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PHOTOMETRY OF POSSIBLE ULTRASHORT PERIOD  
CEPHEIDS IN THE DISK POPULATIONS

During the course of other programs with the 40-inch reflector several bright candidates for ultrashort period cepheids have been monitored, mainly during bright moonlight. The results for several new variables have been published from time to time and the present note contains the remainder observed thus far. Four new variables are listed in Table 1 and the light curves are shown in the figures. A dozen, probably constant stars are listed in Table 2 together with the length of time (continuous) that the star was monitored, the comparison star used, the mean magnitude difference and the rms deviation from that mean.

The columns of Table 1 contain the following information:

- I. HR/HD (name)
- II.  $V_B/B-V/U-B$  based on single observations with the 40-inch reflector.
- III.  $[m_1]/[c_1]/\beta$  derived from photometry with the 40- and 16-inch reflectors.
- IV.  $\Delta[m_1]/\Delta[c_1]/M_V$  (Eggen 1971).
- V.  $\mu_\alpha/\mu_\delta/\rho$ . The proper motions (0"001) are on the FK system with precessional corrections and  $\rho$  is in km/sec.
- VI.  $U/V/W$ . Space motion vectors (km/sec).

Mount Stromlo and Siding Spring  
Observatory

O.J. EGGEN

References:

- Eggen, O.J. 1967, The Magnetic and Related Stars (Ld.R.Cameron).  
Eggen, O.J. 1969, Ap.J. 155, 701.  
Eggen, O.J. 1971, Pub. A.S.P., 83. 741.

Table 1

## NEW VARIABLES

I	II	III	IV	V	VI
1505	6.83	280	- 64	+36	+25
55 Eri	+0.38	697	+107	-29	-37
	+0.18	2.727	(+1.6)	+40.0	-13
3350	5.10	218	+ 4	-68	+17
71935	+0.26	894	+205	+22	-22
	+0.14	2.766	+1.2	+24.7	-16
4746	6.23	226	- 7	-92	+50
108506	+0.445	703	+286	-11	-29
	+0.075	2.673	+0.6	-12:	-19
8102	6.48	202	+ 20	+38	+40
201707	+0.31	875	+190	+ 3	-16.5
	+0.15	2.765	+1.2	-39.2	+10

- 1505 ADS 3409, 10". The observations were made under excellent seeing conditions and the secondary component, G8 III, was used as a comparison star. More observations are needed but the star is almost certainly variable. The adopted luminosity is from a previous discussion (Eggen 1969) where the system was found to have the same space motion as the variable  $\rho$  Puppis (HR3185).
- 3350 The period appears to be near 0<sup>d</sup>.07.
- 4746 The period may be near 0<sup>d</sup>.05. Previously (Eggen 1967) suspected to be a member of the Hyades Group (which it is not) and a short period variable. The radial velocity is variable.
- 8102 Additional observations are needed to confirm the variation. Probably a member of the Hyades Group despite the relatively large value of  $\Delta[m_1]$ .

Table 2

## PROBABLY CONSTANT STARS

HR/HD	T HRS	$C_p^*$	$\Delta V$	RMS
550	2.0	593	0.100	0.002
981	3.0	1025	0.050	0.002
HD 22413	1.5	22582	0.088	0.003
HD 43760	3.0	43393	0.015	0.003
2661*	3.0	2674	0.534	0.005
3140	3.0	3154	0.668	0.002
4042	1.5	4068	0.977	0.001
5348	3.0	5337	0.029	0.002
6366	4.5	6389	0.055	0.002
7101	4.5	7143	0.108	0.002
133604*	3.5	HR5614	0.562	0.008
137949	2.5	HR5750	0.870	0.003

\* 2661 Var ?  
133604 Var ?



