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NOVA RS OPHIUCHI AS A SEMIREGULAR VARIABLE

In the years following its last outburst RS Ophiuchi has been photoelectrically monitored at the Teramo Observatory and the magnitudes measured from 1970 to 1973 are reported in the table. As comparison star was utilized BD -6^o4660 with the following photometric values

$$V = 9^m30 \pm 0^m01 \quad B-V = + 1^m25 \pm 0^m23$$

which were obtained by means of many transfers from several Johnson's standard stars (Johnson and Harris, 1954)

Observations of RS Ophiuchi
 in V light

Date	J.D.	V	m.e.	Date	J.D.	V	m.e.
1970				1973			
June 3	39741.466	10.68	± 0.01	April 30	41803.578	11.34	± 0.02
July 29	39767.431	10.71	1	May 10	41813.539	11.41	2
1972				" 29	41832.431	11.09	1
June 17	41486.457	11.18	1	" 31	41834.448	11.08	1
July 3	41502.456	11.13	2	June 26	41860.400	11.56	2
" 8	41507.374	11.26	5	July 1	41865.454	11.55	3
" 16	41515.527	11.32	1	" 21	41885.378	11.31	1
" 18	41517.397	11.31	2	Aug. 20	41915.416	11.62	2
Aug. 4	41534.405	11.52	1	Sept. 3	41929.341	11.23	3
" 15	41545.413	11.43	3				

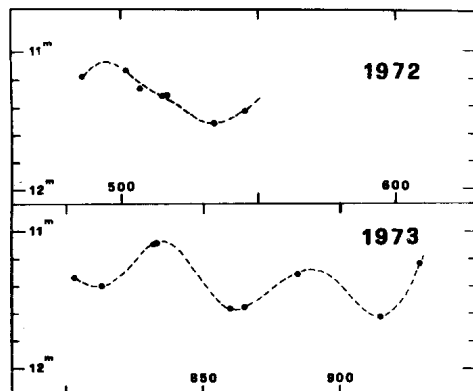
The B-V colour showed no great variations and during all the time covered by the table remained almost constant at a value around $+1^m2$.

It has been known for a long time that RS Ophiuchi during its minimum stage undergoes light fluctuations ranging for the most time from 10.5 to 11.5 but sometimes raises up to 9.7 or fades down to 12.5; these data are based essentially on visual estimates: therefore no variation law could be detected and the fluctuations were classified as "irregular". The figure, where the Teramo observations of 1972 and 1973 are reported, shows the existence of a semiregular variation with a range of half a magnitude: in 1973 a 50 days wave is

clearly apparent; in 1972 there is an indication of a longer period (70 days?). These fluctuations can be safely ascribed to the M type component which has been recognized to constitute a symbiotic pair with the hotter companion (Barbon et al., 1969).

The photoelectric program is still in course and a wider report on the photometric behaviour of this Nova from the 1967 outburst onwards will be published elsewhere within a few months.

Spectrographic observations which would be made in concomitance with my photometric program in spring and summer 1975 would be extremely useful to get a suitable model for this binary system.



V light curve of RS Ophiuchi
at minimum.

P. TEMPESTI

Osservatorio astronomico di Teramo
64100 Teramo, Italy

References:

- Johnson, H.L., Harris, D.L. 1954, *Astrophys. J.* **120**, 196
Barbon, R., Mammano, A., Rosino, L. 1969, *Spectroscopic Observations of the Recurrent Nova RS Oph from 1959 to 1968*, in *Non-Periodic Phenomena in Variable Stars*, Ed.L.Detre, Academic Press, Budapest.