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THE SECONDARY PERIOD OF RV CAPRICORNI

Although RV Cap is one of the brightest RRab stars showing Blashco-effect, it was not yet photoelectrically observed. From his visual observations Tsessevich (Trudi GAIS 23,1953) gave a secondary period of 221,86 days for this star which was the longest one known among the RRab variables.

During several stays at the Catania Astrophysical Observatory on Aetna in the years 1970-71-72 I carried out photoelectric observations of the star to determine a more accurate length of its secondary period.

The observations were taken with the Cassegrain reflector of 61 cm aperture and 600 cm focal length, equipped with a three colour synchronous-photometer containing EMI 6256 photomultiplier tubes.

Together 15 ascending branches and maxima were obtained well distributed over the phases of the secondary period, for which I have got the value:

$$P' = 138^{\text{d}}.3$$

This period is much shorter than that given by Tsessevich, and even if it remains the longest secondary period so far known for RRab variables, it is now much better fitting the distribution of the lengths of secondary periods.

The Table contains the observed maxima in three colours ΔMy , ΔMb and ΔMu and their elements:

$$\text{Max. hel.} = 2439032,819 + 0,44775015 E \quad (1)$$

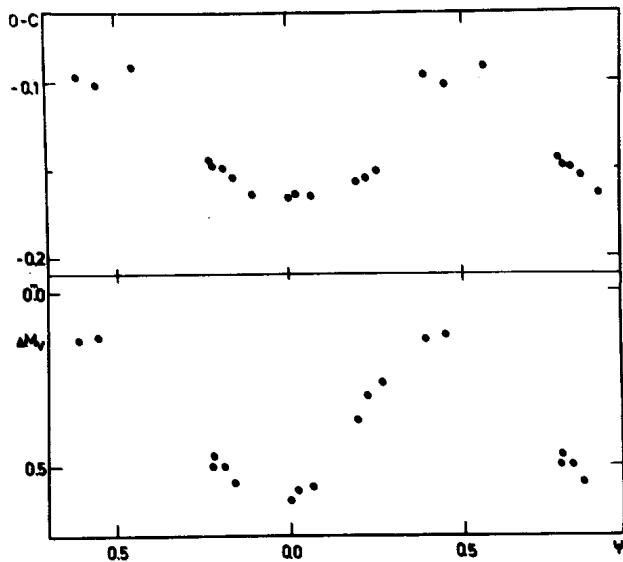
In the Figure the values of ΔMv and O-C are plotted against the phase of the secondary period computed by the formula

$$\text{Lowest Max.} = 2441177.71 + 138^{\text{d}}.3 N \quad (2)$$

While there is only insignificant scattering at highest amplitudes in the ΔMv -values, at the same phase the O-C values indicate a larger scattering resulting from the double hump appearing at these maxima of the light curve, like in the case of AR Her. The height of the humps are changing, one is increasing when the other is decreasing, and in a certain moment the maximum of the light curve jumps from one hump to the other one.

I am very grateful to Prof. G. Godoli for having given me opportunity for observing in the Catania Observatory and I thank very much Prof. M. Rodoñò, S. Catalano and Dr. Blanco for making the observations, when I could not take part in them.

J.D.max.	O-C	ΔMy	ΔMb	ΔMu
2440				
721,62:	-0,092	-	-	-
790,520	,157	+0,37	-0,13	-0,21
794,552	,155	+0,30	-0,20	-0,30
798,587	,151	+0,26	-0,22	-0,38
41146,554	,144	+0,50	0,0	-0,05
147,446	,148	+0,47:	0,0	-0,05:
151,475	,149	+0,50	+0,01	-0,06
155,500	,154	+0,55	+0,05	-0,01:
163,551	,164	-	+0,03	-0,10
173,41:	-	-	+0,07	-
177,431	,166	+0,60:	+0,105	+0,04:
180,568	,164	+0,57:	+0,085	-0,03
186,388	,165	+0,56	+0,085	-0,02
41507,478	,097	+0,14	-0,46	-0,70
515,533	,102	+0,13	-0,39	-0,61



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