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SPORADIC PHOTOMETRY OF PLEIONE

Pleione (HR 1180, BU Tau) is a renowned B8 V star in the Pleiades that over the past century has variously been an ordinary B-star, a Be star, and a shell star. A shell episode that began in 1972 was still continuing in 1987 (Goraya et al.1987), and at that time Dr Robert Garrison suggested to me that it would be useful to monitor the star photometrically. I report here Strömgren photometry obtained at this observatory in early 1987 and early 1988. It was obtained differentially with respect to HR 1144 (18 Tau), another B8 V Pleiad that is a Strömgren standard. Differential measures were added to the Strömgren indices listed for the standard in *The Astronomical Almanac* to produce the values in Table 1.

Table 1
Photometry of Pleione

HJD - 2440000	V	b-y	m1	c1	β
6822.541	5.110	-0.033	0.121	0.815	2.605
6837.560	5.089	-0.033	0.113	0.857	2.613
6846.559	5.088	-0.033	0.126	0.884	2.602
6871.587	5.095	-0.030	0.112	0.935	2.597
7225.560	5.089	-0.013	-	-	-
7231.536	5.079	-0.025	0.111	0.714	2.595
7243.543	5.091	-0.012	-	-	-
Means:	5.092	-0.026	0.117	0.841	2.602

There seems evidence for real variability in the c1 index, but not much elsewhere. However, the β index clearly reflects the presence of emission partially filling the line; Pleione, from its membership in the Pleiades, has $M_v = +0.6$, and from the M_v - β relation of Balona and Shobbrook (1984) one would expect $\beta \approx 2.83$. The other indices, including c1, are about normal for the spectral type, however.

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References:

- Balona, L.A., and Shobbrook, R.R., 1984, *M.N.R.A.S.* 211, 375.
Goraya, P.S., Tur, N.S., and Rautela, B.S., 1987, *I.B.V.S.* No. 3052.