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POLARIMETRIC OBSERVATIONS OF THE RED VARIABLE RV HYDRAE

RV Hydrae (= HD 73766 = SAO 136144) is a SRc type variable star (spectrum M5 II :Keenan, 1942). Photographic magnitude is known to vary from 8.7 to 10.04 with a period of 116 days (Payne-Gaposchkin, 1954, Gaposchkin, 1956).

Linear polarization of RV Hya has been measured on 1984 March 4, 5 and 6 using the photoelectric polarimeter Sterenn on the 1 meter telescope at Pic du Midi observatory (France). Unpolarized stars were observed to check that no instrumental polarization was present, and standard polarized stars to calibrate the measurements. Three measurements through B filter and one through V filter were performed (see table below).

J.D. 2445000+	filter	p (%)	θ_{eq}
763.53	B	0.92 \pm 0.08	88 $^{\circ}$ \pm 2 $^{\circ}$
764.49	B	1.06 \pm 0.08	89 $^{\circ}$ \pm 2 $^{\circ}$
765.52	B	1.05 \pm 0.10	89 $^{\circ}$ \pm 2 $^{\circ}$
765.52	V	0.53 \pm 0.05	88 $^{\circ}$ \pm 2 $^{\circ}$

Position angle θ_{eq} is computed in the equatorial frame. B and V magnitudes cannot be determined precisely. But it seemed that the star was near light maximum.

To the knowledge of the author, no linear polarization measurement of RV Hya has been published. Since the galactic latitude of RV Hya is 19 $^{\circ}$ and the stars in the neighbourhood are not strongly polarized, the polarization measured is probably intrinsic and not interstellar. Such a polarization is quite common among red variables. The decrease of polarization from 1% in B

to 0.5% in V is in agreement with what is observed in polarized red variables (see for example, Shawl, 1975). Usually polarization varies with light intensity: more observations are needed.

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