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ELEMENTS FOR 6 RR Lyr STARS

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The variability of these stars was announced by Hoffmeister (1967, 1968); no further observations or ephemeris were published until today. Recent estimations, made on photographic plates taken with the Sonneberg Observatory 40cm Astrograph during the years 1964-1994, have allowed to determine the type of variability as well as first elements (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 3. Individual data are available upon request.

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

Table 1. Summary of this paper

Star	Type	Epoch 2400000+	Period (day)	Max.	Min.	M–m	No. of Plates
V547 Her	RRab	44454.358 ±3	0.5575412 ±5	14 ^m 9	15 ^m 4	0 ^p 14	222
V549 Her	RRab	44374.393 ±4	0.5851995 ±6	15 ^m 2	16 ^m 1	0 ^p 10	203
V605 Her	RRab	44704.486 ±9	0.6112963 ±12	13 ^m 8	15 ^m 1	0 ^p 14	240
V612 Her	RRab	45056.610 ±7	0.5803605 ±10	14 ^m 8	15 ^m 9	0 ^p 08	218
V613 Her	RRab	45003.696 ±4	0.6716550 ±7	14 ^m 7	15 ^m 8	0 ^p 16	231
V1322 Oph	RRab	45003.726 ±7	0.4695495 ±6	15 ^m 1	16 ^m 4	0 ^p 14	209

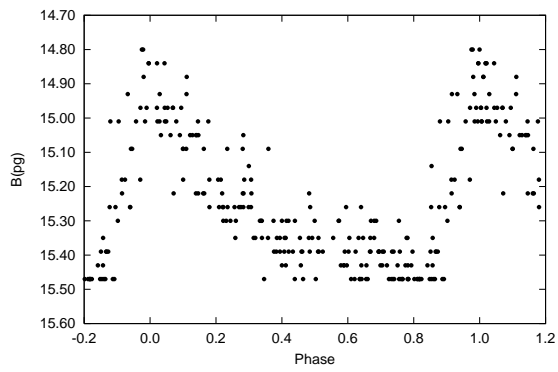


Figure 1. Light curve of V547 Her

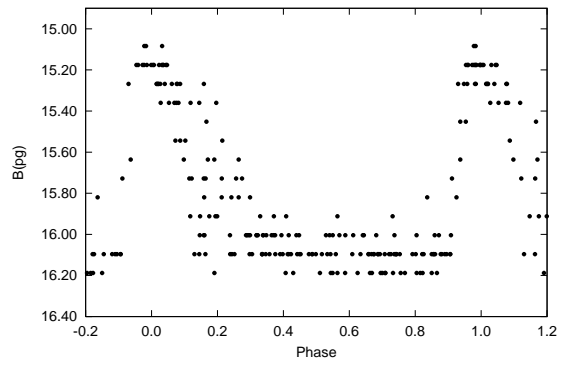


Figure 2. Light curve of V549 Her

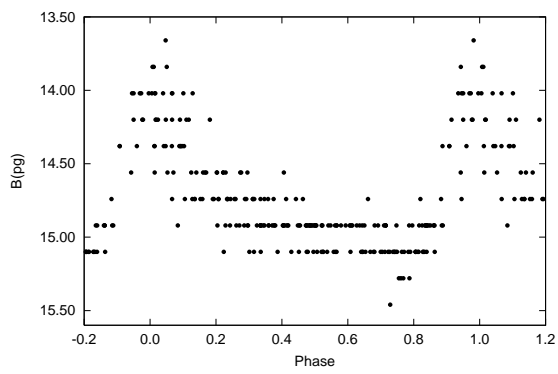


Figure 3. Light curve of V605 Her

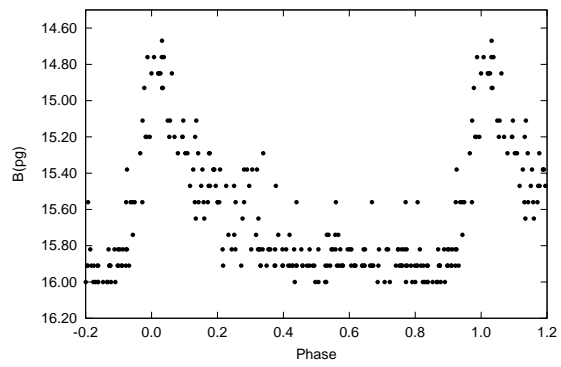


Figure 4. Light curve of V612 Her

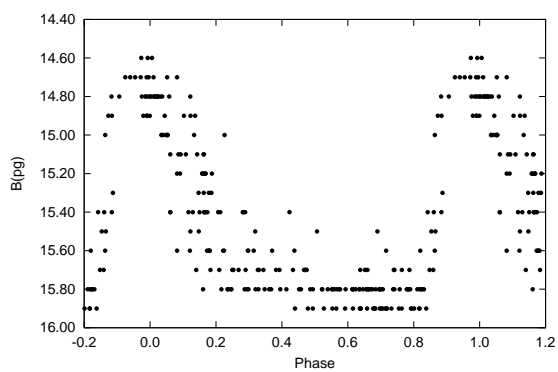


Figure 5. Light curve of V613 Her

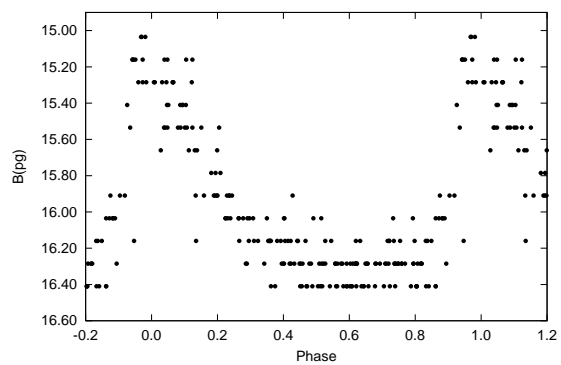


Figure 6. Light curve of V1322 Oph

Table 2. Individual maxima and $O - C$ values according to the elements derived in this paper

Star	HJD (max.)	Epoch	$O - C$	Star	HJD (max.)	Epoch	$O - C$
V547 Her	38502.600	-10675	-0.005	V605 Her	49488.498	7826	0.007
	38525.464	-10634	-0.000	V612 Her	38852.576	-10690	0.020
	38583.446	-10530	-0.002		38902.485	-10604	0.018
	38817.602	-10110	-0.014		39263.465	-9982	0.013
	39238.572	-9355	0.013		43336.414	-2964	-0.008
	42953.451	-2692	-0.006		43365.422	-2914	-0.018
	44372.400	-147	0.001		43372.369	-2902	-0.035
	44454.368	0	0.010		43376.427	-2895	-0.039
	45052.624	1073	0.024		45056.622	0	0.012
	45104.440	1166	-0.011		48088.400	5224	-0.013
	45525.401	1921	0.006		48839.411	6518	0.011
	46644.382	3928	0.002		49132.497	7023	0.015
	48088.400	6518	-0.012		49475.493	7614	0.018
	48839.411	7865	-0.009	V613 Her	38556.466	-9599	-0.014
V549 Her	38502.523	-10034	0.022		38591.425	-9547	0.019
	38642.363	-9795	-0.001		38910.446	-9072	0.004
	38883.487	-9383	0.021		38914.457	-9066	-0.015
	39261.519	-8737	0.014		39270.456	-8536	0.007
	39611.444	-8139	-0.010		39918.613	-7571	0.017
	39615.549	-8132	-0.002		42987.396	-3002	0.008
	39618.468	-8127	-0.009		44024.400	-1458	-0.023
	44024.435	-598	-0.009		44343.463	-983	0.004
	44266.694	-184	-0.022		44345.459	-980	-0.015
	44371.455	-5	-0.012		44376.379	-934	0.009
	44374.384	0	-0.009		44427.425	-858	0.009
	44704.472	564	0.026		45003.681	0	-0.015
	45052.624	1159	-0.015		45104.417	150	-0.027
	45055.550	1164	-0.015		45223.331	327	0.004
45082.472	1210	-0.012		45822.429	1219	-0.014	
45810.465	2454	-0.008		47262.496	3363	0.024	
46644.382	3879	0.000		48831.466	5699	0.008	
49124.477	8117	0.020		48862.358	5745	0.004	
49216.362	8274	0.028	V1322 Oph	37112.470	-16806	-0.008	
V605 Her	38503.528	-10144	0.032		38530.538	-13786	0.021
	38525.464	-10108	-0.039		38585.440	-13669	-0.014
	38555.466	-10059	0.009		38852.619	-13100	-0.009
	38852.550	-9573	0.003		38901.492	-12996	0.031
	38901.492	-9493	0.042		38940.464	-12913	0.030
	39558.604	-8418	0.010		39238.572	-12278	-0.026
	39615.469	-8325	0.025		39263.465	-12225	-0.019
	39618.468	-8320	-0.033		39618.468	-11469	0.005
	39637.421	-8289	-0.030		44375.442	-1338	-0.027
	39645.439	-8276	0.041		44376.395	-1336	-0.013
	39648.436	-8271	-0.018		44454.370	-1170	0.017
	39918.613	-7829	-0.034		45003.703	0	-0.023
	44374.370	-540	-0.016		47770.330	5892	0.019
	44704.491	0	0.005		49124.477	8776	-0.015
48804.454	6707	0.004		49132.497	8793	0.023	

Table 3. Comparison stars and cross references

V547 Her					V549 Her				
S 9791					S 9793				
GSC 962.0157					USNO 0975–08523569				
Comp. No.	GSC		m*	GSC		m*			
1	962.0118		14 ^m 8	0975–08520651		14 ^m 9			
2	962.0154		15 ^m 2	0975–08523583		15 ^m 6			
3	962.0167		15 ^m 2	0975–08524879		15 ^m 8			
4	961.1300		15 ^m 6						

V605 Her					V612 Her				
S 10313					S10316				
GSC 969.1035					GSC 962.1872				
Comp. No.	GSC/USNO		m*	GSC/USNO		m*			
1	969.1162		13 ^m 5	962.1584		14 ^m 4			
2	969.1236		13 ^m 8	962.2094		14 ^m 9			
3	969.1915		15 ^m 6	962.1963		15 ^m 5			
4				962.2040		16 ^m 1			

V613 Her					V1322 Oph				
S 10317					S10326				
USNO 0975–08576473					USNO 0975–08786753				
Comp. No.	GSC/USNO		m*	GSC/USNO		m*			
1	966.0393		14 ^m 4	984.2203		14 ^m 8			
2	966.0519		15 ^m 0	984.1587		15 ^m 5			
3	966.1955		15 ^m 3	0975–08787248		16 ^m 3			
4	0975–08575604		16 ^m 1						

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

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- Hoffmeister, C., 1967, *Astron. Nachr.*, **290**, 43
Hoffmeister, C., 1968, *Astron. Nachr.*, **290**, 277