

COMMISSIONS 27 AND 42 OF THE IAU
INFORMATION BULLETIN ON VARIABLE STARS

Number 5903

Konkoly Observatory
Budapest

7 September 2009

HU ISSN 0374 – 0676

ELEMENTS FOR 6 PULSATING STARS

HÄUSSLER, K.¹; BERTHOLD, T.^{1,2}; KROLL, P.²

¹ Bruno-H.-Bürgel-Sternwarte, Töpelstr. 46, D-04746 Hartha, Germany

² Sternwarte Sonneberg, Sternwartestr. 32, D-96515 Sonneberg, Germany

email: info@sternwarte-hart ha.de, tb@4pisysteme.de, pk@4pisysteme.de

These stars were discovered and reported to be variable by Boyce & Huruata (1942), Hoffmeister (1967, 1968) and Morgenroth (1933).

Except some remarks concerning the supposed type of variability no further observations or ephemeris have been published until today.

Photographic plates of a field centered at α Oph, taken with the Sonneberg Observatory 40-cm Astrographs during three intervals spread over the years from 1964 to 1994, were used to investigate the behaviour of these objects (see Table 1).

The given elements were obtained by means of least-squares solutions. Photographic amplitudes were derived with respect to magnitudes of the comparison stars given in Table 2. An extensive list holding the times of maxima derived can be retrieved as 5903-t3.txt, using the link in the HTML version of this paper. Individual data are available upon request.

Remarks:

V553 Her

A paper of Patterson (1979) dealing with the Nova Her 1963 = V533 Her has been erroneously cited a few times. The publications of Warner & Wickramasinghe (1991), Idan & Shavin (1996) and Mobberley (1999) refer to V553 Her spuriously.

V553 Her was discovered by Hoffmeister (1967) as RR Lyrae type variable. According to the observations presented in this paper it is of SR type.

V621 Her, V1068 Oph, NSV 9827

Brightness in minimum light below the plate limit.

NSV 9125

Suspected to be of RR Lyrae type by Boyce & Huruata (1942).

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

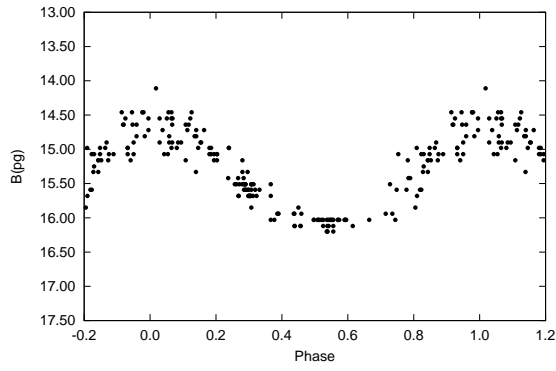


Figure 1. Light curve of V553 Her

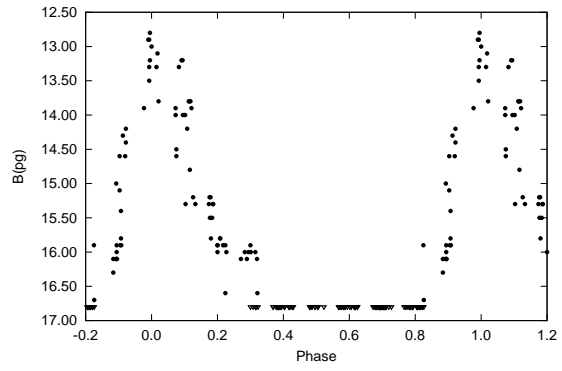


Figure 2. Light curve of V621 Her

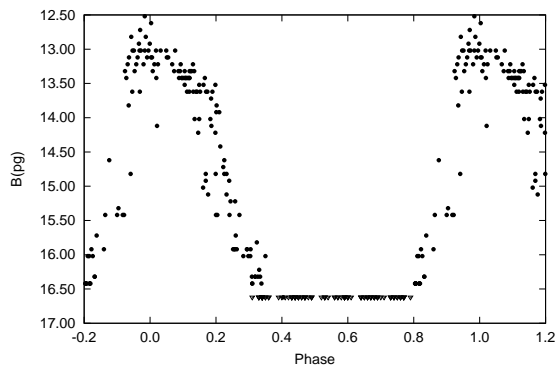


Figure 3. Light curve of V1068 Oph

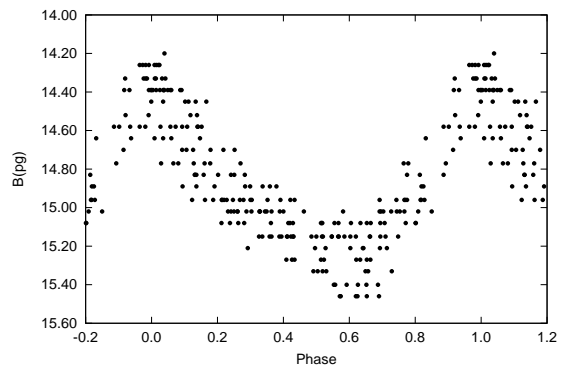


Figure 4. Light curve of NSV 8861

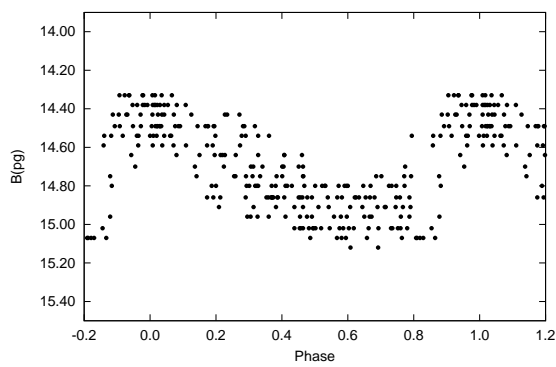


Figure 5. Light curve of NSV 9125

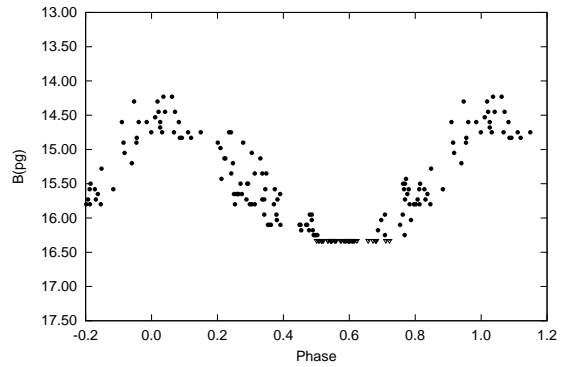


Figure 6. Light curve of NSV 9827

Table 1. Summary of this paper

Star	Type	Epoch 2400000+	Period (day)	Max.	Min.	$M - m$	No. of Plates	Former classification
V553 Her	SR	49231.2 ±9.9	220.7 ±0.4	14 ^m 5	16 ^m 1		178	RR:
V621 Her	M	49100.2 ±2.3	295.5 ±.3	13 ^m 0	[16 ^m 8	0 ^p 25:	201	M
V1068 Oph	M	46659.4 ±4.2	246.2 ±.3	12 ^m 8	[16 ^m 6	0 ^p 30:	245	M
NSV 8861	CWB	46704.325 ±14	1.573369 ±5	14 ^m 3	15 ^m 3	0 ^p 40	235	
NSV 9125	CWB	49488.233 ±83	3.532940 ±37	14 ^m 2	15 ^m 0	0 ^p 30	253	RR:
NSV 9827	SR	49207.3 ±21.2	346.1 ±2.1	14 ^m 3	[16 ^m 4	0 ^p 40:	150	M

Table 2. Comparison stars and cross references

V553 Her S 9808 USNO 1050-0881332		V621 Her S 10332 USNO 1050-08539397		
Comp. No.	USNO	m^*	USNO	m^*
1	1050-08816021	14 ^m 1	1050-08540184	12 ^m 7
2	1050-08817448	14 ^m 4	1050-08538893	13 ^m 2
3	1050-08812489	15 ^m 2	1050-08537841	14 ^m 5
4	1050-08815816	15 ^m 7	1050-08537958	15 ^m 2
5	1050-08812817	16 ^m 6	1050-08539865	16 ^m 2
6			1050-08540191	17 ^m 5

V1068 Oph S 9817		NSV 8861 HV 10947 USNO 0975-09260404		
Comp. No.	USNO	m^*	USNO	m^*
1	0975-09553402	12 ^m 7	0975-09257894	14 ^m 4
2	0975-09550091	13 ^m 0	0975-09260358	15 ^m 1
3	0975-09562065	13 ^m 7	0975-09258828	15 ^m 5
4	0975-09558584	14 ^m 2		
5	0975-09555861	14 ^m 7		
6	0975-09552696	16 ^m 0		

NSV 9125 HV 10968 USNO 0975-09346163		NSV 9827 358.1933 USNO 1050-09322332		
Comp. No.	USNO	m^*	USNO 1050-09322332	m^*
1	0975-09346685	14 ^m 2	1050-09328723	14 ^m 1
2	0975-09344458	14 ^m 6	1050-09323681	14 ^m 4
3	0975-09342260	14 ^m 8	1050-09332256	14 ^m 9
4	0975-09346609	15 ^m 2	1050-09327165	15 ^m 2
5			1050-09326294	15 ^m 7
6			1050-09323255	16 ^m 4

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

References:

- Boyce, E.H., Huruata, M., 1942, *Harvard Annals*, **109**, 19
Hoffmeister, C., 1967, *Astron. Nachr.*, **290**, 43
Hoffmeister, C., 1968, *Astron. Nachr.*, **290**, 277
Idan, I., Shavin, G., 1996, *MNRAS*, **281**, 604
Mobberley, M., 1999, *Journ. Br. Astron. Assoc.*, **109**, 57
Morgenroth, O., 1933, *Astron. Nachr.*, **250**, 75
Patterson, J., 1979, *Astrophys. Journ.*, **233**, L13
Warner, B., Wickramasinghe, D.T., 1991, *MNRAS*, **248**, 370