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RY INDI: LIGHT ELEMENTS

RY Indi (CoD-46^o13772, CPD-46^o10113) has been observed in the UBV system at the Bosque Alegre Station of Córdoba Observatory; 72 and 146 observations were obtained by one of us (JC) in 1973 and 1979. The observations of the two runs are shifted by 0.^d1906 when the phases are computed with Hoffmeister's elements (KVBB, 27, 1943) as given in the GCVS (1968). Therefore these elements should be improved.

From a mean light curve in each colour four times of minimum light were derived; the mean values are given in Table I, errors were computed from the individual minima in each pass-band. Also in Table I the epoch of Hoffmeister's light elements is listed.

Table I
 Minima of RY Indi

JD Hel. 2400000+	E	O-C	Remarks
27993.574	-21101.0	-0.0007	1
41900.8057	-1571.5	+0.0006	2
41901.1653	-1571.0	+0.0042	2
44139.6880	+1572.5	-0.0035	2
44140.0469	+1573.0	-0.0006	2

- (1) Hoffmeister, KVBB, 27, 1943
 (2) Present observations.

A least squares linear solution yields:

$$\text{Min.I} = \text{Hel.J.D. } 2443019.8922 + 0.^d71211400 \cdot E \\
\pm 0.0016 \pm 0.00000017 \text{ m.e.}$$

which gives an up today ephemeris with an improved period.

The light curves show the general characteristics of an EB variable. The observations were made differentially in relation to HD 199264(FO), whose colour indices are almost the same of the variable star and its apparent position is very close to it. The UBV values of the comparison star are: V=9.066, B-V=0.327, and U-B=0.097, while the variable displays;

Maximum: $V = 10.826$, $B-V = 0.277$, and $U-B = 0.097$
Min. I.: $V = 11.446$, $B-V = 0.301$, and $U-B = 0.115$
Min.II.: $V = 11.040$, $B-V = 0.258$, and $U-B = 0.092$.

The location of the variable at maximum light in the colour-colour diagram is consistent with the spectral type A8 slightly reddened by $E(B-V)=0.05$ and $E(U-B)=0.04$; similar values, $E(B-V)=0.07$ and $E(U-B)=0.05$ were found for the comparison star (FO). The colours of RY Indi at primary minimum are somewhat later (A9) than at maximum light.

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