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NEW ELEMENTS FOR V651 Her AND V1058 Oph

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V651 Her

The variability of V651 Her (=S9618 = GSC 962.0663) was announced by Hoffmeister (DCEP: $13\overset{m}{.}0 - 14\overset{m}{.}0$) and first elements were derived from Berdnikov et al. (1995):

$$\text{Min. I} = \text{HJD } 2449827.9 + 3\overset{d}{.}1745 \times E.$$

Recent estimations, made on 244 photographic plates taken with the Sonneberg Observatory 40cm Astrograph, have yield 8 new times of primary minima (see Table 1). A least-squares solution including the times of the three deepest measurements from Berdnikov et al. (1995) yields the following linear ephemeris:

$$\text{Min. I} = \text{HJD } 2444373.417 + 3\overset{d}{.}174878 \times E.$$
$$\pm 0.025 \pm 0.000017$$

With respect to the magnitudes given in Table 3, the photographic amplitude of V651 Her was determined to $12\overset{m}{.}6 - 13\overset{m}{.}9$ (Min. II: $12\overset{m}{.}9$); GCVS type E.

Table 1. Minima of V651 Her according to the ephemeris derived in this paper

Nr	HJD	Method*	Epoch	$O-C$	Observer
1	37112.450	P	−2287.0	−0.020	Häussler
2	38528.508	P	−1841.0	+0.041	Häussler
3	39293.497	P	−1600.0	−0.115	Häussler
4	44370.400	P	−1.0	+0.158	Häussler
5	44373.426	P	0.0	+0.009	Häussler
6	44427.411	P	17.0	+0.021	Häussler
7	49132.497	P	1499.0	−0.062	Häussler
8	49475.493	P	1607.0	+0.047	Häussler
9	49634.1239	E	1657.0	−0.0665	Berdnikov
10	49808.8747	E	1712.0	+0.0660	Berdnikov
11	49827.7782	E	1718.0	−0.0797	Berdnikov

* P denotes photographic plate minima and E photoelectric observations

V1058 Oph

The variability of V1058 Oph (=S9625) was announced by Hoffmeister (EA, $15\overset{m}{.}5 - 17\overset{m}{.}0$ photographic, without ephemeris). A recent investigation, made on 214 photographic plates, has yielded 10 times of primary minima (see Table 3). A least-squares solution has yielded the following linear ephemeris:

$$\text{Min. I} = \text{HJD } 2444749.462 + 5\overset{d}{.}688195 \times E.$$
$$\pm 0.016 \pm 0.000025$$

With respect to the magnitudes given in Table 3, the photographic range of V1058 Oph was determined to $15\overset{m}{.}8 - 17\overset{m}{.}3$ (Min. II: $16\overset{m}{.}1$); GCVS type E.

Further photometry is urgently needed in the case of V1058 Oph to determine the subtype of variability. An eccentric orbit cannot be excluded for this system.

Table 2. Minima of V1058 Oph according to the ephemeris derived in this paper

Nr	HJD	Method*	Epoch	$O-C$
1	38583.446	P	−1084.0	−0.013
2	38640.336	P	−1074.0	−0.005
3	38856.523	P	−1036.0	+0.031
4	44402.422	P	−61.0	−0.060
5	44732.466	P	−3.0	+0.068
6	44749.430	P	0.0	−0.032
7	45056.580	P	54.0	−0.045
8	46592.474	P	324.0	+0.037
9	46649.374	P	334.0	+0.055
10	48088.400	P	587.0	−0.033

* P denotes photographic plate minima

Table 3. Comparison stars

	V651 Her		V1058 Her	
Nr	GSC/USNO	m*	GSC/USNO	m*
1	962.0315	$12\overset{m}{.}2$	410.0503	$15\overset{m}{.}6$
2	962.2150	$12\overset{m}{.}8$	410.0219	$16\overset{m}{.}3$
3	962.1517	$13\overset{m}{.}4$	0900-09216665	$16\overset{m}{.}6$
4	962.0335	$14\overset{m}{.}0$		

* Magnitudes refer to the B values of the USNO-A2.0 catalogue

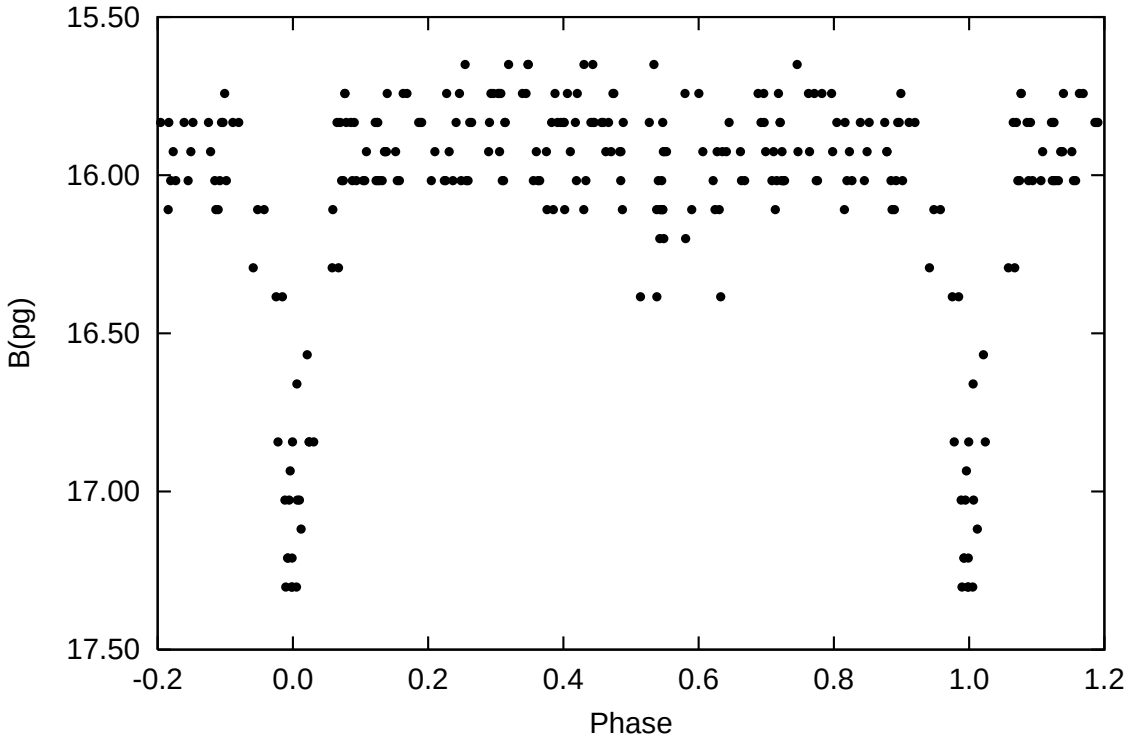

Figure 1. Photographic light curve of V1058 Oph

This research made use of the SIMBAD data base, operated by the CDS at Strasbourg, France.

References:

Berdnikov, L.N. et al., 1995, *IBVS*, 4213
Hoffmeister, C., 1967, *Astron. Nachr.*, **289**, 205