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ELEMENTS FOR 8 RR LYRAE VARIABLES IN OPHIUCHUS

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The discovery of the variability of these stars has been reported by Hoffmeister (1949, 1966, 1967, 1968). No further observations or ephemeris were published until today. Photographic plates of a field centered around 67 Oph, taken with the Sonneberg Observatory 40cm Astrographs during three intervals spread over the years from 1938-1994, were used to check 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 fetched 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
V938 Oph	RRab	48832.441 ±11	0.6446164 ±8	14 ^m 3	15 ^m 1	0 ^p 20	243
V1081 Oph	RRab	48832.403 ±4	0.4935062 ±2	14 ^m 9	16 ^m 1	0 ^p 15	170
V1085 Oph	RRab	45913.476 ±15	0.7717393 ±12	15 ^m 0	16 ^m 5	0 ^p 20	138
V1087 Oph	RRab	48100.367 ±11	0.5872985 ±6	15 ^m 1	16 ^m 2	0 ^p 20	160
V1088 Oph	RRab	49475.488 ±7	0.5032135 ±3	15 ^m 5	16 ^m 4	0 ^p 17	167
V1091 Oph	RRab	49475.542 ±12	0.7952621 ±11	15 ^m 0	15 ^m 4	0 ^p 35	222
NSV 9902	RRab	48362.576 ±10	0.5628888 ±5	15 ^m 3	16 ^m 3	0 ^p 20	121
NSV 10019	RRab	48747.484 ±8	0.5147988 ±4	14 ^m 1	15 ^m 1	0 ^p 18	267

Table 2. Comparison stars and cross references

V938 Oph S 4186 USNO 0900-10794389		V1081 Oph S 9273 USNO 0900-11093663		
Comp. No.	GSC	m*	USNO	m*
1	0900-10792222	14 ^m 0	0900-11096908	14 ^m 7
2	0900-10791987	14 ^m 7	0900-11089951	15 ^m 2
3	0900-10792950	15 ^m 1	0900-11091250	15 ^m 7
V1085 Oph S 9279 USNO 0900-11243049		V1087 Oph S 9855 USNO 0900-11400286		
Comp. No.	USNO	m*	USNO	m*
1	0900-11247487	14 ^m 7	0900-11403333	15 ^m 3
2	0900-11240287	15 ^m 8	0900-11395508	15 ^m 4
3	0900-11245747	17 ^m 1	0900-11402264	16 ^m 3
4			0900-11398534	16 ^m 4
V1088 Oph S 9290 USNO 0900-11479305		V1091 Oph S 9292 USNO 0900-11628043		
Comp. No.	USNO	m*	USNO	m*
1	0900-11472517	15 ^m 2	0900-11625407	15 ^m 0
2	0900-11477461	15 ^m 8	0900-11626381	15 ^m 4
3	0900-11479543	16 ^m 1		
4	0900-11480787	16 ^m 4		
NSV 9902 S 9269 USNO 0900-11055326		NSV 10019 S 9283 USNO 0900-11291450		
Comp. No.	USNO	m*	USNO	m*
1	0900-11049203	15 ^m 1	0900-11286181	14 ^m 0
2	0900-11057976	15 ^m 4	0900-11290895	14 ^m 2
3	0900-11058995	16 ^m 0	0900-11293416	14 ^m 6
4			0900-11298413	15 ^m 4

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

Remarks:

V938 Oph

Following to a paper of Götz this star is erroneously catalogued as eclipsing binary. According to the observations reported here, V938 Oph is a pulsation variable of RRab type.

V1091 Oph

Type of variability (EA) and ephemeris given by Hoffmeister (1966) are incorrect. V1091 Oph is a RRab type star.

NSV 10019

The discovery paper by Hoffmeister (1966) lists this star as possible eclipsing variable. Contrary to this, NSV 10019 was now found to be a RRab type star.

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

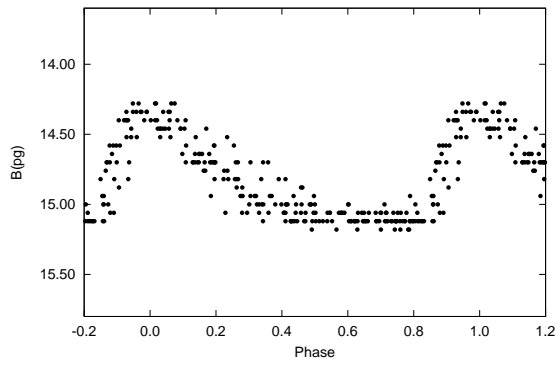


Figure 1. Light curve of V938 Oph

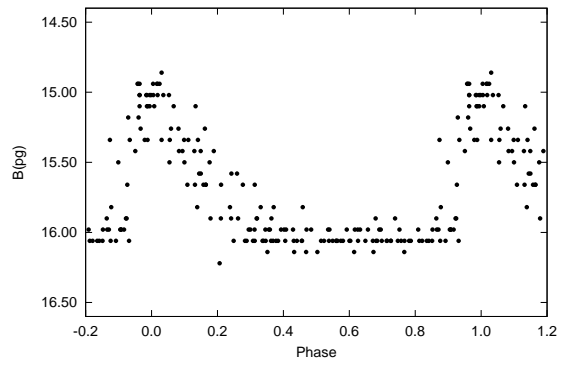


Figure 2. Light curve of V1081 Oph

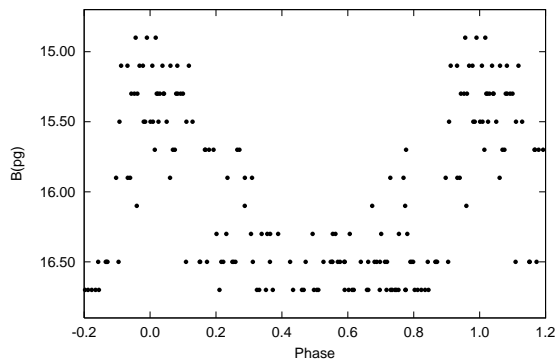


Figure 3. Light curve of V1085 Oph

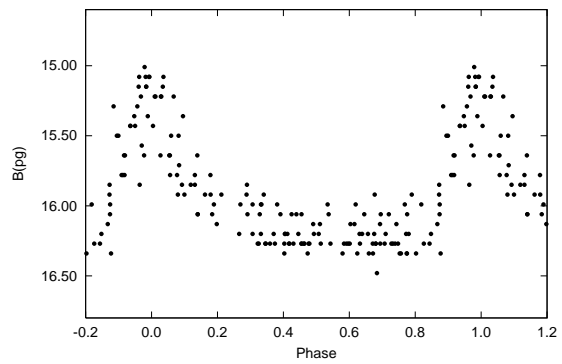


Figure 4. Light curve of V1087 Oph

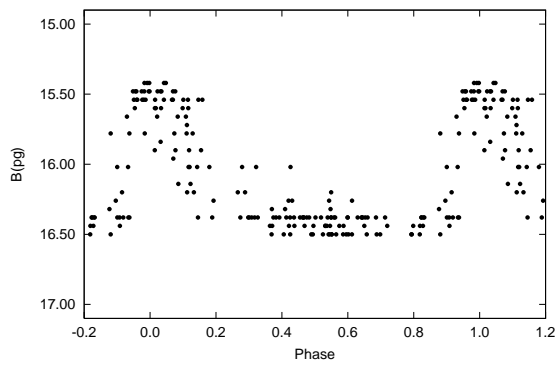


Figure 5. Light curve of V1088 Oph

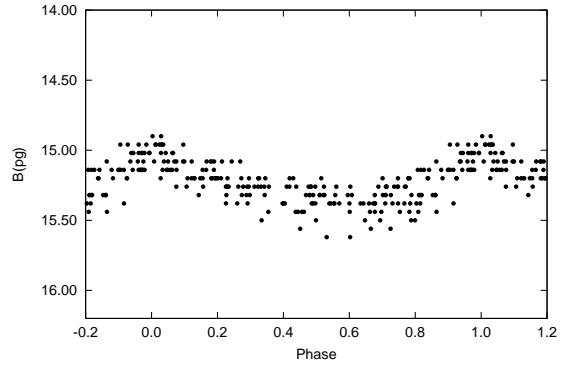


Figure 6. Light curve of V1091 Oph

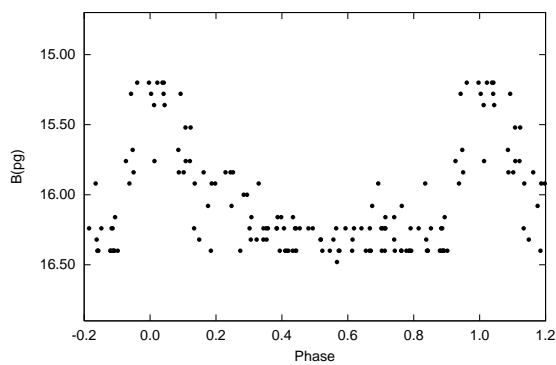


Figure 7. Light curve of NSV 9902

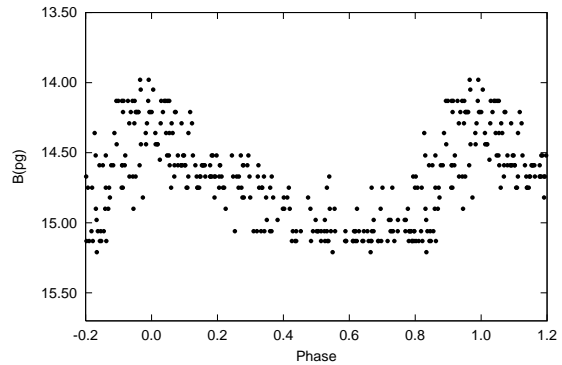


Figure 8. Light curve of NSV 10019

References:

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