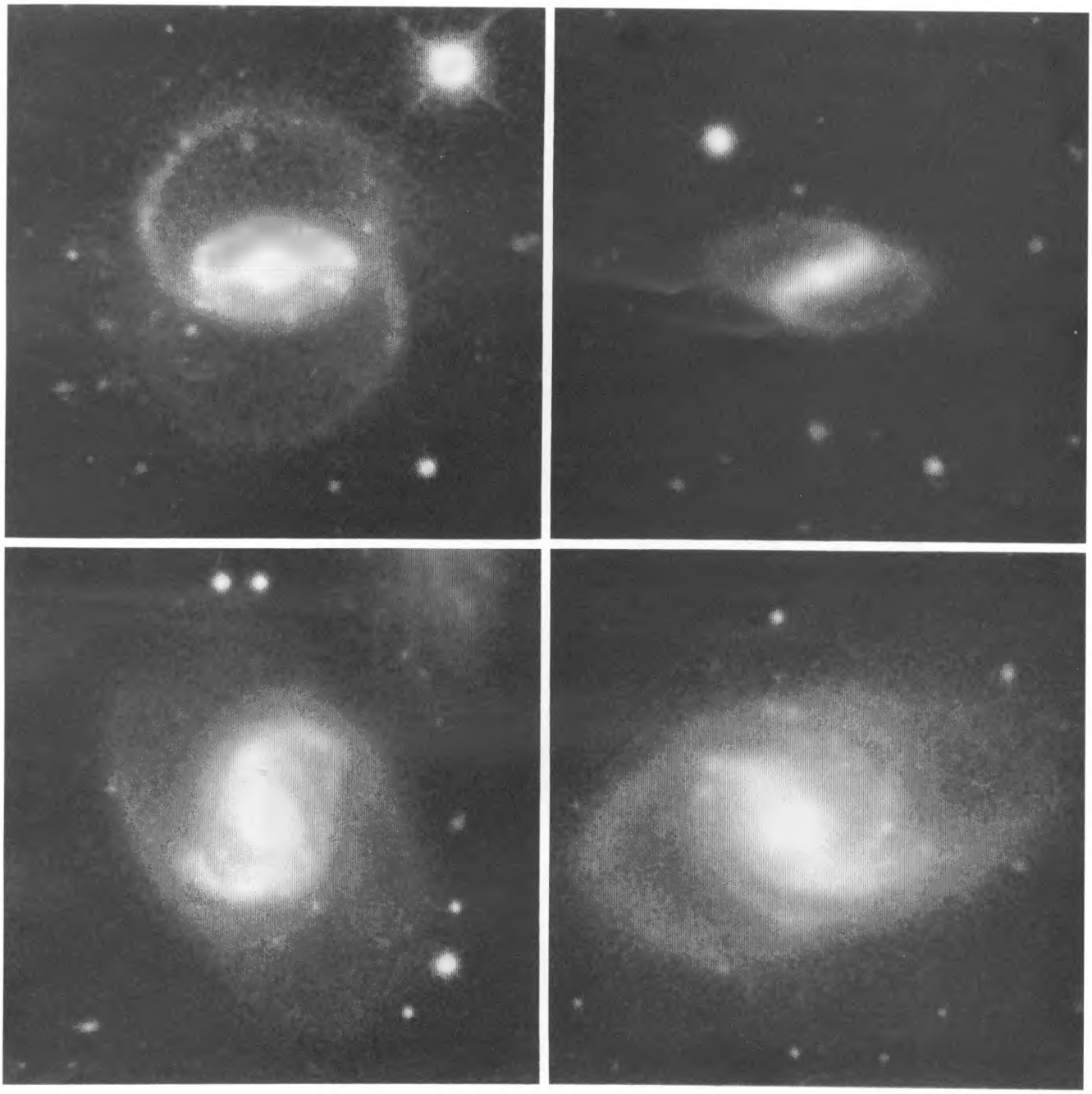

FIG. 23.—CCD images of four galaxies (three CSRG, one non-CSRG) having R'_1 outer pseudorings and different kinds of inner regions. The images in this and all of the successive figures are logarithmic and sky-subtracted, and are in units of mag arcsec^{-2} based on approximate zero points. *Upper left:* UGC 12646 (*B*-band); *upper right:* ESO 287−56 (*BVI* sum); *lower left:* ESO 111−10 (*BVI* sum); *lower right:* ESO 153−20 (*BVI* sum). Note clear "dimpling" in the outer pseudorings of UGC 12646 and ESO 287−56, and the perpendicular alignment of the outer pseudoring and the inner ring of UGC 12646. The R'_1 in ESO 111−10 is a more subtle ring/lens feature, and the inner zone is dominated by a bright spiral pattern rather than a bar and an inner ring. ESO 153−20 shows a very open inner pseudoring around a prominent bar. This is an example of the "2 + 2" spiral arm multiplicity.

BUTA (see 96, 110)

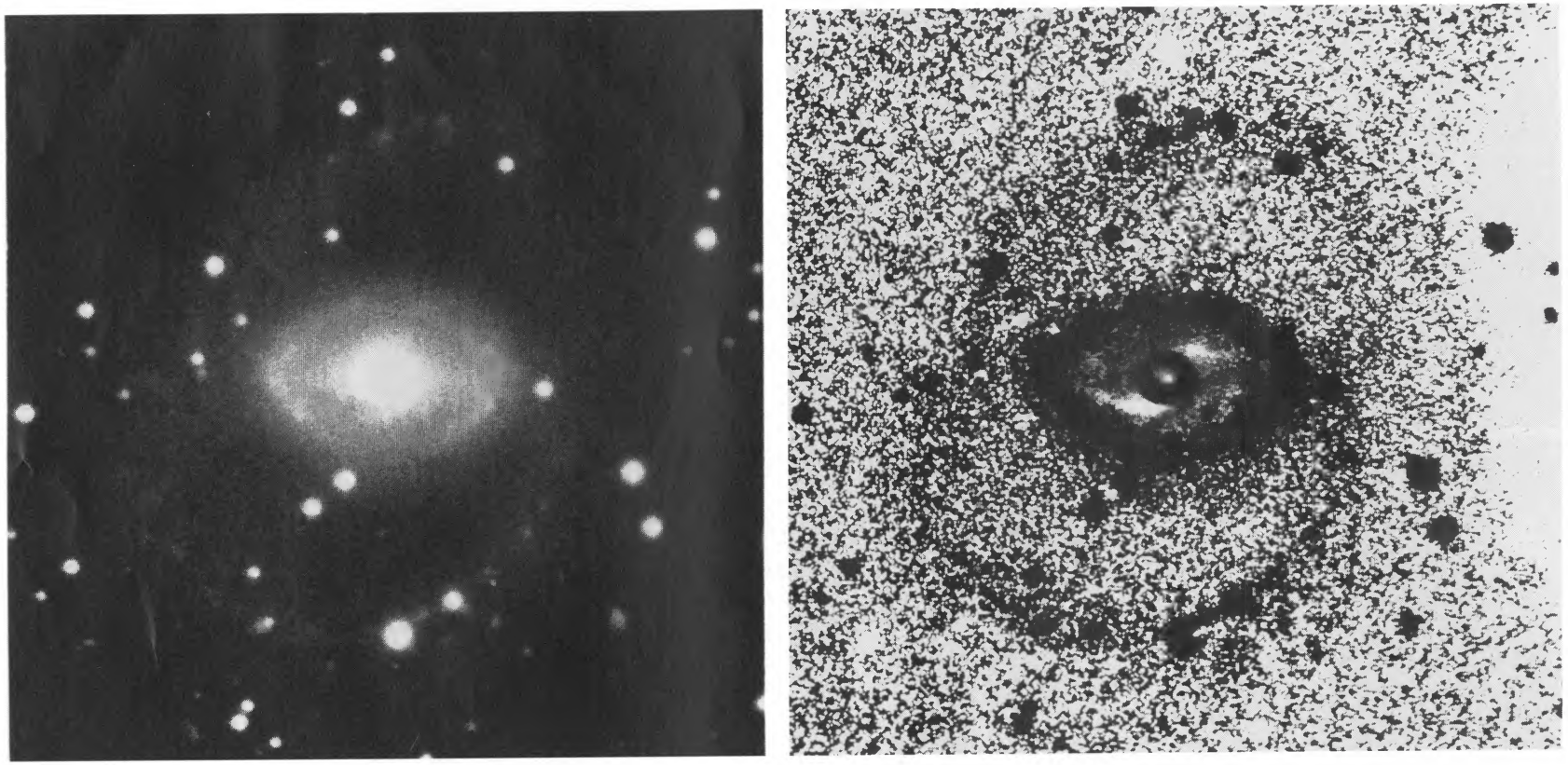

FIG. 24.—*B*-band CCD image (*left*) and $B - I$ color index map (*right*) of CSRG galaxy NGC 6782, another R_1' case. Note pointy oval shape of inner ring and the alignment of its major axis with the bar axis. The color index map (which is coded in such a way that blue features are dark and red features are light) reveals star formation in inner, outer, and nuclear rings, as well as leading bar dust lanes, in the galaxy. Not shown is a small nuclear bar confined within the nuclear ring (see Byrd et al. 1994).

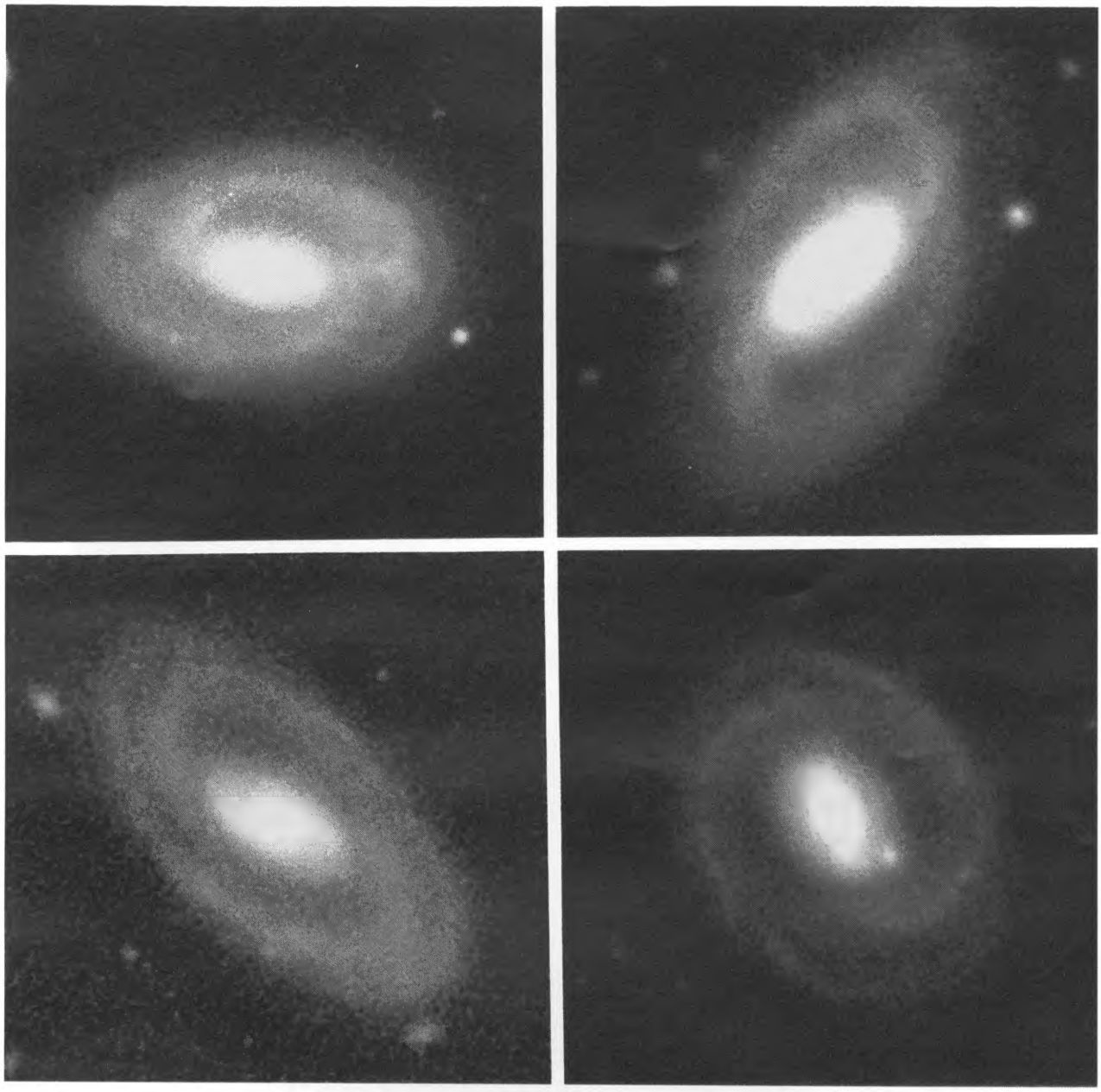

FIG. 25.—CCD images of four CSRG galaxies showing R_2' or R_1R_2' outer pseudorings. *Upper left:* IC 2036 (*BVI* sum); *upper right:* ESO 239−4 (*BVI* sum); *lower left:* ESO 294−16 (*B*-band); *lower right:* ESO 245−1 (*BVI* sum). In ESO 239−4 the R_1 component is actually a pseudoring. Only a trace R_1 component is detectable in the other three examples.

PLATE 4

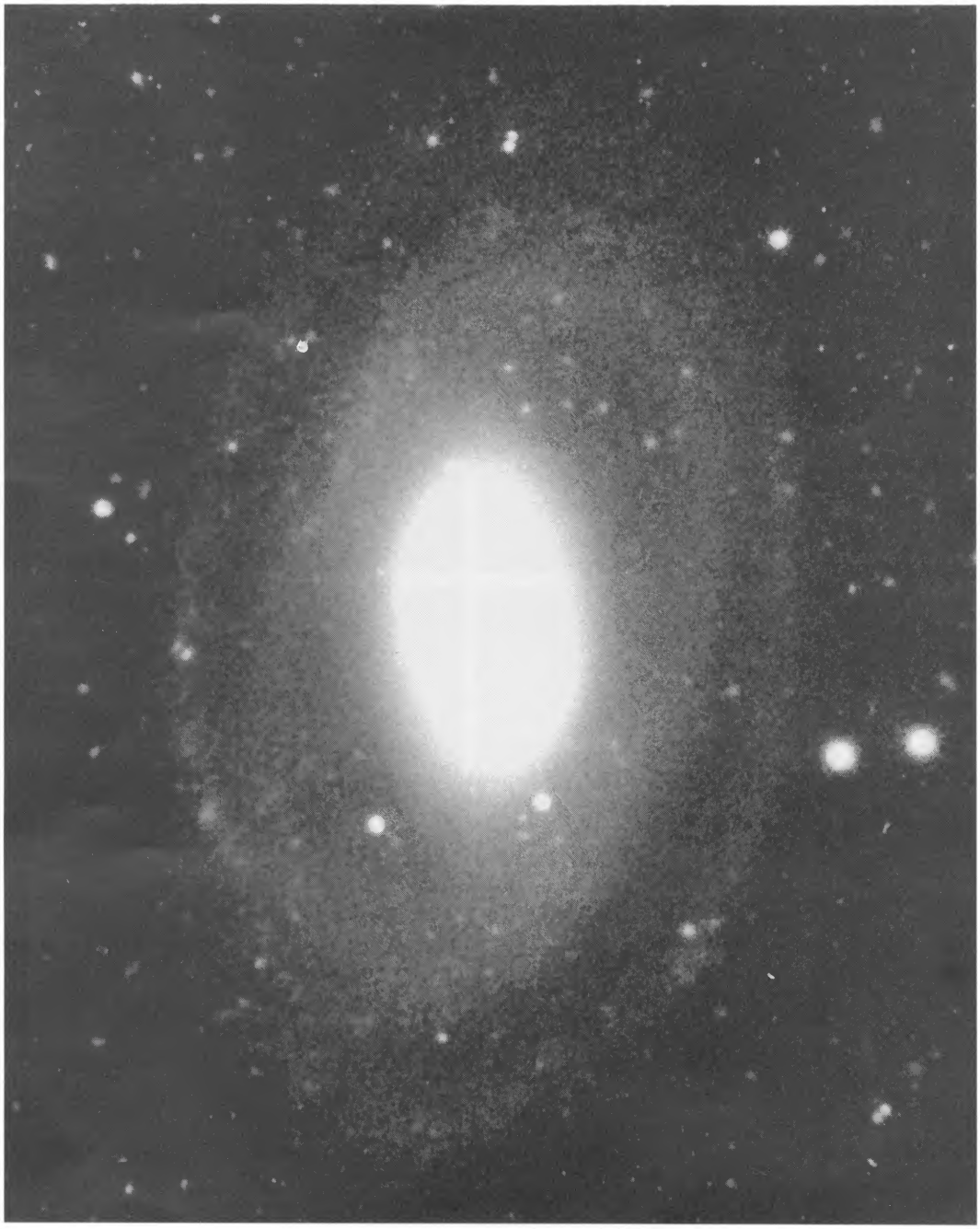

FIG. 26.—*BVI* summed image of NGC 1079, the largest example of an $R_1R'_2$ galaxy in the CSRG

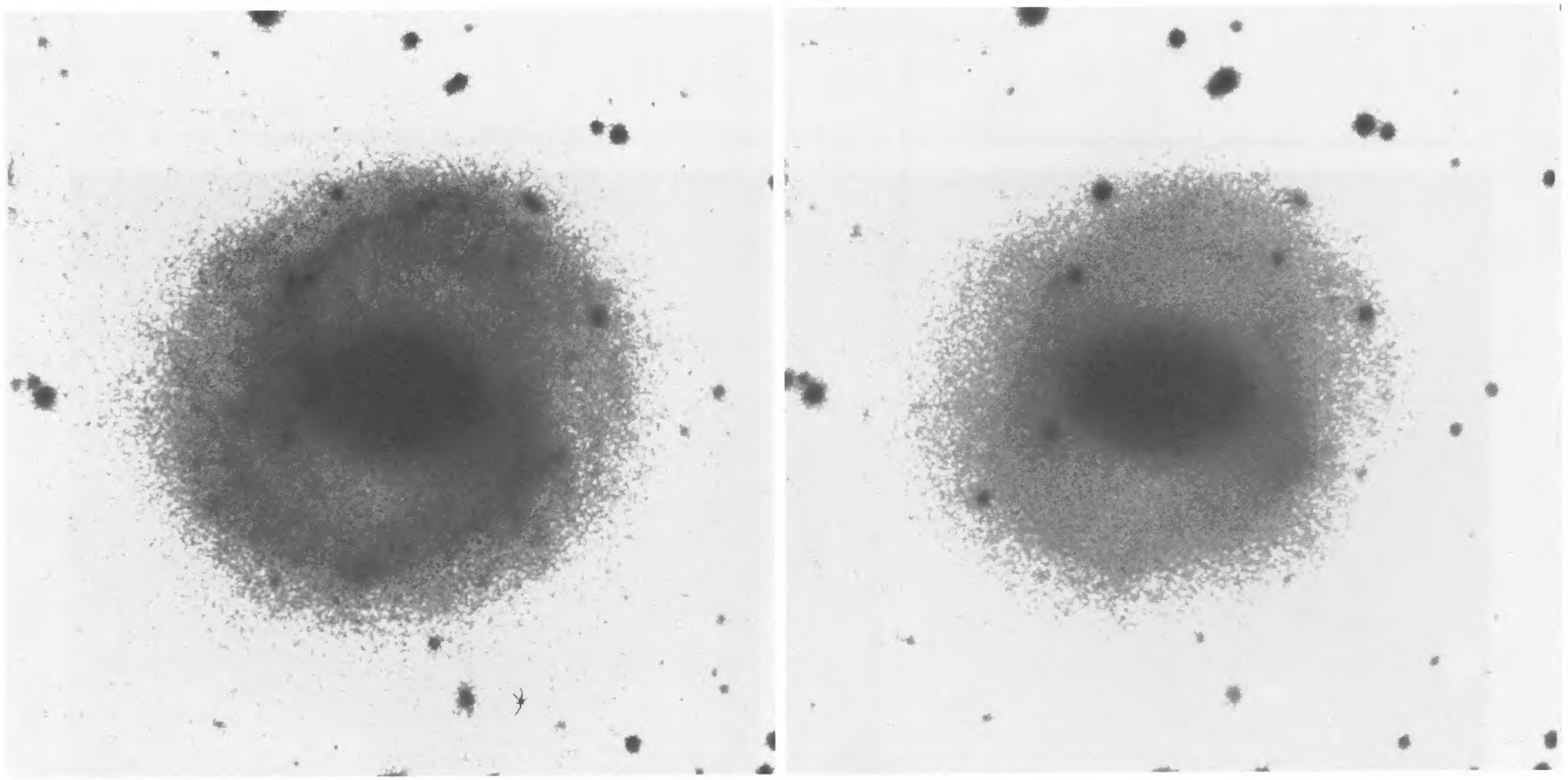

FIG. 27.—*B*-band CCD image (*left*) and *I*-band CCD image (*right*) of CSRG galaxy IC 1438, a prominent $R_1R'_2$ example. The images are intended to show how the R'_2 part of the outer feature is most prominent in the *B*-band, while the R_1 part is most prominent in the *I*-band. Thus, IC 1438 has an old population R_1 ring, a stellar remnant that may have formed before the R'_2 part.

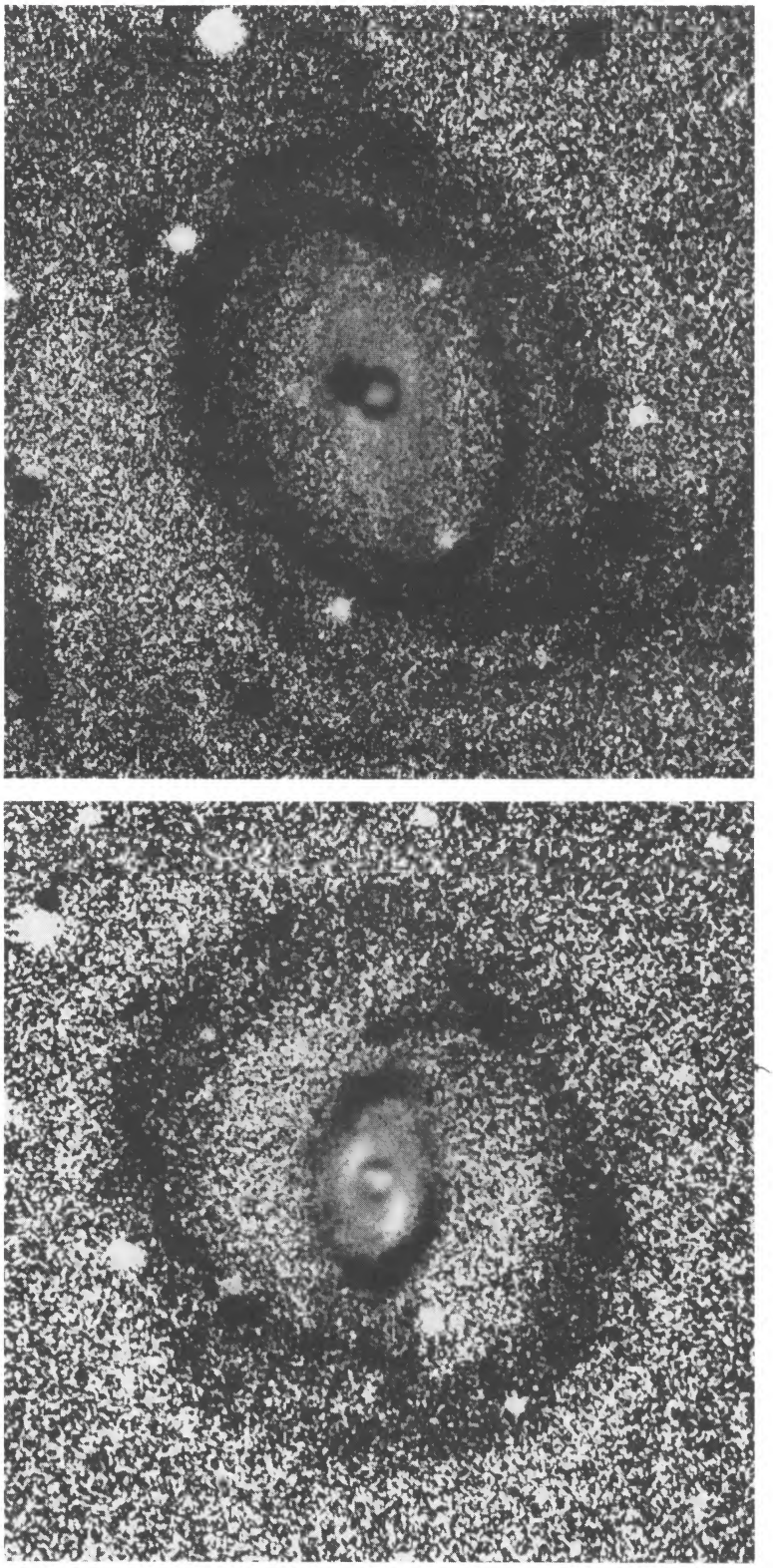

FIG. 28.—$B-I$ color index maps of IC 1438 (*left*) and NGC 3313 (*right*). Star-forming nuclear rings are prominent in both galaxies. (The dark spot near the nuclear ring of NGC 3313 is a field star.)

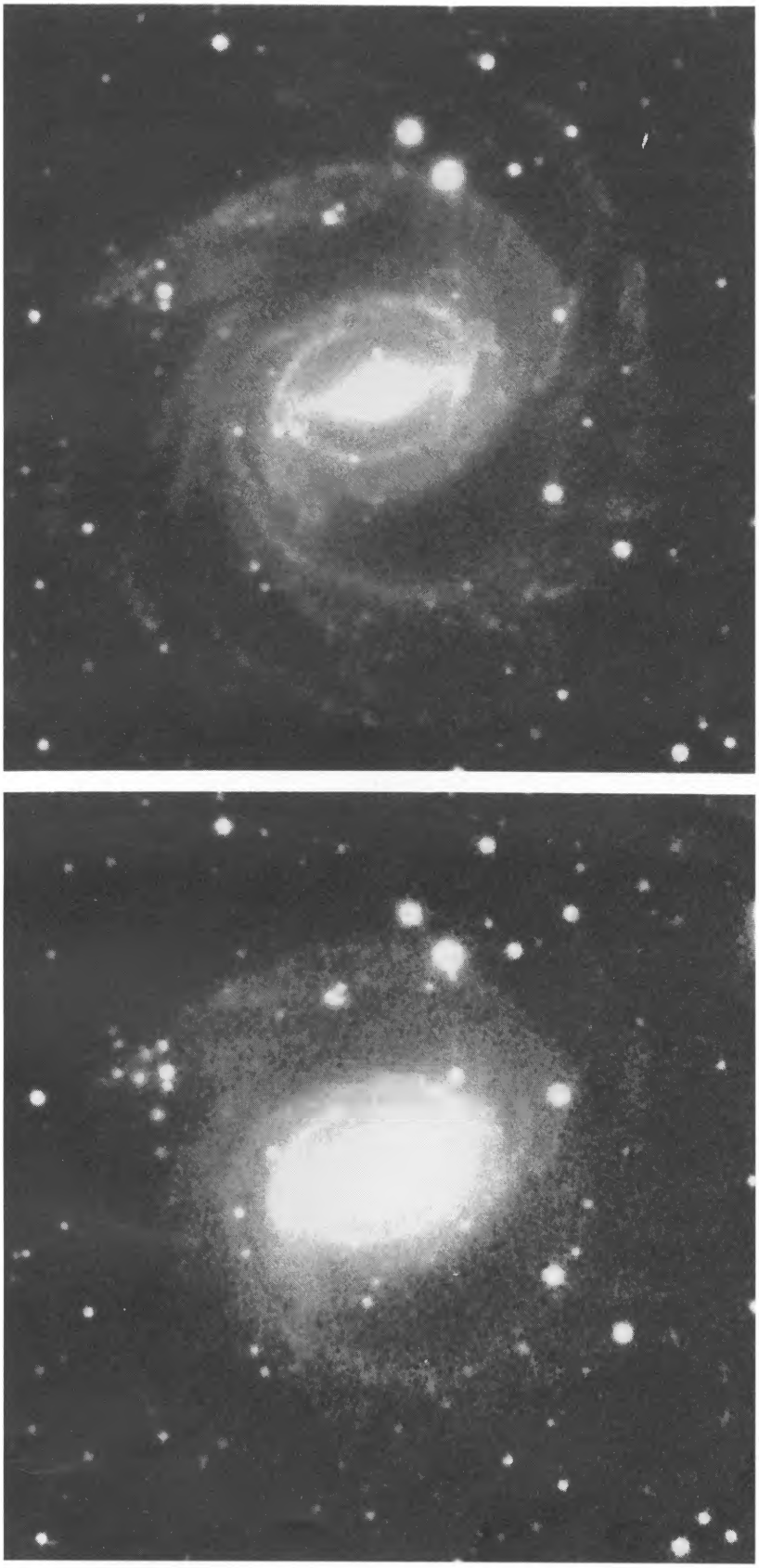

FIG. 29.—*B*-band CCD image (*top*) and *I*-band CCD image (*bottom*) of CSRG spiral NGC 3313. The images are intended to show how the outer arms are very extensive and multiple in blue light, but in the near-infrared take on the shape of an R'_1 outer pseudoring. This suggests that the multiple arms visible in blue light extend well beyond the outer Lindblad resonance in this galaxy.

multiple outer arms and no clear-cut outer ring or pseudoring feature. Like IC 1438, NGC 3313 has blue inner and nuclear rings, the latter quite circular and the former quite oval (see Fig. 28, *right-hand panel*). However, in the *I*-band image in the lower panel of Figure 29, the multiple outer arms are very weak, and the outer morphology is dominated by a clear R'_1 outer pseudoring. *This suggests that the multiple outer arms so prominent in blue light extend well beyond the OLR in this galaxy.*

7.3. *Detached Outer Rings*

Detached outer rings provide some of the most interesting morphologies in the CSRG. The premier example is NGC 1291, which is described and illustrated in detail by de Vaucouleurs (1975). Figures 30 and 31 (Plates 8 and 9) illustrate four other examples. The first, NGC 1543 (Fig. 30, *left-hand panel*), is a large, nearly face-on example. The bar is surrounded by a lens, and in the center a small nuclear bar is also present (see Sandage & Brucato 1979; Jarvis et al. 1988; Buta & Crocker 1993a). The right-hand panel of Figure 30 shows NGC 7020, an object discussed in detail by Buta (1990c). The inner hexagonal zone with bright concentrations at the major axis is probably an unusual type of bar. The outer ring is not completely detached but is connected by weak spiral arms to the inner hexagonal zone. Buta (1990c) suggested that the feature is almost a pure R_2 case (as opposed to a pseudoring R'_2). These are generally difficult to identify on the scale of the SRC sky survey films.

The third example, NGC 6932 (Fig. 31, *left-hand panel*), has very bright inner and outer rings but no clear bar, only ansae on the inner-ring major axis. The outer ring is slightly dimpled near the inner-ring major axis, suggesting that the feature is an R_1 type. The final example, NGC 7633 (Fig. 31, *right-hand panel*) has a clear bar in addition to diffuse inner and outer rings. The outer ring is very slightly dimpled and is therefore also an R_1 feature.

7.4. *Intrinsic Bar and Inner Ring Misalignment*

The statistics presented in § 6 definitively demonstrate that inner rings and pseudorings in SB galaxies, and even in SAB galaxies, are intrinsically oval in shape and are aligned parallel to the bar major axis. There cannot be too many cases where the bar is out of alignment with the ring major axis, because we should see more evidence for this in the distribution of bar/ring position angles. Nevertheless, early in the production of the CSRG, I noticed examples of what appeared to be nearly face-on galaxies where a clear inner ring or pseudoring appears greatly *misaligned* with a bar (i.e., the angle between the bar and the ring is intermediate between 0° and 90°). However, most of the examples from the CSRG at that time were simply too small and insufficiently resolved to make a convincing case. A possibly convincing case was later found in the large southern spiral NGC 6300. Using kinematic information to help deproject an image, Buta (1987b) found that the bright inner pseudoring of this galaxy is misaligned with the bar by as much as 80°. However, NGC 6300 is inclined by 50°, is at a relatively low Galactic latitude, and suffers a great deal of internal extinction that complicates the interpretation of its structure.

Sulentic & Arp (1987) provided a much more convincing case in the oddly controversial galaxy NGC 4319. Well known for lying near the quasar Mrk 205, NGC 4319 is a peculiar galaxy with a clearly disturbed spiral structure, an inner ring, and a bar greatly misaligned with the major axis of the ring (see Fig. 4 of Sulentic & Arp). The galaxy is far from edge-on, and it seems highly unlikely that the apparent misalignment is caused by projection effects. The bar and ring of NGC 4319 were not the focus of Sulentic & Arp, who were mainly concerned with the association of NGC 4319 and Mrk 205. However, they did note that the position angle of the bar has a significant wavelength dependence.

With NGC 4319, 6300, and other CSRG examples found since 1986 to strengthen my belief in intrinsic bar/ring misalignment, I and coworkers have done some follow-up work that clearly demonstrates the reality of the phenomenon. Figure 32 (Plate 10) illustrates four of the best examples found so far: ESO 565−11 (*upper left-hand panel*), ESO 186−12 (*upper right-hand panel*), NGC 619 (*lower left-hand panel*), and CSRG 1052 (=A2153−4332, *lower right-hand panel*). These 4 objects have several important characteristics in common: (1) a pointy oval inner ring or pseudoring; (2) an outer pseudoring whose morphology is type R'_1 *with respect to the pointy ends of the inner ring or pseudoring;* and (3) a bar whose sense *leads* the intrinsic major axis of the inner feature, which is itself barlike. The leading sense of the bar is deduced by assuming that the outer spiral arms are trailing (see Fig. 5 of Buta & Crocker 1993a). For comparison, the images of NGC 4319 in Figure 4 of Sulentic & Arp (1987) indicate that the bar *trails* the major axis of the very elongated inner pseudoring.

In addition to the shared characteristics, there are individual differences among the galaxies in Figure 32. For example, ESO 565−11 has a very large starburst nuclear ring (see Buta & Crocker 1991). NGC 619 has an unusual bar defined by bright ansae, some dust, and an inner bright oval.

Verification of the intrinsic bar/ring misalignment in these galaxies requires kinematic data in addition to the CCD observations. Imaging Hα Fabry-Perot interferometry of ESO 565−11 has been obtained that establishes beyond any doubt the reality of the misalignment in that case (Buta, Purcell, & Crocker 1995). Misaligned bar/ring galaxies add a new dimension to our understanding of barred galaxies. The cause of the misalignment is a mystery. Crocker, Muzerolle, & Buta (1992) have suggested that the phenomenon could be linked to an interaction, based on the *n*-body simulations of Noguchi (1987). There is also the possibility that the bar and inner feature have different pattern speeds, such that the bar is not driving the inner or outer features (e.g., see Sellwood & Wilkinson 1993). This is a puzzling prospect, given that the bar may be driving the features seen in aligned cases, and the phenomenon clearly requires more detailed investigation.

7.5. *Spiral Pattern Multiplicities*

Tables 3 and 6 provide spiral pattern multiplicities for 2591 southern galaxies. Although the samples are not entirely suited to statistics of multiplicities, some useful judgments can be made. Table 8A compiles the distribution of various multiplicities for most of the galaxies in Tables 3 and 6, with no restrictions on angular diameter, Hubble type, or variety. The full samples for each multiplicity indicated are given, and the per-

FIG. 30.—*B*-band CCD images of NGC 1543 (*left*) and NGC 7020 (*right*), two examples of bright, detached outer rings

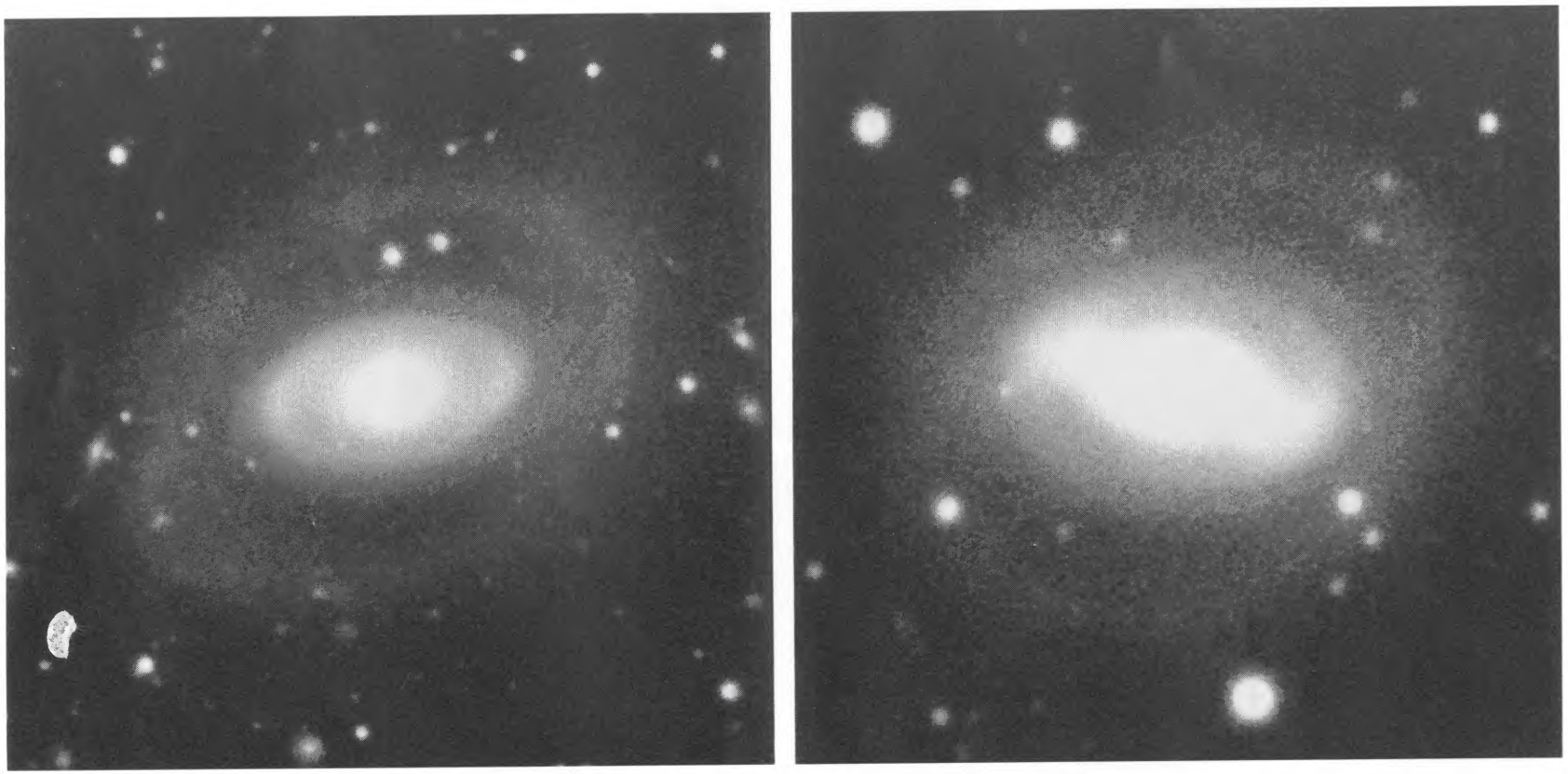

FIG. 31.—*BVI* summed CCD images of NGC 6932 (*left*) and NGC 7633 (*right*), two very early type CSRG galaxies having slightly dimpled R_1 outer ring features. They provide an interesting contrast in that NGC 6932 has no clear bar, while NGC 7633 has a very strong bar.

BUTA (see 96, 111)

PLATE 10

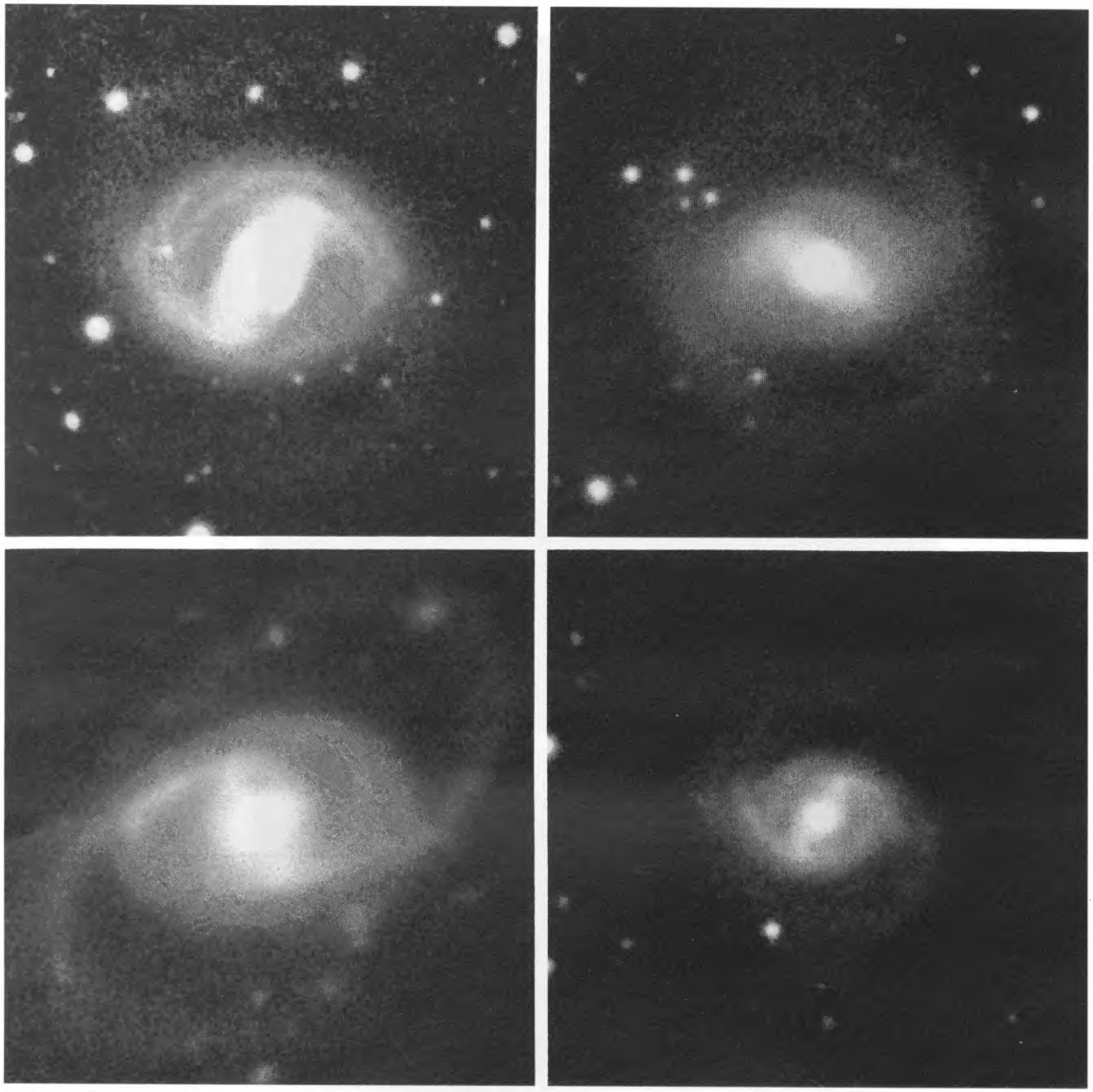

FIG. 32.—Illustration of intrinsic bar/ring misalignment in four CSRG galaxies. *Upper left:* ESO 565−11; *upper right:* ESO 186−12; *lower left:* NGC 619; *lower right:* CSRG 1052 (=A2153−4332).

TABLE 8

INVENTORY OF SPIRAL PATTERN MULTIPLICITIES

Multiplicity	N	f(SA)	f(SAB)	f(SB)	Multiplicity	N	f(SA)	f(SAB)	f(SB)
A. No Restrictions on Sample[a]									
1	112	0.40	0.27	0.26	3+	46	0.22	0.35	0.43
2	1636	0.18	0.26	0.54	3+1	18	0.17	0.39	0.44
3	183	0.25	0.31	0.44	3+2	1	0.00	0.00	1.00
4	146	0.18	0.35	0.47	3+3	1	1.00	0.00	0.00
5	35	0.31	0.34	0.34	4+	26	0.23	0.46	0.31
6	27	0.37	0.37	0.26	4+1	4	0.00	1.00	0.00
7	7	0.14	0.43	0.43	5+	12	0.25	0.33	0.42
8	4	0.25	0.50	0.25	6+	8	0.25	0.38	0.38
1+	7	0.29	0.29	0.43	7+	1	0.00	1.00	0.00
1+1	30	0.23	0.23	0.43	2i,no[b]	26	0.23	0.50	0.27
1+2	4	0.00	0.50	0.50	3i,no	3	0.00	0.00	1.00
1+3	2	0.00	0.00	1.00	4i,no	9	0.22	0.33	0.44
2+	61	0.26	0.26	0.48	f	18	0.50	0.28	0.22
2+1	42	0.19	0.21	0.60	m	34	0.35	0.41	0.24
2+2	54	0.13	0.19	0.69	All > 2	781	0.23	0.33	0.44
2+3	9	0.11	0.33	0.56					
B. Restricted Sample[c]									
1	25	0.32	0.32	0.32	2+2	19	0.05	0.11	0.84
2	383	0.18	0.30	0.52	2+3	5	0.20	0.20	0.60
3	44	0.09	0.20	0.70	3+	23	0.22	0.35	0.43
4	61	0.11	0.23	0.66	3+1	6	0.00	0.50	0.50
5	10	0.10	0.20	0.70	4+	14	0.07	0.50	0.43
6	12	0.33	0.25	0.42	4+1	2	0.00	1.00	0.00
7	5	0.00	0.40	0.60	5+	7	0.00	0.43	0.57
8	4	0.25	0.50	0.25	6+	6	0.33	0.50	0.17
1+	2	0.00	1.00	0.00	2i,no	16	0.12	0.62	0.25
1+1	6	0.00	0.33	0.67	3i,no	2	0.00	0.00	1.00
1+2	1	0.00	0.00	1.00	4i,no	9	0.22	0.33	0.44
1+3	1	0.00	0.00	1.00	f	8	0.50	0.25	0.25
2+	24	0.25	0.25	0.50	m	17	0.24	0.41	0.35
2+1	14	0.21	0.29	0.50	All > 2	310	0.15	0.30	0.55

[a] Sample includes nearly all cases from Tables 3 and 6.
[b] This notation means "two inner arms, any number of outer arms."
[c] Sample includes galaxies having an inner feature of type r, rs, or rl with $D(\mathrm{I}) \geq 0.'43$.

centages by family follow. This shows that $m = 2$ galaxies are the vast majority of entries in the catalog. A significant number of $m = 1$ cases is also present, but here the catalog will be biased, since $m = 1$ cases were considered interesting and included in the catalog whether a ring was present or not. The high percentage of $m = 1$ SA galaxies results partly from this bias. Table 8B provides the multiplicity statistics, but with the following restrictions: the object must be of variety r, rs, or rl, and the inner feature major-axis diameter must be larger than 0.'43. This greatly reduced the numbers of objects in each multiplicity bin, but should be more statistically reliable than the full sample. The results show again that $m = 2$ spirals are most frequent, especially for SB galaxies. If we combine all high-multiplicity spirals (category ">2" in Table 8), these account for 43% of the sample, and in these cases also, the highest percentages tend to be for SB galaxies. It is interesting that the relative percentages of SA, SAB, and SB galaxies among $m = 2$ and $m > 2$ galaxies are nearly identical.

High-multiplicity galaxies provide some of the most interesting morphologies in the ringed galaxy population. Buta & Crocker (1991) have already illustrated CCD images of ESO 566−24, which is an unusually symmetric $m = 4$ SB(r)-type spiral. This regularity distinguishes ESO 566−24 from the average $m = 4$ spiral. Other important examples are illustrated in Figures 33 and 34 (Plates 11 and 12). IC 5240 (Fig. 33) is an excellent example of a strong SB(r)-type spiral where the outer spiral arm pattern is *flocculent*. This is very atypical of the class. The *B*-band image (Fig. 33, *top panel*) reveals a strong bar with an inner boxiness, and the $B - I$ color index map (Fig. 33, *bottom panel*) reveals that the inner ring is blue, which is more typical, and that there is no nuclear star formation. This galaxy has a large angular diameter and merits follow-up photometric and kinematic work.

Figure 34 illustrates four examples of nearly face-on, global multiarmed spiral galaxies with strong bars, types in the range Sab–Sbc, and clear inner rings or pseudorings. The nature of the rings in these galaxies is uncertain. The case of NGC 3313 suggests that inner features even in multiarmed spirals could be linked to the inner 4:1 UHR. A similar case is NGC 1640 (Fig. 34, *lower left-hand panel*), but the remaining three cases in Figure 34 (NGC 2307, NGC 3450, and the non-CSRG galaxy NGC 3660) show no old R_1 component, and the inner

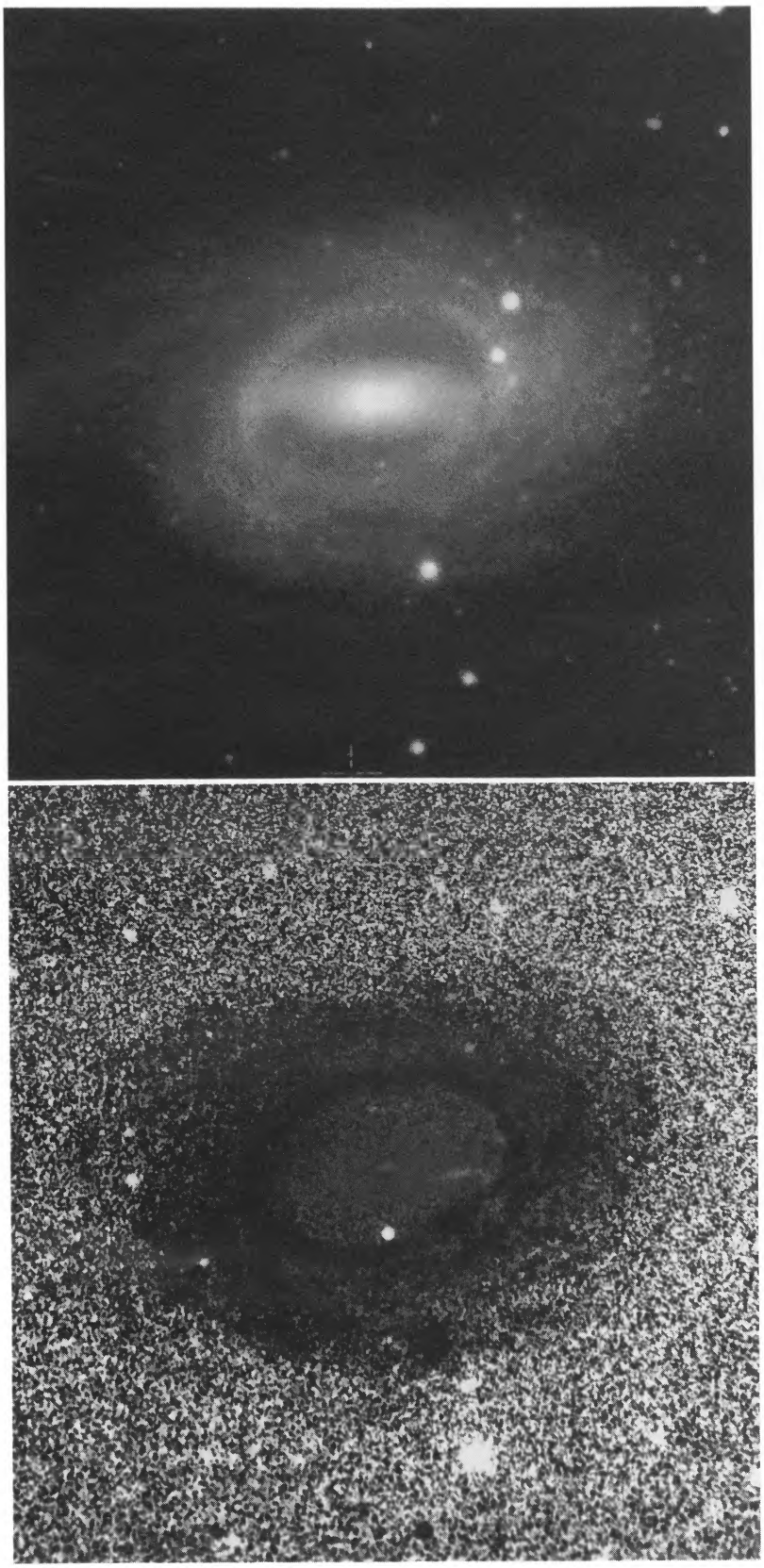

FIG. 33.—*B*-band CCD image (*top*) and $B - I$ color index map (*bottom*) of IC 5240, a large CSRG galaxy with flocculent spiral structure

BUTA (see 96, 112)

PLATE 12

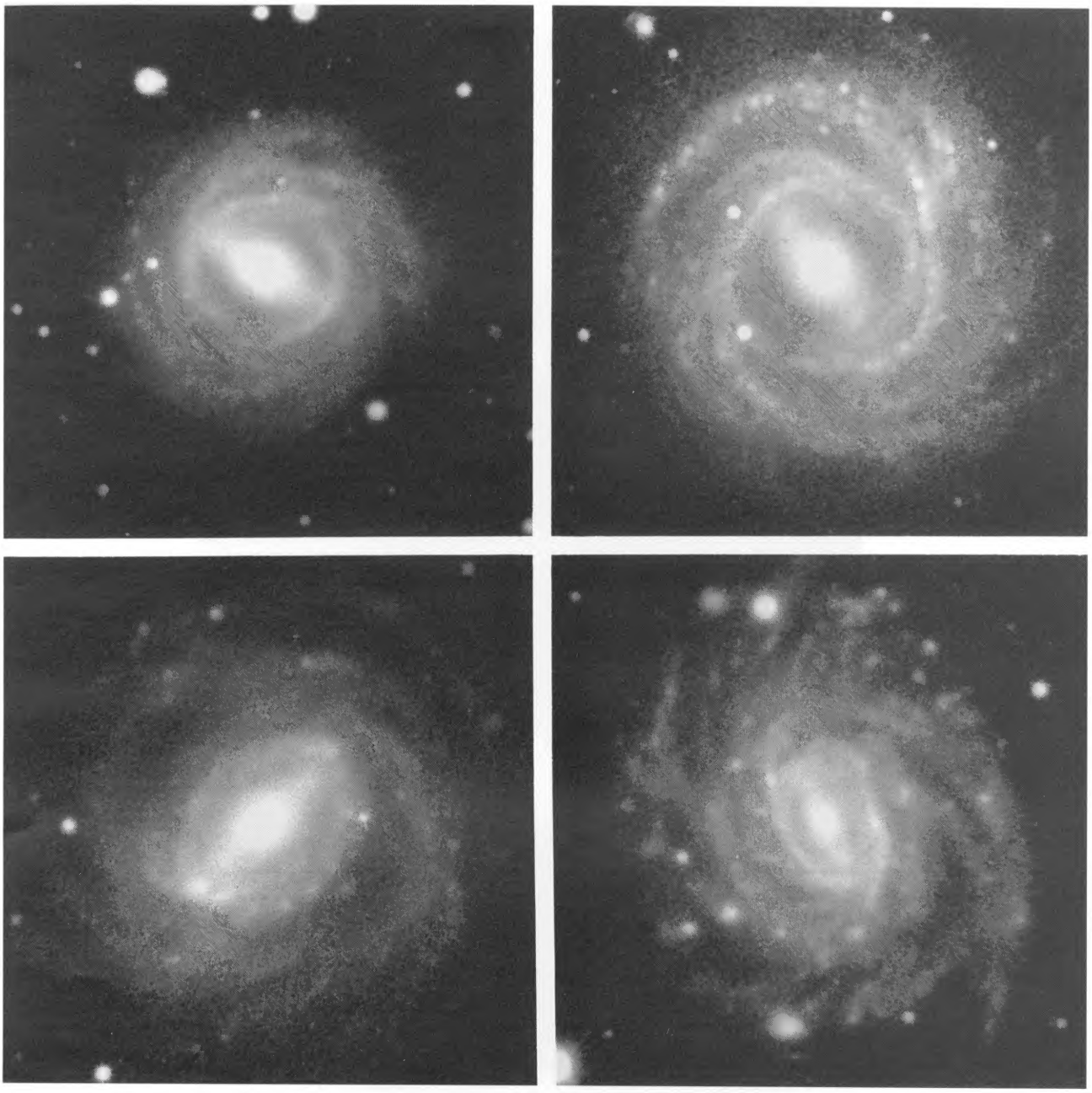

FIG. 34.—Examples (three CSRG, one non-CSRG) of global, multiarmed ringed, barred spirals. *Upper left:* NGC 2307; *upper right:* NGC 3450; *lower left:* NGC 1640; *lower right:* NGC 3660.

rings are less clear cut as UHR features. Combes & Elmegreen (1993) discuss n-body models which may be relevant to these galaxies.

7.6. *Relative Bar and Inner Ring Diameters*

In Buta (1986a), I pointed out that in most SB(r)-type galaxies the bar fills the inner ring along one dimension. However, there exist cases where the bar actually ends well inside the ring. The best case that I have identified is NGC 7098, which is illustrated in the left-hand panel of Figure 35 (Plate 13). This is one of the largest southern double-ringed galaxies, and it has a very unusual boxy bar with bright oval ansae at the major axis, first noted by Evans (1957). These ansae are as red in color as the rest of the bar (see the $B-I$ color index map in the right-hand panel of Fig. 35), and hence are concentrations of old stars. The inner ring is very thin and notably blue, and the bar has a diameter of only 65% of the ring. There are other clear-cut examples of a bar underfilling an inner ring in the catalog (see, e.g., NGC 3450 in the upper right-hand panel of Fig. 34), but some examples involve a ring with no clear external structure, spiral or otherwise. These cases could involve outer rings rather than inner rings and are therefore not unusual. NGC 7098 demonstrates unambiguously that bars can underfill inner rings significantly. The galaxy's large angular diameter means that it is one case which can be studied in detail.

7.7. *Ring and Polar Ring Galaxies*

Tables 3 and 6 include 13 probable ring galaxies, nine possible ring galaxies, one definite polar ring galaxy, and 11 possible polar ring galaxies. Most of the polar ring cases are weak and may turn out to be false, but the sample turned up one very interesting example that may be important: ESO 235−58. This object at first sight resembles a common late-type barred spiral, but the bar has a straight dust lane which divides the nucleus in a manner very atypical of bars. The dust lane is clearly visible on SRC field 235 and was highlighted by Buta & Crocker (1993b) with CCD images obtained with the CTIO 1.5 m telescope. The presence of the dust lane makes it likely that the bar of ESO 235−58 is really an edge-on galaxy, and that the system is related to polar ring galaxies. If this is true, ESO 235−58 is the only example having a gaseous disk aligned with the inner component, which is usually an S0 or an E galaxy (Whitmore et al. 1990).

The CSRG cannot be used for statistics of ring or polar ring galaxies, especially north of declination −42°, because such features were mostly avoided in CSRG I. This will be remedied when the 286 fields of the SRC-J survey north of −42° are finally scanned with the CSRG II techniques described in § 4.

8. SUMMARY AND DISCUSSION

The study of Buta (1986a) was based on a preliminary analysis of CSRG I data. In that study the errors in the parameters were not well determined, and the distribution of intrinsic shapes was assumed to be uniform over a given range. Inasmuch as the errors were not allowed for in the simulations, the wide spreads found for the intrinsic axis ratios of inner and outer features in that paper were partly an adjustment of the intrinsic shape distributions to the observational errors. Except for this, my conclusions here differ little from that previous study. The main findings from the CSRG can be summarized as follows:

1. Inner and outer rings, pseudorings, and lenses are intrinsically oval in shape. The mean intrinsic axis ratio of SB inner features is 0.81 ± 0.06, and that for SB outer features is 0.82 ± 0.07. SAB outer features, and SA inner and outer features, are rounder on average than SB features, while SAB inner features are more elliptical on average than SB inner features. Independent diameter data from the SGC verify these particular CSRG findings. In addition, outer features of type R_1 or R'_1 appear to be more oval on average than R'_2 features (mean intrinsic axis ratios of 0.74 versus 0.87, respectively).

2. Inner features in SB and SAB galaxies are usually aligned parallel to the bar. Outer features in such galaxies can be aligned either parallel or perpendicular to the bar. Among SB galaxies, 64% of outer features are aligned perpendicular to the bar, while among SAB galaxies 85% of outer features are aligned parallel to the bar. *The prevalence of alignment rather than misalignment means that inner and outer features are generally driven by the bar, and have the same pattern speed as the bar.*

3. The median diameter or geometric mean diameter ratio of outer and inner features is 2.2, independent of family. This ratio supports the resonance identifications for outer and inner features deduced from the axis ratio and position angle statistics.

In addition to these statistical results, the CSRG has led to the recognition or better establishment of the following:

a) The OLR subclasses R_1, R'_1, R'_2, and $R_1R'_2$ in many galaxies, thereby allowing the ready identification of this resonance in such galaxies. Clear dimpling, characteristic of the inner periodic orbit family near this resonance, has been identified in several R_1 and R'_1 examples. The best examples are illustrated either in this paper, in Buta & Crocker (1991), or in Buta (1986a). The $R_1R'_2$ subclass was not predicted by Schwarz, but it provides some of the clearest evidence for the OLR. It is discussed further by Kalnajs (1992), Combes (1993), and Byrd et al. (1994).

b) Pointy oval inner rings, or inner rings having minor- and major-axis breaks, whose shape links them to a UHR inside CR. The best pointy oval inner ring cases are NGC 6782 and ESO 325−28 (Buta & Crocker 1991), and the best example having major- and minor-axis breaks is NGC 1433 (Buta 1986b).

c) The largest known starburst nuclear ring, identified in ESO 565−11 (Buta & Crocker 1991, 1993a). Many other nuclear rings have been identified in the multicolor imaging survey of CSRG and related galaxies that provided the images in this paper and the previous papers. Buta & Crocker (1993a) discuss the metric and morphologic properties of 64 known examples of nuclear rings and pseudorings and how these properties relate the features to the ILR.

d) A possible connection between outer ring or pseudoring morphology and the presence of nuclear star formation. Buta & Crocker (1991) presented evidence that galaxies with R_1 or R'_1 outer features have nuclear star formation more frequently than those which display an R'_2 outer feature. Crocker & Buta

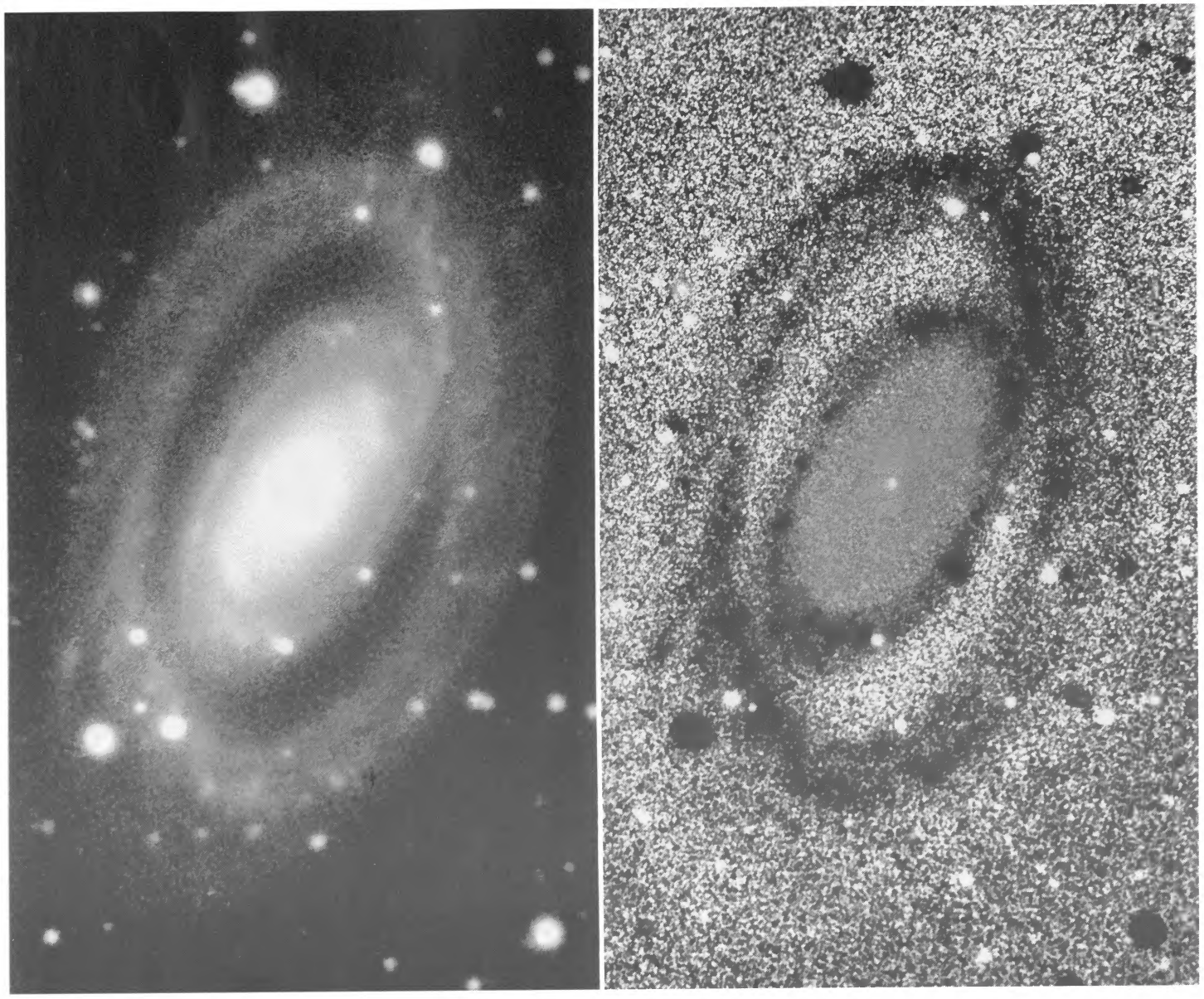

FIG. 35.—*B*-band CCD image (*left*) and $B - I$ color index map (*right*) of NGC 7098, a large ringed, barred galaxy with several interesting features: (1) a rectangular bar with oval ansae at the ends; (2) an inner ring whose diameter is nowhere filled by the bar; and (3) a nuclear bar in the bright bulge region (see Buta & Crocker 1993a).

(1993) have confirmed the correlation with additional images and an *IRAS* study. They attribute the correlation to differences in bar pattern speed between R'_1 and R'_2 galaxies. Test-particle models (Byrd et al. 1994) provide some support for this idea.

e) Intrinsic bar and inner ring misalignment, a phenomenon that was not brought to light by the detailed statistics of apparent bar/ring orientations. Instead, it was identified in galaxies which appeared to have low inclination, based on the apparent shape of an outer feature. The cases illustrated in this paper all have an R'_1 outer pseudoring with respect to the ends of a pointy inner ring or pseudoring, and a bar which *leads* the axis defined by these points. The cause of the misalignment is uncertain, but it could be linked to an interaction with a neighboring galaxy.

f) Old population R_1 and R'_1 outer rings, through the multicolor imaging survey. Cases like IC 1438 suggest that there may be sequential formation of R_1 and R'_2 features. This has been theoretically demonstrated by new test-particle simulations described by Byrd et al. (1994). The existence of a near-infrared R'_1 component in NGC 3313 suggests that the multiple outer arms of that galaxy extend well beyond the OLR.

g) Bars which significantly underfill clear inner rings. The best case identified so far is NGC 7098, whose bar length is only 65% of the diameter of the inner ring.

h) Both leading and trailing secondary or nuclear bars. Although it has been known for some time that early-type barred galaxies can have secondary or nuclear bars in the bulge region (e.g., de Vaucouleurs 1975; Sandage & Brucato 1979; Schweizer 1980; Jarvis et al. 1988), and also that these small bars are usually misaligned with the axis of the primary bar, no systematic study had been made of the sense of the misalignment prior to the paper of Buta & Crocker (1993a). The imaging survey of CSRG galaxies has allowed identification of a few new cases of secondary bars in *I*-band images. A leading nuclear bar is tipped ahead of the primary bar, while a trailing nuclear bar is tipped behind. The sense follows from the assumption of trailing spiral arms. In a sample of seven nearly face-on galaxies, four were found to have leading nuclear bars, two were found to have trailing nuclear bars, and one has a virtually perpendicular alignment between the two bars. Similar alignment characteristics have been observed for molecular gas bars with respect to stellar bars or weak ovals (e.g., Kenney, Scoville, & Wilson 1991; Devereux, Kenney, & Young 1992).

i) Unusual variations on multiarmed SB(r) spirals. ESO 566−24 is the most symmetric global $m = 4$ spiral in the CSRG, and it is the most important example for follow-up work. IC 5240 is the most important example of a *flocculent*-armed SB(r) spiral in the CSRG. Global multiarmed ringed spirals are not rare in the catalog, and several examples are illustrated and discussed in this paper.

j) The coexistence of old and young population inner rings in some early-type galaxies. The best CSRG cases are NGC 1433 (Buta 1986b), NGC 3081 (Buta 1990a), and NGC 7702 (Buta 1991). In the latter object it was possible to model the net inner ring major-axis luminosity profile (obtained after subtracting the light of underlying bulge and disk components) in terms of two *spatially coincident* Gaussian components: a narrow, blue component and a red component about twice as wide as the blue component. This kind of combination is expected from the evolution of a ring which has formed stars over a long time interval.

k) A new and important example of a polar-ring–related interacting system that was missed in previous searches for such objects. ESO 235−58 is the only known example where the inner component has an aligned gaseous disk.

These results show that the CSRG statistics and the CCD imaging survey of CSRG galaxies have provided a large amount of information on ringed galaxies, and in particular have established the existence of resonance rings in galaxies. Outer features are very likely associated with the OLR, inner features with a UHR inside CR, and nuclear features with an ILR. Nevertheless, many tasks and problems, both observational and theoretical, remain to be addressed. On the observational side, few classic ringed galaxies have been studied in sufficient detail to get a clear picture of the internal structure and dynamics of such objects. Multiwavelength observations, from the UV to the radio regimes, are required. In addition, no serious attempt has yet been made to use rings to measure bar pattern speeds indirectly. Byrd et al. (1994) have brought attention to the possibility that there may be pattern speed domains among early-type disk galaxies. The idea is that the reason some galaxies have only one or two rings, rather than the full complement of nuclear, inner, and outer rings, is in part the fact that not all of the required resonances are allowed by the rotation curve. Combes (1993) has also brought attention to the puzzle posed by the three-ring systems, because each ring type is expected to have a very different associated timescale. She has suggested that continuous infall of gas may be required to explain such objects. Detailed observations are essential to evaluate these ideas.

On the theoretical side, it is essential to determine the role of self-gravity and dark matter halos, if any, on the formation and evolution of rings. Elmegreen et al. (1992) have successfully simulated outer rings in self-gravitating disks, and have also demonstrated that an initially closed outer ring can be either transformed into an outer pseudoring or destroyed by a tidal interaction. Indeed, the effects of interactions is an important issue that may be essential also for understanding the formation of bars and the peculiar misaligned bar/ring galaxies.

Another issue concerns secular evolution. The existence of secondary nuclear bars, old population R_1 rings coexisting with young population R'_2 pseudorings, overlapping young and old rings, pseudorings and closed rings, coincidences in size of inner rings, lenses, and bars, and possibly some nonbarred ringed galaxies could point to various processes of secular evolution. Kormendy (1979) first brought attention to possible evidence for secular evolution from a survey of only 121 barred galaxies. A study of a large sample of CSRG galaxies could provide much additional insight, since even though we might believe that all galaxies have the same age (based on analysis of integrated colors; see, e.g., Searle, Sargent, & Bagnuolo 1973; Larson & Tinsley 1978), it is possible that we see their bar and ring/arm patterns in different stages of development. This is certainly suggested by the Schwarz models as well as by other published models. Byrd et al. (1994) have recently attempted to evaluate the idea further for rings and pseudorings by com-

paring CCD images of CSRG galaxies to a series of test-particle simulation frames where the evolution for a given pattern speed has been followed for a large number of bar rotations. These models are extensions of the Schwarz models which use a different treatment for cloud collisions and follow the evolution for more bar rotations.

Finally, galaxies like NGC 7098, where the bar has bright oval ansae, and NGC 7020, where a barlike inner feature is distinctly hexagonal in shape, pose an interesting challenge for bar formation and evolution theories. The ansae seen in some bars were first discussed by Danby (1965), but there has been little follow-up work. It is interesting that the inner feature in NGC 7020 also shows round ansae. Other examples are discussed by Sandage (1961), by Buta & Crocker (1991), and in the full set of CSRG notes. The fact that the bar of NGC 7098 substantially underfills the inner ring suggests that it is one definite case where the bar cannot extend to CR, as is often thought to be the case (Contopoulos 1980; see also reviews by Athanassoula 1991, Bosma 1992, and Sellwood & Wilkinson 1993).

For the future, the samples in the CSRG can be considerably extended owing to the current production of the SERC-J Equatorial Sky Survey and the northern Palomar II Sky Survey. Together these cover a much larger area of sky than the CSRG and provide the opportunity for finding many more examples of all of the different ring subtypes. Independent of the need for better statistics, a systematic search of these fields would be valuable because of the greater possibility of identifying cases of special interest, such as misaligned bar/ring galaxies, dimpled outer rings and pseudorings, inner rings underfilled by strong bars, unusual spiral patterns, and perhaps other cases like ESO 235−58. Since the CSRG cannot be used to derive the relative frequency of ringed galaxies among the general galaxy population, the goal of surveying the equatorial and northern sky regions could be extended to provide homogeneous cataloging of ringed and nonringed objects.

The CSRG was carried out at several institutions, but the ones that made the difference were the Dyer Observatory of Vanderbilt University and the University of Alabama. I would especially like to thank A. Heiser and D. Hall of Vanderbilt University for their hospitality during my six or seven visits to the Dyer Observatory from 1990 to 1992. It was the best place in the world to carry out the CSRG. I would also like to thank the Royal Observatory Edinburgh for the production of the excellent SRC survey, which made this project possible, and I would especially like to thank David Morgan for pointing out my blunder of acknowledging the Royal Greenwich Observatory, instead of the Royal Observatory Edinburgh, in my previous 1986 paper. I also thank G. de Vaucouleurs, H. Corwin, Jr., A. Kalnajs, M. Schwarz, B. and D. Elmegreen, S. Simkin, E. Athanassoula, A. Bosma, F. Combes, G. Byrd, D. A. Crocker, K. C. Freeman, J. Kormendy, J. Sellwood, G. Contopoulos, and S. C. Odewahn for their encouragement and advice on the project over so many years. I thank D. A. Crocker, G. B. Purcell, F. Bresolin, and L. V. Jones for help in obtaining the CCD images used in this paper. Finally, I wish to point out that part of this project was carried out at the Royal Canberra Hospital from 1984 December 28 to 1985 January 8 after I sustained an accident at the Anglo-Australian Observatory. I would like to thank D. Carter for bringing the films and a light table to the hospital so that I could do something useful during a difficult time. This work was supported by NSF EPSCoR grant RII8996152 and NSF grant AST 9014137 to the University of Alabama.

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