ized but with their preferred directions inclined at an angle to one another. The double sources 3C270, Pictor, Hercules A, 3C353 and Cygnus A also show a similar behavior in that both components are linearly polarized but with different position angles. It is found that at a wavelength of 21.2 cm the halo of M87 shows linear polarization, in contrast to the jet which earlier measurements (Morris, D., and Radhakrishnan, V., *Astrophys. J.* **137**, 147, 1963) showed to be unpolarized. The work was supported by the U. S. Office of Naval Research under contract Nonr 220(19).

Measurements of the Linear Polarization of Radio Sources at 18-cm Wavelength. D. Morris, V. Radhakrishnan, and G. A. Seielstad, *California Institute of Technology.*—Measurements have been made with the Caltech radio interferometer to determine the linear polarization of the 18-cm radiation from a number of small-diameter radio sources. By combining the resulting values with those obtained previously at 10.6 cm (Seielstad, G. A., Morris, D., and Radhakrishnan, V., *Astrophys. J.*, in press) and 21.2 cm (Seielstad, G. A., and Wilson, R. W., *Nature* **198**, 274, 1963) the magnitude and sign of the Faraday rotation of the plane of polarization can be obtained. In addition, the dependence of fractional polarization on frequency is similarly obtained. Taken together with the corresponding values obtained by Gardner and Whiteoak (*Nature* **197**, 1162, 1963) information is now available for 25 sources. The observed polarization characteristics of the sources are discussed as a function of their galactic coordinates and their physical properties in an attempt to locate the magneto-ionic medium causing the Faraday rotation, and to determine the process responsible for their depolarization curves. The work was supported by the U. S. Office of Naval Research under contract Nonr 220(19).

Diffraction of Radio Star Radiation in the Solar Corona and the Auroral Ionosphere. Leif Owren, Edward J. Fremouw, and John D. Jacobs, *Geophysical Institute, University of Alaska.*—During the last decade the yearly June occultations of the radio source Taurus A by the solar corona has been observed by several groups with radio interferometers (Hewish; Vitkevich; Blum and Boischot; IAU/URSI Paris Symposium on Radio Astronomy, Stanford 1959), sometimes combined with fan-beam antennas (Gorgolewski and Hewish, *Observatory* **80**, 99, 1960), and with pencil-beam antennas (Slee, *Australian J. Phys.* **12**, 2, 1959), on wavelengths from 1.9 to 7.9 m. The interferometer observations show visibility reductions indicating an apparent increase in the angular diameter of the source when occulted by the solar corona. Some observers have noted a decrease in the total intensity of the source (Slee; Hewish), others an increase (Blum and Boischot; Vitkevich) during some phase of the occultation. The interpretations of the observations vary. Hogbom (*Monthly Notices Roy. Astron. Soc.* **120**, 530, 1960) explains them in terms of refraction (ray optics scattering) in coronal streamers, Hewish invokes multiple scattering in relatively small scale irregularities combined with refraction, while Vitkevich advocates scattering in somewhat larger irregularities and refractive focusing and defocusing by large inhomogeneities associated with coronal rays. All observers seem to agree that the inhomogeneities are *anisotropic* due to the local magnetic field, although evaluations have been based on the theory for scattering by *isotropic* irregularities.

Radio interferometer observations on 0.67 and 1.35 m of the sources Cassiopeia A and Cygnus A through the auroral ionosphere have been made almost continuously since 1957 at College, Alaska. As might be expected from the similarities of the auroral ionosphere and the solar corona, the same phenomena of visibility reductions and total intensity variations are frequently observed for Cas A and Cyg A during disturbed conditions. An advantage of the ionospheric observations is that the properties of the medium are much better known, and that controlled experiments can be performed. The visibility reductions have been shown to be due to multiple scattering in small scale *anisotropic* irregularities in a layer of optical thickness of about 4 extending from 400 to 500 km (Owren, *Proc. Intern. Conf. Ionosphere*, London, 1963), while refractive effects of large ionospheric lenses account for the total intensity variations. In view of the pencil-beam observations on 10 and 25 cm of the 1962 Tau A occultation by Basu and Castelli (URSI Meeting, Washington, D. C., 1963) we favor a similar interpretation of the coronal data. Occasional observational results incompatible with present interpretations exist, as also pointed out by Vitkevich.

Night Airglow Radiation at 2972 Å. D. M. Packer and Irene S. Gulledge, *U. S. Naval Research Laboratory.*—In a rocket experiment designed to record the far ultraviolet spectrum of an aurora from Fort Churchill, H. M. Crosswhite, E. C. Zipf, and W. G. Fastie (*J. Opt. Soc. Am.* **52**, 643, 1962) reported measuring the $[O\,\text{I}]_{31}$ atomic oxygen line radiation at 2972 Å due to the forbidden transition $({}^3P_1-{}^1S_0)$. In addition to recording this as an intense radiation during an aurora, they reported observing the $O\,\text{I}$ radiation at a time when no visible aurora was present.