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**ELEMENTS FOR 8 RR LYRAE VARIABLES**

HÄUSSLER, K.<sup>1</sup>; BERTHOLD, T.<sup>1,2</sup>; KROLL, P.<sup>2</sup>

<sup>1</sup> Bruno-H.-Bürgel-Sternwarte, Töpelstr. 46, D-04746 Hartha, Germany, email: sternwartehart@lycos.de

<sup>2</sup> Sternwarte Sonneberg, Sternwartestr. 32, D-96515 Sonneberg, Germany,  
email: tb@4pisysteme.de, pk@4pisysteme.de

These stars were reported to be variable by Hoffmeister (1949, 1966, 1967, 1968) and Boyce & Huruata (1942). Except in the cases of V871 Oph, V950 Oph and V961 Oph (see details noted in the remarks below), no further observations or ephemeris have been published until today. Photographic plates of a field centered at 67 Oph, taken with the Sonneberg Observatory 40-cm Astrographs during three intervals spread over the years from 1938 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 5732-t3.txt, using the link in the HTML version of this paper. Individual data are available upon request.

Table 1. Summary of this paper

Star	Type	Epoch 2400000+	Period (day)	Max.	Min.	$M - m$	No. of plates
V809 Oph	RRab	48802.512 ±6	0.4456105 ±3	14 <sup>m</sup> 4	16 <sup>m</sup> 0	0 <sup>p</sup> 17	148
V871 Oph	RRab	47591.678 ±5	0.4581308 ±3	14 <sup>m</sup> 2	15 <sup>m</sup> 3	0 <sup>p</sup> 12	209
V950 Oph	RRab	48801.492 ±16	0.6098288 ±7	15 <sup>m</sup> 1:	15 <sup>m</sup> 9	0 <sup>p</sup> 21	197
V961 Oph	RRab	49127.468 ±4	0.5220792 ±2	13 <sup>m</sup> 6	15 <sup>m</sup> 2	0 <sup>p</sup> 16	241
V1094 Oph	RRab	48747.455 ±14	0.6460529 ±10	15 <sup>m</sup> 3	16 <sup>m</sup> 2	0 <sup>p</sup> 20	165
EP Ser	RRab	49154.471 ±12	0.6032100 ±7	15 <sup>m</sup> 3	17 <sup>m</sup> 0	0 <sup>p</sup> 17	134
NSV 9517	RRab	48839.332 ±13	0.7238664 ±9	14 <sup>m</sup> 7	15 <sup>m</sup> 7	0 <sup>p</sup> 21	149
NSV 10061	RRab	49154.517 ±14	0,5644590 ±7	15 <sup>m</sup> 6	16 <sup>m</sup> 5	0 <sup>p</sup> 23	142

Table 2. Comparison stars and cross references

V809 Oph HV 11012 USNO 0900-10274067			V871 Oph S 4183 USNO 0900-10615121	
Comp. No.	GSC	$m^*$	USNO	$m^*$
1	0900-10271285	14 <sup>m</sup> 3	0900-10608371	14 <sup>m</sup> 0
2	0900-10287295	14 <sup>m</sup> 9	0900-10600153	14 <sup>m</sup> 4
3	0900-10280680	15 <sup>m</sup> 1	0900-10622420	14 <sup>m</sup> 6
4	0900-10278316	16 <sup>m</sup> 1	0900-10618462	15 <sup>m</sup> 5
V950 Oph S 4201 USNO 0900-11371358			V961 Oph S 4214 USNO 0900-11995376	
Comp. No.	USNO	$m^*$	USNO	$m^*$
1	0900-11361747	15 <sup>m</sup> 8	0900-12007595	13 <sup>m</sup> 7
2	0900-11365177	16 <sup>m</sup> 1	0900-12003470	14 <sup>m</sup> 6
3			0900-12011821	15 <sup>m</sup> 4
V1094 Oph S 9865 USNO 0900-11727474			EP Ser S 9851 USNO 0825-11738616	
Comp. No.	USNO	$m^*$	USNO	$m^*$
1	0900-11739495	14 <sup>m</sup> 9	0825-11742658	14 <sup>m</sup> 9
2	0900-11727384	15 <sup>m</sup> 7	0900-11261581	15 <sup>m</sup> 4
3	0900-11728679	16 <sup>m</sup> 0	0900-11269383	15 <sup>m</sup> 8
4			0825-11741216	17 <sup>m</sup> 1
NSV 9517 HV 11016 USNO 0900-10298218			NSV 10061 S 9854 USNO 0900-11331091	
Comp. No.	USNO	$m^*$	USNO	$m^*$
1	0900-10296357	14 <sup>m</sup> 5	0900-11331153	15 <sup>m</sup> 2
2	0900-10298639	14 <sup>m</sup> 8	0900-11327442	15 <sup>m</sup> 9
3	0900-10292848	15 <sup>m</sup> 8	0900-11330285	16 <sup>m</sup> 3

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

### Remarks:

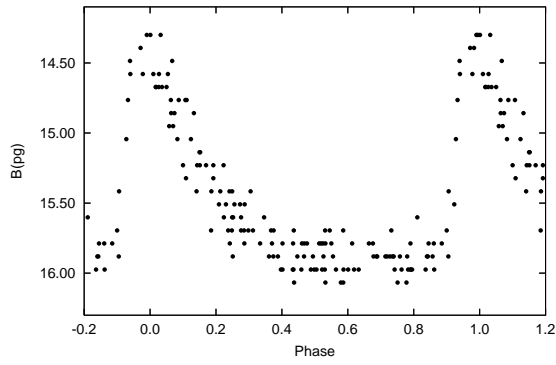
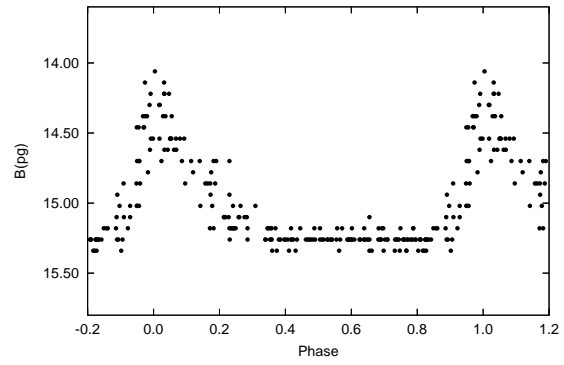
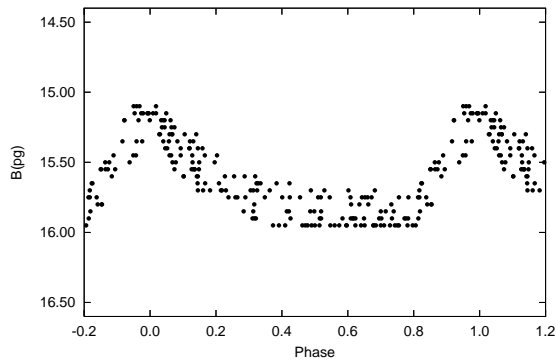
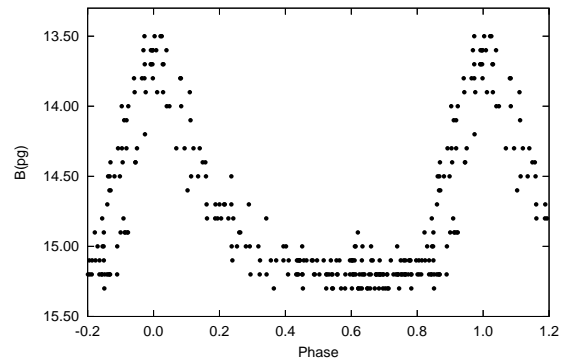
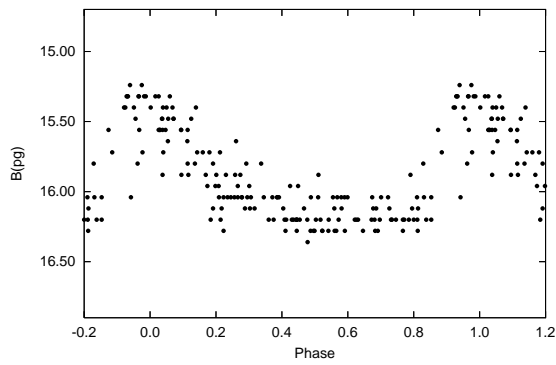
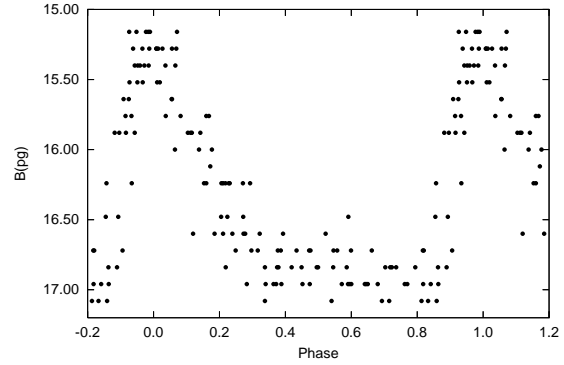
*V871 Oph* — Possible Blazhko effect; the height of maxima varies considerably. The period previously published by of Götz et al. (1957) and cited in the GCVS is erroneous. See also the paper of Layden (1998).

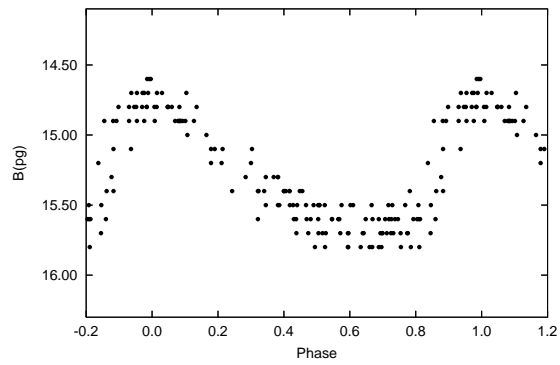
*V950 Oph* — The period previously published by of Götz et al. (1957) and cited in the GCVS is a spurious period. The published maxima from Götz et al. (only those after J.D. 2429786, times before this date were rejected due to large scatter) were included in this period analysis.

*V961 Oph* — The period previously published by of Götz et al. (1957) and cited in the GCVS is a spurious period.

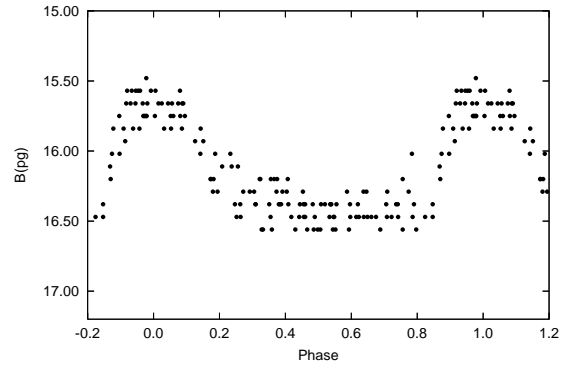
*NSV 10061* — Hoffmeister (1967) erroneously assumed this star to be an eclipsing variable.

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

**Figure 1.** Light curve of V809 Oph**Figure 2.** Light curve of V871 Oph**Figure 3.** Light curve of V950 Oph**Figure 4.** Light curve of V961 Oph**Figure 5.** Light curve of V1094 Oph**Figure 6.** Light curve of EP Ser



**Figure 7.** Light curve of NSV 9517



**Figure 8.** Light curve of NSV 10061

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