

UBV PHOTOMETRY OF SOME SOUTHERN STARS (Second list)

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The present list of stars is in continuation of that published in MNASSA, 31, 75 (1972) and gives three-colour photometry for 105 stars. This completes the photometry of the early type stars requested by the Radcliffe Observer and of nearly all the brighter stars taken from the 40-inch reflector programme. The observing list has now been augmented by adding stars from the "Catalogue of Stars within 25 Parsecs of the Sun" (R. Obs. Annals, 5) and "The Delta Scuti Stars" (Seeds and Yanchak, 1972) that are south of the equator and for which the UBV photometry was incomplete. Observations made with the 40-inch reflector have been combined with the new observations, using the same weights as previously.

In order to complete as much as possible of the programme in the time available the equal air mass condition was relaxed and a colour term, $0.030(B-V)$ ($\sec z - 1.3$), was added when computing the B-V extinction. On nights when the transparency was poor the extinction coefficients were appropriately adjusted. With less windy weather during the winter months it was often possible to use a 40" diaphragm. Double stars closer than 20" were measured together.

Table I is a list of the stars that have now been completed and is in the same form as the previous list. 42 stars, marked P in the table, had previously been observed with refractors only and were re-observed to measure U-B. A few stars were re-observed for other reasons. New measures of six stars marked P₂ agree well with published results from the 40-inch reflector programme (Corben et al, 1972).

Table II gives cross references for stars in Gliese's catalogue and the Hermonceaux extension (R. Obs. Annals, 5).

Table III gives the stars noted as variable. HD 208496 was observed at the request of Mr. J. Churms who had previously found evidence of variability.

Acknowledgements

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TABLE I

HD	R.A. 1950			Dec	Sp Type	V	B-V	U-B	Remarks
	h	m	°						
120452	13	47.2	-17 53	K1 III	4.96	+1.05	+0.92	P, P1	
125241	14	16.5	-60 40	O9 I	8.26	+0.51	-0.56		
129926	14	43.1	-25 14	F0 III + G3	4.94	+0.34	+0.07	P, P2	
138344	15	29.3	-23 43	M5: III	(6.88)	+1.61	+1.48		Var
142413	15	53.2	-54 13	A2	9.22	+0.35	+0.28		
142468	15	53.5	-54 11	B0.5 I	(7 90)	+0.60	-0.46		Var
142634	15	54.4	-54 12	B0 (II)p	(8.69)	+0.67	-0.42		Var
152574	16	52.2	-32 25	F5	7.17	+0.57	+0.32	P	
152623	16	52.8	-40 35	O7.5 V	6.69	+0.12	-0.83		
152901	16	54.4	-37 55	B2.5 Vn	(Var)	+0.13	-0.55		Var
153072	16	55.5	-37 33	A3 V	6.06	+0.18	+0.09	P	
153106	16	56.0	-46 23	B0.5 V	7.75	0.00	-0.76		
153140	16	56.2	-46 14	B3	(7.5)	+0.39	-0.53		Var
153766	16	59.5	-36 46	B1 IV:	7.94	+0.12	-0.67		
153919	17	00.5	-37 46	O7f	(6.54)	+0.27	-0.72		
154643	17	04.9	-34 56	O9.5 V	7.14	+0.28	-0.69		
154811	17	06.2	-46 58	O9.5 Ib	6.91	+0.41	-0.61	P2	
155826	17	12.2	-38 32	G3 IV	5.95	+0.57	+0.09	P	
155889	17	12.6	-33 41	O9 V	6.55	0.00	-0.88		
155896	17	12.8	-42 17	B7 Ve	6.74	+0.14	-0.57	P*	
155974	17	13.0	-35 41	F8	6.10	+0.47	-0.03	P	
156026	17	13.2	-26 29	K5 V	6.31	+1.15	+1.08	P	
156004	17	13.2	-32 18	B4: III	7.81	+0.03	-0.83		
156070	17	14.1	-49 24	B2 III	7.53	-0.01	-0.59		
156212	17	14.3	-27 43	O9.5 III	7.91	+0.53	-0.56		
156236	17	15.0	-46 45	F2	7.21	+0.62	+0.54	P*	
156292	17	15.1	-42 51	B0 V	7.51	+0.28	-0.67		
156575	17	16.9	-46 00	B1.5 III	7.35	+0.22	-0.65		
157832	17	24.2	-46 59	B5 Vnne	(6.66)	+0.02	-0.87	P*	
158078	17	25.6	-46 39	B5 V	7.62	-0.07	-0.53		
158111	17	26.4	-54 13	B6 III	7.78	-0.02	-0.44		
158859	17	29.8	-33 01	B5 V	7.26	+0.17	-0.59		
159090	17	30.8	-30 23	B0 III	7.39	+0.16	-0.78	P2	
159809	17	35.3	-45 44	K1 IV	7.44	+1.00	+0.86	P	
160043	17	35.9	-28 23	F6 V	7.68	+0.44	-0.06	P	
160124	17	36.4	-32 18	B5 V	(7.16)	+0.01	(-0.47)		Var
161623	17	44.1	-01 12	G0	8.85	+0.66	+0.18		
161612	17	44.6	-34 00	G8 V	7.19	+0.71	+0.32	P	
161756	17	45.3	-26 58	B4 IV	(Var)	+0.14	-0.45	P	
162756	17	50.3	-07 54	G0 IV-V	7.65	+0.61	+0.09		
163230	17	53.2	-30 11	K5	7.31	+1.60	+1.98:		
163685	17	55.5	-28 45	B3 IV	6.00	-0.08	-0.58	P	

TABLE I

HD	R.A. 1950		Dec	Sp Type	V	B-V	U-B	Remarks
	h	m						
163799	17	56.0	-22 23	G0	8.80	+0.54	-0.07	
163758	17	56.1	-36 01	O8f	7.31	+0.04	-0.88	
163868	17	56.6	-33 24	B5 Ve	7.37	0.00	-0.69	
164455	17	59.4	-33 53	B2.5 III	7.42	-0.08	-0.65	
165271	18	03.7	-46 54	G5 IV	7.64	+0.65	+0.19	P
165696	18	05.7	-45 57	F8 V	7.34	+0.50	+0.03	P
165793	18	06.0	-36 41	B1.5 Ib	6.57	-0.02	-0.86	P
165753	18	06.1	-44 57	K0 IV	7.04	+1.08	+0.94	P
165921	18	06.2	-24 00	O7.5nn (V)	Var	+0.16	-0.80	Var
166107	18	07.1	-23 47	B5 V	7.96	+0.08	-0.75	
167233	18	12.5	-36 35	B3	7.00	-0.11	-0.60	
168871	18	20.7	-49 41	F8	6.46	+0.58	+0.05	P
169383	18	23.2	-51 55	G0	7.97	+0.60	+0.03	
170418	18	28.0	-43 24	G5	8.43	+0.67	+0.22	
170820	18	29.3	-19 10	G6 II	7.38	+1.56	+1.30	
170978	18	30.2	-24 09	B3 IV:	6.82	+0.04	-0.48	
171237	18	31.5	-24 16	cF3	6.51	+0.54	+0.43	P*
175518	18	53.2	-05 48	K0 IV-V	7.46	+0.76	+0.42	
175754	18	54.7	-19 13	O9f	7.02	-0.08	-0.98	
175674	18	55.1	-48 34	K5p	6.64	+1.30	+1.37	
175856	18	55.8	-44 12	F6 V	8.61	+0.50	-0.05	P
176886	19	00.2	-20 48	F5	8.49	+0.53	+0.10	
177565	19	03.5	-37 53	G5 IV	6.15	+0.70	+0.27	P
179140	19	10.5	-58 05	G2 V	7.24	+0.63	+0.17	P
179949	19	12.5	-24 16	F8	6.24	+0.54	+0.07	P
181321	19	18.2	-35 05	G5 V	6.49	+0.62	+0.09	P
182040	19	20.4	-10 48	R0(CL ₂)	(7.0)	+1.07	(+0.63)	Var
183133	19	25.7	-15 12	B5: V	6.78	-0.02	-0.57	
183275	19	26.8	-27 05	K3 III	5.46	+1.10	+1.08	P
184279	19	31.1	+03 39	B0.5 IV	7.17	+0.06	-0.61	
185454	19	38.3	-59 08	G5 V	7.48	+0.71	+0.27	P
190283	20	02.0	-21 27	G5	7.12	+1.03	+0.66	
191069	20	05.7	-15 52	G0	8.12	+0.67	+0.18	
192740	20	15.0	-51 40	F2	7.68	+0.42	-0.02	
194433	20	23.6	-37 34	K2 IV-V	6.24	+0.96	+0.77	P
194598	20	23.8	+09 19	F6 V	8.34	+0.49	-0.16	
194960	20	26.2	-18 02	K1 III	6.56	+1.07	+0.86	
196378	20	35.9	-60 43	F8 V	5.12	+0.53	-0.01	P, P2
196531	20	36.0	-28 36	F8 V	7.96	+0.53	-0.01	P
196800	20	37.4	-24 18	G0	7.22	+0.60	+0.14	
197416	20	42.6	-60 28	F5 V	8.18	+0.48	-0.03	P
197937	20	45.1	-44 10	F1 V	5.11	+0.35	+0.04	P, P2

TABLE I

HD	R.A. 1950		Dec	Sp Type	V	B-V	U-B	Remarks
	h	m						
198828	20	51.4	-46 47	F8 V	7.41	+0.52	+0.05	P
199289	20	54.7	-48 24	F8	8.29	+0.52	-0.13	
200011	20	58.9	-43 12	G3 IV	6.64	+0.66	+0.17	P
200026	20	59.0	-43 12	K0 IV	6.90	+0.95	+0.72	P
200580	21	01.6	+02 48	F8 V	7.31	+0.54	-0.03	
202457	21	14.8	-61 33	G5 V	6.59	+0.68	+0.25	P
202940	21	16.9	-26 33	G5 V	6.56	+0.73	+0.22	P
203985	21	23.7	-45 02	K0 V	7.47	-0.90	-0.70	P
204960	21	30.2	-45 04	K0 III	5.57	-1.04	+0.85	P
205390	21	33.3	-51 04	K2 V	7.14	+0.88	+0.57	P
206948	21	43.7	-46 37	K3 III	7.55	-1.15	+1.16	P
207129	21	45.0	-47 32	G2 V	5.57	-0.60	-0.08	P
207700	21	50.2	-73 40	G0	7.42	-0.69	+0.25	
208149	21	52.7	-58 08	Am?	6.18	-0.21	+0.13	P
208496	21	55.0	-59 15	F5	(6.13)	+0.47	-0.04	P
209875	22	04.0	+01 37	dF8	7.24	+0.52	+0.01	
212698/7	22	23.9	-17 00	dG2,dG1	5.57	+0.62	+0.08	P
214615	22	36.9	-12 52	dK0,dK0	7.75	+0.78	+0.37	
215696	22	44.7	-16 25	G0	7.34	+0.68	+0.20	
217792	23	00.7	-35 01	F0 IV	5.12	+0.29	0.00	P, P2
217987	23	02.6	-36 08	M2 V	7.34	+1.50	+1.18	P

NOTES

- 155896 = E 7, Q 81. is known to be variable. In 1958 it varied from 6.82 to 6.72 (V) with $\overline{B-V} = +0.12$. The new observations show no variation.
- 156236 = E 7, Q 23. Remeasured because earlier measures of U-B were suspect.
- 157832 = E 7, Q 85. Previously suspected as variable and now confirmed.
- 171237 = Suspected Delta Scuti star. Did not vary by more than 0.01.

TABLE II

Stars included in Royal Observatory Annals, Vol. 5.

HD	ROA 5	HD	ROA 5	HD	ROA 5
120452	9460	181321	755	202940	9734 AB
129926	9494 AB	183275	9657 AB	203985	828
155826	662 AB	185454	9664 AB	205390	833
156026	664	194433	9695 AB	207129	838
161612	9604	196378	9701	212698/7	859 AB
177565	744	197937	9708	214615	9792 AB
179949	749	202457	9729	217792	9807
				217987	887

TABLE III

Variable Stars

HD	Observed Range (V)		No. of nights	Remarks
138344	6.83	6.93	5	
142468	7.85	7.93	7	
142634	8.64	8.78	7	
152901	7.34	7.66	8	
153140	7.48	7.60	11	
153919	6.52	6.57	10	
157832	6.64	6.70	8	See note (Table I)
160124	7.14	7.19	10	U-B varies from -0.49 to -0.44
161756	6.27	6.39	7	
165921	7.29	7.45	8	
182040	6.97	7.04	8	U-B varies from +0.60 to +0.64
208496	6.11	6.31	19	Probably type EB

of the reductions and Dr. A. D. Thackeray for providing revised spectral types for early type stars.

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References

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