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MK SPECTRAL TYPES FOR BRIGHT SOUTHERN OB STARS*

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ABSTRACT

MK spectral classifications are provided for all OB stars south of $-20°$ and earlier than B8 which are listed in the *Catalogue of Bright Stars*.

I. INTRODUCTION

Accurate spectral types of a homogeneous nature are often needed in galactic structure studies. The present paper provides such types for all the southern O and B stars earlier than B8, south of $\delta = -20°$, and listed in the *Catalogue of Bright Stars* (Hoffleit 1964). These spectral types are based on new plates taken for spectral classification at the Cerro Tololo Inter-American Observatory. The spectral types of the northern stars as a group have recently been determined by Lesh (1968) in her study of stellar motions in the Gould belt.

II. DESCRIPTION OF SPECTROGRAPH

All observations were made with a new spectrograph designed for use on the 16-inch telescopes at Cerro Tololo. This spectrograph contains two glass prisms. Collimator and camera focal lengths are 394 mm and 120 mm, respectively, and the optical bundle has a diameter of 29 mm. The spectrograph has a reciprocal dispersion of 91 Å mm^{-1} at $H\gamma$, and all spectrograms were trailed to a width of at least 0.8 mm. The exposure time on a sixth magnitude star with the 16-inch telescope is about 10 minutes on an unbaked IIa-O emulsion. All spectrograms were developed in Metol sulfite developer.

A single well-widened and well-exposed spectrogram was taken for all but the brightest stars; for these, multiple exposures were taken.

III. THE SPECTRAL CLASSIFICATIONS

All spectrograms were classified on the MK system. The primary standards, on which the classifications are based, were taken with the spectrograph during the program and are listed in Table 1. Other MK standards, such as γ Peg (B2 IV), ζ Per (B1 Ib), and ϵ CMa (B2 II), were used as secondary standards, as well as many of the bright Pleiades, Orion, and Scorpius stars. Several additional standards were set up where necessary to insure homogeneity in interpolation.

The classifications were carried out without reference to previous classifications, photometry, motions, or membership in clusters and associations.

* *Contributions from the Cerro Tololo Inter-American Observatory*, No. 54. *David Dunlap Observatory Contribution* No. 210.

TABLE 1

PRIMARY STANDARDS FOR TABLE 2

Spectral Type	Luminosity		
	V	III	Ia
O5	9 Sgr		
O7	15 Mon		
O9	10 Lac	ι Ori	
B0	τ Sco		ϵ Ori
B0.5	β Sco		κ Ori
B1	ω^1 Sco	o Per	
B2	22 Sco	π^4 Ori	χ^2 Ori
B3	η Aur		σ^2 CMa
B5	ρ Aur	τ Ori	η CMa
B8	18 Tau	27 Tau	β Ori

TABLE 2

BRIGHT SOUTHERN STARS EARLIER THAN B8

Star		Position (2000)		V	B-V	MK	Notes
HR	Name or HD	α	δ				
338	ζ Phe	01h 08.m4	-55°15'	3.92	-0.09	B7 V	
472	α Eri	01 37.7	-57 15	0.48	-0.17	B3 Vp	*
721	κ Eri	02 27.0	-47 42	4.24	-0.14	B5 IV	
1092	22252	03 30.9	-66 30	5.82	-0.06	B8 V	
1134	δ For	03 42.3	-31 56	4.99	-0.17	B5 IV	
1213	τ^8 Eri	03 53.7	-24 36	4.63	-0.14	B6 V	
1214	24626	03 53.7	-34 44	5.10	-0.14	B6 V	
1258	25631	04 03.4	-20 8	6.45	-0.16	B2.5 V	
1443	δ Cae	04 30.8	-44 57	5.06	-0.20	B2 IV-V	
1772	35165	05 21.3	-34 21	6.10	-0.20	B5 IVnp	*
1996	μ Col	05 46.0	-32 19	5.16	-0.28	O9.5 IV	
2005	38804	05 47.1	-28 38	(6.05)		B5 V	
2056	λ Col	05 53.1	-33 48	4.87	-0.16	B5 V	
2064	ϵ Dor	05 49.9	-66 55	5.10	-0.15	B6 V	
2089	40200	05 54.7	-49 38	6.09	-0.14	B3 V	
2106	γ Col	05 57.6	-35 17	4.36	-0.18	B2.5 IV	
2149	41534	06 04.3	-32 10	5.64	-0.21	B2 V	
2170	42054	06 07.1	-34 19	(5.93)		B4 IVe	e_{I+}
2212	δ Pic	06 10.3	-54 58	4.80	-0.25	B0.5 IV	
2271	44081	06 19.0	-20 55	5.80	-0.16	B4 IV	
2282	ζ CMa	06 20.3	-30 04	3.02	-0.19	B2.5 IV	
2288	44506	06 20.6	-34 09	5.51	-0.20	B1.5 IIIn	
2360	45796	06 24.9	-63 50	6.25	-0.14	B6 V	
2361	λ CMa	06 28.2	-32 35	4.47	-0.18	B4 V	
2364	45871	06 28.7	-32 22	(5.80)		B4 Vnp	*
2380	46189	06 30.8	-27 46	5.93	-0.16	B2.5 V	
2387	ξ^1 CMa	06 31.9	-23 25	4.33	-0.25	B1 III	
2397	46547	06 32.7	-32 01	5.68	-0.19	B2 IV	
2410	46792	06 31.2	-61 52	6.14	-0.16	B3 V	
2475	48383	06h41.m3	-40°21'	6.11	-0.15	B4 V	

TABLE 2 - Continued

Star		Position (2000)		V	B-V	MK	Notes
HR	Name or HD	α	δ				
2492	10 CMa	$06^h44.^m5$	-31°04'	(5.16)		B2 IIIe	*
2501	49131	06 45.5	-30 57	5.79	-0.20	B2 III	
2510	49336	06 46.2	-37 46	6.21	-0.15	B4 Vne	e_1
2537	50012	06 50.1	-27 20	(6.77)		B2 IV	
2538	κ CMa	06 49.8	-32 31	3.94	-0.24	B1.5 IVne	e_2
2544	50093	06 50.6	-25 47	(6.24)		B2 V	
2571	15 CMa	06 53.5	-20 13	4.82	-0.22	B1 III	
2583	50896	06 54.2	-23 56	6.91	-0.28	WN5-B	*
2595	51283	06 55.8	-22 57	5.28	-0.19	B2 III	
2602	ι Vol	06 51.5	-70 57	5.39	-0.12	B7 IV	
2611	51823	06 57.7	-27 32	(6.09)		B2.5 V	
2614	51925	06 58.1	-27 10	(6.19)		B2.5 III	*
2616	52018	06 58.6	-25 25	5.58	-0.17	B3 V	
2618	ε CMa	06 58.6	-28 58	1.50	-0.22	B2 II	
2619	52092	06 58.4	-34 07	5.05	-0.17	B3 V	
2628	52437	07 00.3	-22 07	6.51	-0.17	B2 IV-V	
2640	52670	07 01.1	-25 12	(5.80)		B2 V	
2653	o^2CMa	07 03.0	-23 50	3.04	-0.08	B3 Ia	
2680	54031	07 06.0	-30 39	(6.38)		B3 V	
2688	54224	07 07.0	-26 39	(6.38)		B2 IV-V	
2690	54309	07 07.4	-23 50	(5.75)		B2 IVe	*
2695	54669	07 08.8	-24 03	(6.47)		B2 V	
2702	54893	07 08.9	-39 40	4.82	-0.19	B2 IV-V	
2704	54912	07 09.7	-25 14	(5.76)		B2.5 IV	
2718	26 CMa	07 12.2	-25 57	5.90	-0.17	B2 V	
2726	55718	07 12.4	-36 33	5.96	-0.15	B3 V	
2733	55856	07 13.8	-22 54	6.26	-0.15	B2 IV	
2734	55857	07 13.6	-27 21	6.11	-0.26	B0.5 V	
2741	55958	07 13.8	-31 05	6.60	-0.18	B2 IV	
2743	55985	07 14.0	-30 20	(6.31)		B2 IV-V	
2745	27 CMa	07 14.3	-26 21	4.50	-0.13	B3 IIIp	*
2749	ω CMa	07 14.8	-26 46	3.82	-0.17	B2 IV-Ve	e_{1+}
2756	56342	07 15.4	-30 42	5.34	-0.19	B3 V	
2769	56733	07 16.5	-38 19	5.78	-0.13	B4 V	
2770	56779	07 16.8	-36 36	5.02	-0.18	B2 IV-V	
2774	56876	07 17.8	-26 48	6.42	-0.15	B2 IV-V	
2781	29 CMa	07 18.7	-24 34	4.95	-0.15	O7 f	
2782	τ CMa	07 18.7	-24 57	4.39	-0.15	O9 Ib	
2787	57150	07 18.3	-36 44	4.65	-0.10	B2 V	
2790	57219	07 18.6	-36 45	5.08	-0.17	B2 IVne	e_2
2799	57573	07 20.9	-22 51	6.60	-0.16	B2.5 V	
2800	57593	07 20.9	-26 58	(5.84)		B2.5 V	
2819	58155	07 23.0	-31 56	5.42	-0.16	B4 Vnp	*
2823	58286	07 23.5	-32 12	5.38	-0.19	B2 V	
2824	58325	07 23.9	-30 13	6.59	-0.20	B2 IV-V	
2827	η CMa	07 24.1	-29 18	2.41	-0.07	B5 Ia	
2847	58766	07 25.7	-31 44	6.30	-0.18	B2 V	
2855	58978	07 27.0	-23 05	(5.48)		B0.5 IVnpe	*
2856	59026	07 26.7	-34 08	(5.98)		B2 IV-V	
2870	59499	$07^h28.^m9$	-31°51'	(6.51)		B3 V	

TABLE 2 - Continued

Star		Position (2000)		V	B-V	MK	Notes
HR	Name or HD	α	δ				
2871	59500	$07^h28.^m9$	-31°51'	(7.24)		B4 V	
2873	59550	07 29.1	-31 27	5.76	-0.20	B2 V	
2875	59635	07 29.1	-38 48	5.42	-0.17	B5 Vp	*
2885	60098	07 31.4	-36 09	6.68	-0.12	B4 V	
2911	60606	07 33.9	-36 20	5.55	-0.07	B3 Vne	e_2
2949	61556	07 38.8	-26 48	3.81	-0.16	B5 IV	*
2954	61641	07 38.7	-36 30	5.79	-0.17	B2 IV-V	
2961	61831	07 39.5	-38 19	4.84	-0.20	B2.5 V	
2963	61878	07 39.7	-38 09	5.73	-0.14	B5 Vn	
2964	61899	07 39.8	-38 16	5.75	-0.07	B2.5 V	
2968	61925	07 40.0	-37 35	5.99	-0.04	B6 IV	
2981	62226	07 41.3	-38 32	(5.48)		B5 V	
3001	62712	07 43.7	-38 12	(6.44)		B7 III	
3004	62747	07 44.6	-24 40	5.61	-0.20	B1.5 III	
3006	62758	07 42.2	-58 38	(6.44)		B2.5 V	
3016	62991	07 45.1	-37 54	6.53	-0.10	B3 IV	
3020	63118	07 45.3	-43 41	6.02	-0.08	B6 IV	
3023	63271	07 47.2	-22 31	5.89	-0.20	B2 IV-V	
3025	63308	07 46.6	-40 04	(6.65)		B2 V	
3034	63462	07 48.1	-25 56	4.47	-0.05	B1 IV?nne	e_2
3035	63465	07 47.4	-38 31	5.08	-0.11	B2.5 III	
3037	63578	07 47.5	-46 37	5.24	-0.13	B1.5 IV	
3055	63922	07 49.2	-46 22	4.10	-0.19	B0 III	
3058	63949	07 49.2	-46 51	5.83	-0.15	B1.5 IV	
3074	64287	07 51.4	-43 05	6.31	-0.18	B2 IV-V	
3078	64365	07 51.7	-42 53	6.04	-0.19	B2 IV	
3084	64503	07 52.6	-38 52	4.48	-0.20	B2.5 V	
3088	64722	07 52.5	-54 22	5.69	-0.16	B1.5 IV	
3089	64740	07 53.1	-49 37	4.62	-0.23	B1.5 Vp	*
3090	64760	07 53.3	-48 07	4.23	-0.15	B0.5 Ib	
3091	64802	07 54.2	-35 53	5.49	-0.20	B2 V	
3101	65211	07 55.8	-43 51	6.02	-0.13	B6 V	
3107	65315	07 56.4	-40 44	6.78	-0.19	B2 V	
3114	65460	07 57.0	-43 30	(5.42)		B2.5 V	
3116	65551	07 57.3	-44 06	5.08	-0.19	B2.5 IV	
3117	χ Car	07 56.8	-52.59	3.46	-0.19	B3 IVp	*
3118	65598	07 57.3	-47 53	6.21	-0.11	B5 V	
3129	V Pup	07 58.2	-49 14	var	-0.18	B1 Vp+B2:	*
3137	65904	07 59.0	-45 13	5.98	-0.16	B4 V	*
3142	66005	07 59.2	-49 58	(6.43)		B2 IV-V	
3143	66006	07 59.2	-49 58	(6.65)		B2 IV-V	
3147	66194	07 58.8	-60 49	5.80	-0.10	B2 IVpne	*
3157	66546	08 01.4	-54 31	(5.99)		B2 IV-V	
3159	66591	08 00.3	-63 34	4.82	-0.17	B3 V	
3165	ζ Pup	08 03.6	-40 00	2.24	-0.28	O5 f	
3179	67341	08 05.3	-46 58	6.19	-0.16	B3 Vpn	*
3186	67536	08 04.7	-62 50	6.29	-0.11	B2.5 Vn	
3195	67888	08 08.6	-37 41	6.40	-0.05	B4 Ve	*
3204	68217	08 09.6	-44 08	5.20	-0.20	B2 IV-V	
3206	68243	$08^h09.^m5$	-47°21'	4.25	-0.23	B1 IV	

TABLE 2 - Continued

Star		Position (2000)		V	B-V	MK	Notes
HR	Name or HD	α	δ				
3207	γ Vel	$08^h09.^m5$	-47°21'	1.83	-0.27	WC 8	*
3213	68324	08 09.7	-47 57	(5.40)		B1 IVn	
3219	68450	08 11.0	-37 18	6.44	-0.02	O9.5 II	
3223	ε Vol	08 08.0	-68 37	4.34	-0.12	B6 IV	
3227	68657	08 11.2	-48 28	(5.94)		B3 V	
3234	68895	08 12.5	-46 16	6.02	-0.13	B5 V	
3237	68980	08 13.5	-35 54	4.79	-0.12	B1.5 IIIe	*
3239	69080	08 14.2	-32 08	6.05	-0.17	B1.5 V	*
3240	69081	08 14.0	-36 19	5.08	-0.20	B1.5 IV	
3244	69144	08 13.6	-46 59	(5.28)		B2.5 IV	
3250	69302	08 14.4	-45 50	(6.02)		B2 IV-V	
3283	70556	08 21.4	-36 29	5.19	-0.20	B2 IV-V	
3293	70839	08 21.2	-57 58	(6.07)		B1.5 III	
3294	70930	08 22.5	-48 29	4.82	-0.16	B1.5 III	
3322	71302	08 25.0	-42 47	5.98	-0.18	B3 V	
3326	71459	08 25.9	-42 10	5.46	-0.16	B3 V	
3330	71510	08 25.5	-51 44	(5.23)		B2 V	
3343	71801	08 28.0	-35 07	5.74	-0.15	B3 V	
3356	72067	08 29.1	-44 10	(5.94)		B2 V	
3358	72108	08 29.1	-47 56	5.32	-0.15	B2 IV	
3359	72127	08 29.5	-44 43	(5.22)		B2 IV	
3371	72350	08 30.7	-44 44	(6.49)		B4 V	
3373	72436	08 31.4	-39 04	6.28	-0.14	B4 V	*
3375	72485	08 31.2	-47 52	(6.50)		B2.5 V	
3388	72787	08 33.3	-38 23	6.48	-0.19	B2.5 V	
3415	73390	08 35.3	-58 14	5.25	-0.15	B3 V+B3Vn	
3440	74071	08 39.4	-53 26	5.48	-0.16	B5 V	
3442	74146	08 40.0	-53 03	5.22	-0.15	B4 IV	
3447	o Vel	08 40.3	-52 55	3.61	-0 18	B3 IV	
3453	74273	08 41.1	-48 55	5.90	-0.22	B1.5 V	
3456	74371	08 42.0	-45 25	5.23	-0.21	B6 Ia	
3457	74375	08 40.6	-59 45	4.32	-0.12	B1.5 III	
3462	74455	08 42.3	-48 06	5.51	-0.19	B1.5 Vn	
3467	74560	08 42.4	-53 07	4.85	-0.18	B3 IV	*
3468	α Pyx	08 43.6	-33 12	3.69	-0.19	B1.5 III	
3476	74753	08 43.7	-49 50	5.15	-0.21	B0 IIIn	
3490	75112	08 46.8	-34 37	6.36	-0.15	B4 V	
3494	75149	08 46.5	-45 55	5.47	+0.24	B4 Ia	
3498	75311	08 46.7	-56 46	4.48	-0.18	B3 Vne	*
3525	75759	08 50.4	-42 05	(6.10)		O9 V	
3527	75821	08 50.6	-46 31	5.09	-0.22	B0 III	
3539	76161	08 52.7	-48 22	(6.11)		B3 Vn	
3560	76538	08 53.8	-60 21	5.77	-0.09	B5 III	
3562	76566	08 55.3	-45 03	6.26	-0.17	B3 IV	
3568	76640	08 54.9	-58 14	6.39	-0.11	B5 V	
3574	76805	08 56.3	-52 43	4.68	-0.13	B5 V	
3582	77002	08 57.0	-59 14	4.80	-0.17	B2 IV-V	
3593	77320	09 00.4	-43 10	6.08	-0.18	B3 Vne	e_1
3600	77475	$09^h01.^m4$	-41 52	5.54	-0.15	B5 V	
3629	78548	$09^h06.^m6$	-55°48'	6.10	-0.15	B2 IV-V	

TABLE 2 - Continued

Star		Position (2000)		V	B-V	MK	Notes
HR	Name or HD	α	δ				
3642	78764	$09^h05.^m7$	-70°32'	4.70	-0.16	B2 IVe	e_1
3654	79186	09 11.1	-44 53	5.00	-0.22	B5 Ia	
3658	79275	09 11.6	-46 35	5.78	-0.22	B2 IV-V	
3659	α Car	09 11.0	-58 58	3.44	-0.19	B2 IV-V	
3663	79447	09 11.3	-62 19	3.97	-0.19	B3 III	
3672	79694	09 14.1	-44 09	5.84	-0.14	B6 IV	
3674	79735	09 14.4	-43 14	5.24	-0.15	B4 V	
3688	80057	09 16.1	-44 54	6.03	+0.29	A1 Ib	
3691	80094	09 15.3	-58 23	6.01	-0.11	B7 IV	
3708	80558	09 18.7	-51 33	5.90	-0.53	B6 Ia	
3717	80781	09 19.5	-55 11	6.27	-0.11	B5 V	
3734	κ Vel	09 22.1	-55 01	2.47	-0.19	B2 IV-V	
3753	81848	09 26.3	-53 23	5.10	-0.12	B6 V	
3784	82419	09 30.1	-51 31	5.44	-0.10	B8 V	
3817	82984	09 33.7	-49 01	5.10	-0.13	B4 IV	
3819	83058	09 34.2	-51 16	5.00	0.00	B1.5 IV	
3825	83183	09 34.5	-59 14	4.08	+0.01	B5 II	
3858	83953	09 41.3	-23 35	4.75	-0.13	B6 Ve	e_{1+}
3860	ζ Cha	09 33.9	-80 57	5.10	-0.15	B5 V	
3868	84228	09 41.8	-55 12	5.99	-0.14	B4 V	
3878	84567	09 45.4	-30 13	6.45	-0.12	B0.5 IIIn	
3886	84816	09 46.5	-44 46	5.54	-0.19	B2.5 IV	*
3898	85355	09 50.0	-45 44	5.07	-0.11	B7 III	
3920	85871	09 53.0	-55 22	6.47	-0.15	B1 IV	
3924	85953	09 53.8	-51 08	5.92	-0.16	B2 V	
3925	85980	09 54.3	-45 17	5.70	-0.13	B3 V	
3935	86352	09 56.4	-51 21	6.36	-0.18	B2 IV-V	
3940	φ Vel	09 56.9	-54 35	3.54	-0.09	B5 Ib	
3941	86466	09 57.2	-52 39	6.11	-0.14	B3 IV	
3943	86523	09 57.7	-48 25	6.04	-0.14	B3 V	
3944	86606	09 56.2	-71 24	6.35	-0.08	B1 Ib	
3946	86612	09 59.1	-23 57	6.20	-0.10	B4 Ve	e_{2+}
3949	86659	09 57.0	-69 06	6.19	-0.10	B3 V	
3955	87152	10 01.7	-53 22	6.20	-0.14	B2.5 V	
3990	88206	10 09.0	-51 48	4.85	-0.13	B3 IV	
4009	88661	10 11.8	-58 04	5.69	-0.10	B2 IVpne	e_{2+}
4018	88825	10 13.0	-59 55	6.08	-0.08	B4 Ve	e_1
4022	88907	10 13.4	-61 40	6.38	-0.11	B2 V	
4037	ω Car	10 15.3	-70 02	3.31	-0.08	B8 III	
4038	89104	10 15.3	-54 59	6.16	-0.18	B2 IV-V	
4074	89890	10 20.9	-56 02	4.50	-0.13	B3 III	
4129	91272	10 30.2	-66 59	6.18	-0.01	B4 IV	
4140	91465	10 32.0	-61 41	3.31	-0.10	B4 Vne	e_2
4147	91619	10 33.4	-58 12	6.15	+0.36	B7 Ia	
4173	92287	10 38.0	-57 15	5.90	-0.15	B3 IV	
4188	92740	10 41.3	-59 40	6.41	+0.07	WN7-A	
4196	92938	10 42.2	-64 28	4.80	-0.14	B4 IV	
4198	92964	10 42.7	-59 13	5.41	+0.30	B2.5 Ia	
4199	θ Car	10 43.0	-64 23	2.76	-0.22	B0.5 Vp	*
4204	93163	$10^h43.^m9$	-64°14'	5.77	0.00	B2.5 V	

TABLE 2 - Continued

Star		Position (2000)		V	B-V	MK	Notes
HR	Name or HD	α	δ				
4205	93194	$10^h44.^m1$	-63°57'	4.82	-0.14	B4 IVn	
4206	93237	10 41.9	-79 47	5.96	-0.07	B5 IV	
4219	93540	10 46.3	-64 31	5.34	-0.10	B6 V	*
4222	93607	10 46.9	-64 23	4.85	-0.15	B3 V	
4234	δ^2Cha	10 45.8	-80 33	4.44	-0.19	B2.5 IV	
4329	96706	11 06.8	-70 52	5.55	-0.05	B2 V	
4361	97670	11 13.5	-59 37	5.73	-0.11	B1.5 V	
4389	98695	11 20.1	-72 00	6.40	+0.05	B4 V	*
4390	πCen	11 21.0	-54 30	3.88	-0.16	B5 Vn	
4401	99104	11 23.4	-64 57	5.10	-0.08	B5 V	
4403	99171	11 24.4	-42 40	6.11	-0.19	B2 IV-V	
4406	99264	11 24.2	-72 15	5.58	+0.06	B2 IV-V	
4415	99556	11 26.6	-61 07	5.26	-0.07	B3 IV	
4425	99872	11 28.3	-72 28	6.08	+0.16	B3 V	
4472	100929	11 36.4	-61 03	5.81	-0.09	B2.5 IV	
4537	102776	11 49.7	-63 47	4.31	-0.16	B3 V	
4549	103079	11 51.9	-65 12	4.89	-0.12	B4 V	
4573	103884	11 57.7	-62 27	5.56	-0.16	B3 V	
4603	104841	12 04.3	-63 10	4.72	-0.09	B2 V	
4618	105382	12 08.1	-50 39	4.46	-0.16	B2 IIIne	e_3
4621	δ Cen	12 08.4	-50 43	2.60	-0.11	B2 IVne	e_{2+}
4625	105521	12 08.9	-41 13	5.47	-0.08	B3 IV	
4638	ρ Cen	12 11.7	-52 22	3.96	-0.15	B3 V	
4648	106231	12 13.4	-38 55	5.75	-0.14	B4 IV	
4653	106343	12 14.3	-64 24	6.24	+0.10	B1.5 Ia	
4656	δ Cru	12 15.2	-58 45	2.82	-0.24	B2 IV	
4674	β Cha	12 18.3	-79 18	4.27	-0.12	B5 Vn	
4679	ζ Cru	12 18.4	-64 00	4.05	-0.18	B2.5 V	
4729	108250	12 26.5	-63 07	4.85	-0.13	B4 IV	
4730	α^1Cru	12 26.6	-63 06	0.81	-0.25	B0.5 IV	
4731	α^2Cru	12 26.6	-63 06			B1 V	
4732	108257	12 26.5	-51 27	4.81	-0.15	B3 Vn	
4743	σ Cen	12 28.1	-50 14	3.91	-0.20	B2 V	
4773	γ Mus	12 32.5	-72 08	3.86	-0.16	B5 V	
4798	α Mus	12 37.2	-69 08	2.71	-0.20	B2 IV-V	
4806	109867	12 38.9	-67 12	6.24	+0.06	B1 Ia	
4823	110335	12 41.9	-59 41	(5.02)		B6 IV	
4830	110432	12 42.8	-63 04	5.40	+0.26	B2?pe	*
4844	β Mus	12 46.3	-68 07	3.05	-0.18	B2 V	
4848	110956	12 46.4	-56 29	4.64	-0.17	B3 V	
4853	β Cru	12 47.7	-59 42	1.25	-0.24	B0.5 III	
4879	111774	12 51.9	-39 41	5.96	-0.10	B8 V	
4890	κ Cru	12 53.8	-60 23	5.93	+0.23	B5 Ia	
4897	λ Cru	12 54.7	-59 09	4.62	-0.16	B4 Vn	
4898	μ^1Cru	12 54.6	-57 11	4.03	-0.18	B2 IV-V	
4899	μ^2Cru	12 54.6	-57 11	5.18	-0.13	B5 Vne	e_{1+}
4908	112244	12 55.9	-56 51	5.41	+0.04	O9 Ib	
4930	113120	13 03.1	-71 28	6.02	+0.05	B1.5 IIIne	e_{2+}
4940	113703	13 06.3	-48 28	4.70	-0.14	B5 V	
4942	ξ^2Cen	$13^h06.^m9$	-49°54'	4.26	-0.19	B1.5 V	

TABLE 2 - Continued

Star		Position (2000)		V	B-V	MK	Notes
HR	Name or HD	α	δ				
4952	θ Mus	$13^h08.^m1$	-65°18'	5.53	-0.03	B0 Ia+WC5?	*
5026	115823	13 20.6	-52 45	5.48	-0.14	B6 V	
5027	115842	13 20.8	-55 49	6.01	+0.29	B0.5 Ia	
5030	115967	13 22.9	-72 08	6.04	+0.09	B6 V	
5034	116072	13 22.6	-60 58	6.16	+0.01	B2.5 Vn	
5035	116087	13 22.6	-60 59	4.52	-0.14	B3 V	
5036	116084	13 22.3	-52 11	(6.10)		B2.5 Ib	
5039	116226	13 23.1	-48 33	(6.46)		B6 IV	
5063	116862	13 27.4	-49 23	6.27	-0.14	B3 IV	
5132	ϵ Cen	13 39.9	-53 28	2.30	-0.24	B1 III	
5151	119159	13 42.9	-56 46	(6.30)		B0.5 III	*
5190	ν Cen	13 49.5	-41 41	3.41	-0.23	B2 IV	
5193	μ Cen	13 49.6	-42 29	3.26	-0.16	B2 IV-Ve	*
5206	120640	13 51.8	-46 54	5.75	-0.16	B2 Vp	*
5210	3 Cen	13 51.8	-33 00	4.31	-0.13	B5 III	
5217	120908	13 53.7	-53 23	5.92	+0.02	B5 III	
5221	4 Cen	13 53.2	-31 56	4.72	-0.15	B4 IV	
5223	120991	13 54.0	-47 08	(5.94)		B2 IIIe	*
5231	ζ Cen	13 55.5	-47 18	2.54	-0.23	B2.5 IV	
5248	ϕ Cen	13 58.3	-42 06	3.82	-0.22	B2 IV	
5249	υ^1 Cen	13 58.7	-44 48	3.86	-0.21	B2 IV-V	
5267	β Cen	14 03.8	-60 22	0.60	-0.22	B1 III	
5281	122879	14 06.4	-59 43	6.41	+0.11	B0 Ia	
5285	χ Cen	14 06.0	-41 11	4.35	-0.20	B2 V	
5292	123335	14 08.9	-59 17	6.33	+0.04	B5 IV	
5316	124367	14 15.0	-57 05	5.06	-0.09	B4 Vne	e_2
5320	124471	14 16.6	-66 35	5.74	-0.06	B1.5 III	
5336	ϵ Aps	14 22.4	-80 07	5.05	-0.11	B4 V	
5354	ι Lup	14 19.4	-46 04	3.55	-0.19	B2.5 IV	
5358	125288	14 20.3	-56 24	4.32	+0.11	B6 Ib	
5375	125721	14 22.7	-48 19	(6.26)		B1 III	
5378	125823	14 23.0	-39 30	4.41	-0.19	B7 IIIp	*
5395	τ^1 Lup	14 26.1	-45 13	4.55	-0.16	B2 IV	
5412	126981	14 30.1	-45 19	5.49	-0.08	B8 Vn	
5413	126983	14 30.3	-49 31	5.36	+0.05	A1 V	*
5425	σ Lup	14 32.6	-50 28	4.41	-0.20	B2 III	
5440	η Cen	14 35.5	-42 09	2.30	-0.20	B1.5 Vn	
5453	ρ Lup	14 37.9	-49 25	4.04	-0.15	B5 V	
5469	α Lup	14 41.9	-47 24	2.30	-0.21	B1.5 III	
5471	129116	14 42.0	-37 48	3.99	-0.18	B3 V	
5488	129557	14 45.2	-55 36	6.09	-0.07	B2 III	
5500	129954	14 48.7	-66 35	5.90	-0.07	B2.5 V	
5528	o Lup	14 51.7	-43 35	4.32	-0.16	B5 IV	
5539	ζ Cir	14 54.7	-66 00	6.08	-0.06	B3 Vn	
5543	131120	14 52.8	-37 48	(5.11)		B7 IIIp	*
5551	θ Cir	14 56.7	-62 46	(5.42)		B4 Vnp	*
5571	β Lup	14 58.5	-43 08	2.67	-0.22	B2 III	
5576	κ Cen	14 59.2	-42 06	3.12	-0.21	B2 IV	
5595	132955	15 03.0	-32 39	(5.45)		B3 V	
5605	π Lup	15 05.1	-47°03'	3.88	-0.15	B5 V	
5606	π Lup	$15^h05.^m1$	-47°03'			B5 IV	

TABLE 2 - Continued

Star		Position (2000)		V	B-V	MK	Notes
HR	Name or HD	α	δ				
5625	133937	$15^h08.^m7$	-42°52'	5.81	-0.11	B7 V	
5626	λ Lup	15 08.8	-45 17	4.04	-0.18	B3 V	
5651	134687	15 12.8	-44 30	4.81	-0.17	B3 IV	
5661	135160	15 16.6	-60 54	5.73	-0.09	B0.5 V	
5664	δ Cir	15 17.0	-60 57	5.08	-0.06	O8.5 V	
5668	135348	15 16.2	-43 29	(6.32)		B3 IV	
5680	135591	15 18.8	-60 30	(5.50)		O7 I	
5684	135737	15 20.7	-67 29	6.27	-0.10	B3 V	
5695	δ Lup	15 21.4	-40 39	3.21	-0.23	B1.5 IV	
5704	γ Cir	15 23.4	-59 20	4.50	-0 19	B5 IV	
5708	ϵ Lup	15 22.7	-44 42	3.36	-0.18	B2 IV-V	
5712	ϕ^2 Lup	15 23.2	-36 52	4.53	-0.16	B4 V	
5730	κ^1 Aps	15 31.5	-73 24	5.48	-0.13	B1 pne	*
5736	137432	15 27.3	-36 46	5.42	-0.15	B4 Vp	*
5776	γ Lup	15 35.2	-41 10	2.77	-0.22	B2 IV	
5781	138769	15 35.9	-44 57	4.54	-0.18	B3 IVp	*
5812	τ Lib	15 38.7	-29 47	3.65	-0.17	B2.5 V	
5839	ψ^2 Lup	15 42.7	-34 42	4.74	-0.15	B5 V	
5860	140784	15 46.7	-34 41	5.60	-0.12	B7 Vn	
5873	141318	15 51.1	-55 03	5.72	+0.04	B2 II	
5885	1 Sco	15 51.0	-25 45	4.63	-0.05	B1.5 Vn	
5904	2 Sco	15 53.6	-25 20	4.59	-0.08	B2.5 Vn	
5906	142165	15 53.9	-24 32	5.37	-0.02	B6 IVn	
5907	142184	15 53.9	-23 59	5.40	-0.04	B2.5 V	
5910	142250	15 54.5	-27 21	6.13	-0.07	B6 V	
5912	3 Sco	15 54.7	-25 15	5.87	-0.06	B8 IIIp	*
5928	ρ Sco	15 56.9	-29 13	3.88	-0.20	B2 IV-V	
5934	142883	15 57.7	-20 58	5.84	-0.02	B3 V	
5937	142919	15 59.9	-54 01	(6.38)		B5 IV	
5942	142990	15 58.6	-24 50	5.42	-0.09	B4 IVp	*
5944	π Sco	15 58.9	-26 07	2.89	-0.19	B1 V+B2	
5948	η Lup	16 00.1	-38 24	3.40	-0.23	B2.5 IV	
5953	δ Sco	16 00 3	-22 37	2.30	-0.11	B0.5 IV	
5967	143699	16 03.4	-38 36	4.88	-0.14	B6 IV	
5987	θ Lup	16 06.6	-36 48	4.20	-0.18	B2.5 Vn	
5993	ω^1 Sco	16 06.8	-20 40	3.96	-0.04	B1 V	
5998	144661	16 07.9	-24 27	6.32	-0.06	B7 IIIp	*
6028	13 Sco	16 12.3	-27 56	4.58	-0.16	B2 V	
6042	145792	16 13.8	-24 25	6.40	+0.04	B5 V	
6083	147152	16 22.5	-49 34	(5.49)		B6 IV	
6084	σ Sco	16 21.2	-25 35	2.89	+0.14	B1 III	
6112	ρ Oph A	16 25.6	-23 27	4.61	+0.23	B2 IV	
6113	ρ Oph B	16 25.6	-23 27			B2 V	
6115	ϵ Nor	16 27.2	-47 34	4.63	-0.07	B4 V	*
6131	148379	16 29.7	-46 14	5.38	+0.54	B1.5 Iap	*
6141	22 Sco	16 30.2	-25 07	4.78	-0.12	B2 V	
6142	148688	16 31.7	-41 49	5.32	+0.32	B1 Ia^+	
6143	148703	16 31.4	-34 42	4.22	-0.17	B2 III	
6155	μ Nor	$16^h34.^m1$	-44°03'	4.89	+0.08	B0 Ia	

TABLE 2 - Continued

Star		Position (2000)		V	B-V	MK	Notes
HR	Name or HD	α	δ				
6164	149404	$16^h36.^m4$	-42°51'	(5.58)		O9 Ia	*
6165	τ Sco	16 35.9	-29 13	2.82	-0.25	B0 V	
6172	η^1 Tra	16 41.4	-68 18	5.90	-0.08	B7 IV	
6174	149711	16 38.4	-43 24	(6.14)		B2.5 IV	
6187 br	150136	16 41.3	-48 46	5.62	+0.16	O5	
6187 ft	150135	16 41.3	-48 46	6.89	+0.17	O7 V	
6188	150168	16 41.7	-49 39	5.65	-0.03	B1 Ia	
6214	150742	16 44.7	-40 50	(5.68)		B3 V	
6215	150745	16 46.4	-58 30	(5.94)		B2 IV-V	
6219	150898	16 47.3	-58 20	5.55	-0.08	B0.5 Ia	
6245	151804	16 51.6	-41 14	5.47	+0.09	O8 Ifp	*
6247	μ^1 Sco	16 51.9	-38 03	3.09	-0.22	B1.5 IV	
6249	151932	16 52.3	-41 51	6.45	+0.31	WN7-A	*
6252	μ^2 Sco	16 52.3	-38 01	3.56	-0.22	B2 IV	
6260	152234	16 54.0	-41 48	6.09	+0.09	B0.5 Ia	
6261	152235	16 54.0	-42 00	6.30	+0.55	B1 Ia	
6262	ζ^1 Sco	16 54.0	-42 22	4.77	+0.48	B1.5 Ia^+p	*
6263	152249	16 54.2	-41 51	6.48	+0.15	O9 Ib	
6265	152270	16 54.3	-41 49	6.61	+0.30	WC7	*
6272	152408	16 55.0	-41 10	5.80	+0.18	O8 I^+fp	*
6274	152478	16 56.2	-50 41	6.32	-0.02	B3 Vnep	*
6283	152667	16 56.6	-40 50	6.12	+0.28	B0.5 Ia	
6304	153261	17 01.8	-58 57	6.10	-0.03	B2 IVne	*
6320	153716	17 04.4	-57 43	(5.88)		B5 IV	
6334	154090	17 04.8	-34 07	4.86	+0.27	B1 Ia	
6340	154204	17 04.8	-20 29	(6.17)		B6 IV	
6347	154368	17 06.5	-35 27	6.14	+0.48	O9 Ia	
6389	155450	17 13.0	-32 26	5.98	+0.07	B1 II	
6397	155806	17 15.3	-33 33	5.53	-0.01	O8 Ve	e_2
6422	156325	17 18.4	-32 34	6.37	+0.14	B5 Vn	
6440	156838	17 24.0	-62 52	(5.88)		B2 IV	
6450	157038	17 22.7	-37 48	6.40	+0.73	B3 Ia	
6451	ι Ara	17 23.3	-47 28	5.24	-0.12	B2 IIIne	e_2
6453	θ Oph	17 22.0	-25 00	3.28	-0.21	B2 IV	
6460	157243	17 24.2	-44 10	5.11	-0.06	B7 III	
6462	γ Ara	17 25.4	-56 23	3.33	-0.13	B1 Ib	
6508	υ Sco	17 30.8	-37 18	2.69	-0.22	B2 IV	
6510	α Ara	17 31.9	-49 53	2.94	-0.18	B2 Vne	e_2
6527	λ Sco	17 33.6	-37 06	1.61	-0.23	B1.5 IV	
6535	159176	17 34.7	-32 35	(5.71)		O7 V+O7 V	
6580	κ Sco	17 42.5	-39 02	2.40	-0.22	B1.5 III	
6621	161756	17 48.5	-26 58	(6.16)		B4 IV	
6622	161783	17 50.5	-53 37	(5.90)		B3 V+B4 V	*
6672	162978	17 54.9	-24 53	6.20	+0.04	O8 III	
6692	163685	17 58.7	-28 46	(5.95)		B3 IV	
6716	164402	18 01.9	-22 47	(5.73)		B0 Ib	
6727	164637	18 03.0	-22 43	6.73	-0.07	B0 II	
6736	9 Sgr	18 03.9	-24 22	5.97	+0.03	O5	
6743	θ Ara	18 06.6	-50 06	3.66	-0.08	B2 Ib	
6762	165516	$18^h07.^m2$	-21°26'	6.29	+0.12	B0.5 Ib	

TABLE 2 - Continued

Star		Position (2000)		V	B-V	MK	Notes
HR	Name or HD	α	δ				
6772	165793	$18^h09.^m4$	-36°40′	(6.58)		B1 II	
6788	166197	18 10.9	-33 48	6.15	-0.16	B1 V	
6804	166596	18 13.2	-41 21	5.46	-0.18	B2.5 III	
6819	167128	18 17.1	-56 01	(5.54)		B3 III ep	*
6822	15 Sgr	18 15.2	-20 43	5.38	+0.07	B0 Ia	
6823	16 Sgr	18 15.2	-20 23	5 98	+0.04	O9 II	
6833	RS Sgr	18 17.6	-34 06	(6.1)		B4 IV	
6839	167756	18 18.7	-42 18	(6.48)		B0.5 Ia	
6875	168905	18 24.3	-44 07	5.24	-0.20	B2.5 Vn	
6897	α Tel	18 27.0	-45 58	3.50	-0.18	B3 IV	
6929	170235	18 29.4	-25 15	6.57	+0.15	B2 IVp	*
6934	δ^1 Tel	18 31.8	-45 55	4.95	-0.12	B7 IV	
6938	δ^2 Tel	18 32.0	-45 46	(5.33)		B4 III	
6960	171034	18 34.0	-33 01	(5.38)		B2 IV-V	
7029	172910	18 44.3	-35 38	4.86	-0.18	B2.5 V	
7035	173117	18 44.8	-25 01	(5.76)	+0.06	B6 IV	
7074	λ Pav	18 52.2	-62 11	4.22	-0.14	B2 II-III	
7121	σ Sgr	18 55.3	-26 18	2.09	-0.21	B3 IV	
7257	178322	19 10.0	-41 53	5.87	-0.09	B5 V	
7316	180885	19 19.7	-35 25	(5.61)		B3 V	
7355	182180	19 24.5	-27 52	(5.94)		B2 Vn	
7527	186837	19 50.4	-61 04	(6.42)		B5 V	
7623	θ^1 Sgr	19 59.7	-35 17	4.35	-0.16	B2.5 IV	
7790	α Pav	20 25.6	-56 44	1.93	-0.20	B2.5 V	
7961	198174	20 49.3	-25 47	(5.78)	-0.07	B7 IIIp	*
8176	203532	21 33.9	-82 41	6.37	+0.13	B3 IV	
8408	209522	22 04.6	-26 49	5.92	-0.18	B4 IVn	
8425	α Gru	22 08.2	-46 58	1.73	-0.14	B7 IV	
8663	ξ Oct	22 50.4	-80 07	5.34	-0.16	B6 IV	*
9006	σ Phe	23 47.3	-50 14	5.16	-0.20	B3 V	
9049	224113	23 55.3	-31 56	6.10	-0.09	B6 V	
9076	ε Tuc	23 59.9	-65 35	4.49	-0.09	B9 IV	
9091	ζ Scl	$00^h02.^m3$	-29°44′	5.02	-0.14	B5 V	

NOTES TO TABLE 2

472: Lines are broad with sharp absorption cores.
1772: Lines are broad, but hydrogen lines have sharp absorption cores.
2364: Lines are broad, have washed out appearance, but Hγ and Hδ have sharp absorption cores.
2492: e_{2+}. No Fe emission.
2583: Classification from Hiltner and Schild (1966).
2614: Mg II is weak for the type.
2690: e_{2+}. No Fe emission.
2745: Hydrogen profiles are peculiar. Possibly composite.
2819: Lines are broad, but hydrogen lines have sharp absorption cores.
2855: e_1. Range of excitation present. Hydrogen lines have peculiar profiles.
2875: Si lines are abnormally strong.
2949: Photometry is for combined light with HD 61555.
3089: He I spectrum abnormally strong, as in σ Ori E.
3117: Si II lines are strong for helium type given. Mg II line is consistent with He I.
3129: Two spectra are separated. λ4650 is abnormally strong.

NOTES TO TABLE 2 - Concluded

3137: Si II lines are somewhat strong for helium type given. Mg II line is consistent with He I.
3147: e_{1+}. Range of excitation present. N II 3995 is abnormally strong.
3179: Mg II line is abnormally strong.
3195: Hydrogen lines through Hδ have sharp emission cores, but are all predominantly absorption lines. No Fe II emission is visible. The star is not associated with nebulosity.
3207: Classification from Hiltner and Schild (1966).
3219: λ4686 is somewhat strong for the type determined from other features.
3237: e_3. No Fe II emission.
3239: Two spectra are visible, but not separated well enough for individual types.
3373: He I lines are asymmetrical on one plate, indicating a possible companion. λ4481 is weak on another plate.
3467: Mg II and Si II are somewhat strong for the helium type given.
3498: e_1. λ4009 appears to be double.
3886: The hydrogen lines are somewhat strong for this type.
4199: This spectrum is very difficult to classify in a two dimensional system. 4089 and 3995 are abnormally strong for the type and luminosity class and 4121 is abnormally weak for the luminosity class. The rest of the helium spectrum is quite strong.
4219: Two spectra visible.
4389: λ4481 is somewhat weak.
4830: e_4. Absorption spectrum is only faintly visible.
4952: Strong C III 4650 emission is the only trace of a WR spectrum in the blue violet region.
5151: λ3995 is abnormally strong.
5193: e_3. No Fe II emission.
5206: He I lines are unusually strong, as in σ Ori E.
5223: e_3. No Fe II emission.
5378: Appearance of spectrum is similar to 3 Sco and HD 144334 discussed by Garrison (1967). C II 4267 is very strong for the helium type given.
5413: λ4471 may be marginally present, but higher dispersion is needed to confirm it.
5543: Appearance of spectrum is similar to 3 Sco and HD 144334 discussed by Garrison (1967). λ4267 is present and λ4026 is strong and sharp.
5551: Lines appear washed out, but emission is not present at Hβ.
5730: e_2. Some lines of O II are unusually strong. Hδ and Hβ have asymmetrical cores in absorption and emission respectively.
5736: Hδ has a sharp absorption core and the rest of the spectrum has a peculiar appearance.
5781: λλ 4267, 4121, 4144, and 4481 are sharp, while other lines are not. Hydrogen lines have sharp absorption cores.
5912: The peculiarities of this star have been described by Garrison (1967). λ4267 and other anomalous lines are faintly present.
5942: λ4267 and λ4121 are sharp while other lines are not.
5998: Fe II is present in absorption.
6115: Two spectra are visible, but not well separated at this dispersion.
6131: λ4089 and λ4481 are inconsistent with one another and with the type.
6164: λ4650 is partly filled in by emission.
6245: Hydrogen lines have P Cygni profiles.
6249: Classification from Hiltner and Schild (1966).
6262: Hβ has a P Cygni profile.
6265: Classification from Hiltner and Schild (1966).
6272: Many lines of H, He and other elements appear in emission and some have P Cygni profiles.
6274: e_1. Hβ appears in emission but the other hydrogen lines have sharp, asymmetrical absorption cores.
6304: e_{2+}. No Fe II emission.
6622: Two spectra are clearly separated on this spectrogram.
6819: e_1. Hydrogen lines and some helium lines have sharp absorption cores.
6929: He I lines longward from Hβ have P Cygni profiles.
7961: Hydrogen lines have peculiar profiles and metallic lines are faintly visible.
8663: Hydrogen lines have unusually sharp cores similar to, but not as extreme as, those in 3 Sco and HD 144334.

TABLE 3

ASSOCIATED BRIGHT SOUTHERN AB STARS OBSERVED

Star		Position (2000)		V	B-V	MK	Notes
HR	Name or HD	α	δ				
1956	α Col	$05^h39.^m7$	-34°05′	2.63	-0.13	B7 IV	
2907	60559	07 33.2	-40 03	6.25	-0.13	B8 p(Si, 4200)	
2948	61555	07 38.8	-26 48	(4.50)	-0.19	B6 V	
2986	62376	07 42.0	-38 32	(6.24)		B7 V	
2996	3 Pup	07 43.8	-28 57	3.96	+0.18	A2 Iab	
3011	62893	07 44.6	-37 56	5.88	-0.13	B7 V	
3241	69082	08 14.0	-36 20	6.10	-0.19	B2 IV-V	
3435	73952	08 38.8	-53 05	6.46	-0.10	B8 Vn	
3448	74196	08 40.3	-53 01	5.58	-0.14	B7 Vn	
4185	92664	10 40.2	-65 06	5.51	-0.17	B9 p (Si)	*
4220	93549	10 46.5	-64 16	5.23	-0.08	B7 IV	
4250	94367	10 52.5	-57 15	5.09	+0.15	B9 Ia	
4338	96919	11 08.6	-61 56	5.15	+0.22	B9 Ia	
4438	100198	11 31.3	-61 17	(6.36)		A3 Iae	e_1
4442	o^2Cen	11 31.8	-59 31	5.16	+0.48	A3 Ia	
4541	102878	11 50.5	-62 39	5.69	+0.26	A3 Iab	
4551	103101	11 52.2	-56 59	5.56	+0.07	B4 III	
4563	103516	11 55.0	-63 16	5.90	+0.20	A3 Ib	
4578	104035	11 58.8	-64 20	5.60	+0.18	A3 Ib	
4644	106068	12 12.4	-62 57	5.92	+0.29	B9 Ia	
4706	107696	12 22.8	-57 40	5.38	-0.10	B9 V	
4876	111613	12 51.3	-60 20	5.73	+0.37	A2 Iab	
4887	111904	12 53.4	-60 20	5.76	+0.32	B9 Ia	
5379	125835	14 25.1	-68 11	5.60	+0.49	A3 Ib	
6289	152824	16 58.3	-50 39	(5.70)		B9 IV	
6812	μ Sgr	$18^h13.^m8$	-21 03	3.85	+0.23	B9 Ia	
9050	224112	$23^h55.^m3$	-31°54′	6.82	-0.09	B8 V	

NOTE TO TABLE 3

4185: Hydrogen lines indicate III or IV at B9.

Emission-line stars have been classified on the system proposed by Lesh (1968). These classifications are listed in the notes since the emission spectra of Be stars are variable and the classifications refer to only one spectrogram. In some cases, the Fe II emission lines are weaker at the type indicated by the H emission lines than the descriptions by Lesh would suggest; in all such cases, the emission-line classification was based on the appearance of the hydrogen spectrum and a comment has been made about the weakness of the Fe II emission. A few stars were found to have very sharp hydrogen emission which extends quite far down the Balmer series without becoming dominant at Hβ, but no nebulosity is apparent on the *Palomar Sky Survey*. These are indicated in the notes to Table 2.

In a few cases, luminosity classes have been used for O7–O8 stars in which luminosity-sensitive criteria indicate very definite differences between stars of the same spectral subclass.

IV. DESCRIPTION OF TABLES

Tables 2 and 3 contain the new spectral classifications for the Southern O and B stars. Stars of spectral type earlier than B8 south of $\delta = -20°$ in the *Catalogue of Bright Stars* (Hoffleit 1964) are listed in Table 2. Table 3 contains some late B and early A supergiants associated with OB stars as well as a few stars of lower luminosity.

Tables 2 and 3 have the same format. The columns should be self-explanatory. The V magnitudes and $B - V$ colors are the averages from the catalogue by Blanco and FitzGerald (1965) and are given for identification purposes only. For stars not included in this catalogue, visual magnitudes from the *Catalogue of Bright Stars* have been entered and enclosed in parentheses. The last column contains the emission type on the system of Lesh (1968) for the Be stars. An asterisk in the last column indicates a note at the end of the table.

V. DISCUSSION

During the course of this survey, many very interesting and some unique stars have been found, and the notes contain very brief discussions of these. For authors as well as readers, the purpose of tables like these is to stimulate further research on peculiar objects as well as to provide a uniform classification of bright OB stars which can be used in research on galactic structure problems.

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