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On the colours of some stars of spectral class between *Oe*₅ and *A*₃,
by *Ejnar Hertzsprung*.

It is of special interest to see, whether the list given in *B. A. N.* 35, 204 of 11 stars yellower than normal for their spectral class can be extended to fainter objects. For this purpose the OSTHOFF stars showing an O_c value higher by .7 or more than that corresponding to their spectral class were looked up for stars with a spectrum between *B* and *F*. For these stars c_2/T values were also derived from the photographic Draper magnitudes in connection with the visual ones of Harvard as described in *Leiden Ann.* 14, Part I,

p. 11 sub *D, H* and from the colour estimates of the Potsdam Durchmusterung. As the relative weights of these different colour determinations are but little known for the fainter stars here considered, the simple mean of all three values was taken. The stars, for which this mean value of c_2/T was .5 or more greater than normal for the spectrum are contained in the first part of Table 1. The second part contains the stars for which c_2/T was in the same way found between .4 and .5 too large.

TABLE 1.

<i>H.R.</i>	Boss		α (1900)	δ (1900)	m_H	<i>Sp.</i>	$\frac{c_2}{T}$	<i>b</i>	$\frac{v_0}{\sin \lambda}$	$\sin^2 \lambda$
146	119	— <i>Cs</i>	0 30 ^h 8 ^m	+ 59 47 ^o	5 ^m 76	<i>A</i> ₃	2.40	— 2 ^o	.00	.86
189	149	— <i>Cs</i>	38.9	47 19	5 ^m 55	<i>B</i> ₃	2.18	— 15	— .35	.92
290	223	39 <i>Ad</i>	57.3	40 48	5 ^m 86	<i>A</i> ₂	2.39	— 21	— .20	.97
589	457	53 <i>Cs</i>	1 55.6	63 54	5 ^m 62	<i>B</i> ₅ <i>p</i>	2.29	+ 3	+ .06	.92
618	478	— <i>Cs</i>	2 1.7	57 57	5 ^m 90	<i>A</i> ₂	2.42	— 3	— .14	.96
685	534	9, <i>i</i> <i>Pe</i>	15.4	55 23	5 ^m 22	<i>A</i> ₂	2.37	— 5	+ .04	.98
696	544	10 <i>Pe</i>	18.2	56 9	6 ^m 24	<i>B</i> ₂	2.11	— 3	— .20	.98
964	724	— <i>Pe</i>	3 8.1	56 46	5 ^m 92	<i>A</i> ₀ <i>p</i>	2.86	0	— .05	.99
987	742	29 <i>Pe</i>	11.5	49 51	5 ^m 30	<i>B</i> ₃	1.95	— 5	+ .51	1.00
989	744	31 <i>Pe</i>	12.0	49 44	5 ^m 08	<i>B</i> ₃	1.96	— 5	+ .42	1.00
1660	1215	105 <i>Ta</i>	5 1.9	21 34	5 ^m 95	<i>B</i> ₃ <i>p</i>	2.16	— 10	+ .32	.67
1670	—	— <i>Ta</i>	3.5	27 55	5 ^m 97	<i>A</i> ₃	2.61	— 6	—	
1712	1249	— <i>Ag</i>	9.7	34 12	5 ^m 81	<i>B</i> ₀ <i>p</i>	2.05	— 1	— .43	.83
1804	1310	— <i>Ag</i>	20.7	30 7	5 ^m 72	<i>B</i> ₉	2.27	— 2	+ .30	.78
1914	1378	26 <i>Ag</i>	32.2	30 26	5 ^m 49	<i>A</i> ₂	2.66	+ 1	+ .12	.76
2173	1534	3 <i>Ge</i>	6 3.7	23 8	5 ^m 76	<i>B</i> ₁	1.90	+ 3	+ .23	.65
5887	4022	— <i>Dr</i>	15 45.2	55 41	5 ^m 79	<i>A</i> ₂	2.43	+ 46	— .18	.31
7678	5150	— <i>Cy</i>	20 0.7	31 56	5 ^m 69	<i>B</i> ₀	3.10	— 1	.00	.19
8209	5512	69 <i>Cy</i>	21 21.7	36 14	5 ^m 84	<i>B</i> ₀	1.97	— 10	+ .07	.45
8406	5667	14 <i>Cf</i>	58.7	57 31	5 ^m 50	<i>B</i> ₀	2.09	+ 2	— .10	.57
8690	5890	14 <i>La</i>	22 45.6	41 25	5 ^m 84	<i>B</i> ₅	2.12	— 16	+ .18	.70
9005	—	— <i>Cf</i>	23 41.8	66 14	5 ^m 94	<i>B</i> ₃	1.97	+ 5	—	
9100	6180	9 <i>Cs</i>	59.1	61 44	6 ^m 00	<i>A</i> ₀	2.27	0	— .12	.79
1528	—	— <i>Ag</i>	4 42.8	32 25	5 ^m 94	<i>A</i> ₃	2.36	— 7	—	
1622	1195	11 <i>Cd</i>	57.4	58 50	5 ^m 31	<i>B</i> ₃ <i>p</i>	1.89	+ 12	+ .06	1.00
1924	—	— <i>Ag</i>	5 33.0	29 10	6 ^m 00	<i>B</i> ₅	1.97	0	—	
7081	—	— <i>Ly</i>	18 44.2	31 39	5 ^m 78	<i>B</i> ₃	1.93	+ 14	—	
7903	—	— <i>Vp</i>	20 34.7	21 28	5 ^m 94	<i>A</i> ₀	2.15	— 13	—	
8822	5969	2 <i>Cs</i>	23 5.5	58 47	5 ^m 63	<i>A</i> ₃	2.29	— 1	— .10	.70
9011	—	— <i>Ad</i>	42.6	46 17	5 ^m 84	<i>B</i> ₃	1.90	— 15	—	

Among the 30 stars of Table 1 there are 12 with spectra *A*₀, *A*₂ and *A*₃. The fact, that of these 12 stars only one has a galactic latitude *b* of more than 30° is a sign, that the selection has been successful and that we have here to deal with stars, the majority of which will prove to belong to the *c* division of ANTONIA C. MAURY. This view is still strengthened by an examination of the proper motions, which, as far as the stars are found in BOSS' *PGC*, are all very small. The median parallactic motion reduced to zero magnitude*) is for the 23 Boss stars of Table 1 found to be inappreciable, viz: +".02 ± ".05 (m. e.) annually.

The star with the most striking colour is *H. R.* 7678 = Boss 5150. Its spectrum *B*₀ has been taken

from the Index Catalogue, *Spec. Astr. Vat.* 9. In *H. R.* this spectrum is given as *G*.

The two stars 29 and 31 Persei belong to EDDINGTON's moving**) cluster in Perseus.

Another interesting question is, which individual stars are the whitest found. After the revelation of

*) This reduction is easily done with a common slide rule, where the upper scales run from 1 to 100 and the scale of logarithms from 0 to 1. When the upper scales are used for v and $\sin \lambda$, an interval of .1 on the scale of logarithms very conveniently corresponds to one magnitude difference in the apparent brightness of the star considered.

**) It is probably more correct to say „stationary” cluster, as the apparent motion is likely to be merely reflected motion of our sun.