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PHOTOELECTRIC PHOTOMETRY OF RR Her

The variable star RR Her was included in my observational programme of some late type variable stars in 1983. The two colour photoelectric observations (in B and V bands) of RR Her were performed from time to time at the University Observatory in Brno and finished in 1987.

The photomultiplier and filter combinations on a one-channel photoelectric photometer attached to the 60 cm telescope were very close to the standard UBV system. During 17 nights over 150 individual measurements of the variable star were obtained. The data of the comparison stars are listed in Table I; these values were derived in the usual way from UBV standard stars near RR Her. From my observations it follows that these comparison stars are constant in brightness.

Table I

Photometric data for comparison stars

Object	BD	SAO	V	B-V	U-B
Comparison A	+50 ^o 2250	29779	9. ^m 25	+0. ^m 97	+0. ^m 83
Comparison B	+51 ^o 2053	29771	9.95	+1.10	+1.04

The observations of the RR Her are presented in Table II, where : denotes less accurate measurements and n in the last column denotes the number of individual observations in each colour.

Table II

Photometric observations of RR Her

JD-2440000	V	B-V	n	JD-244 0000	V	B-V	n
5472.50	8.313 +10	+2.54 +1	7	5857.42	9.66 +1	+3.02 +2	6
5606.37	9.545 ±6	+2.96 +1	2	6176.51	8.835 +	+2.77 +1	5
5621.26	9.750 +14	+2.91 +2	3	6177.48	8.808 +3	+2.855 +15	6
5809.53	8.84: +3	+2.80: ±4	4	6251.43	8.105 +6	+2.505 +10	3
5838.45	9.45 ±2	+2.83: ±2	8	6253.43	8.148 +3	+2.49 +1	7
5852.46	9.60 ±2	+2.96 ±2	5	6292.35	8.864 +4	+2.77 +2	3

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Table II (Cont.)

JD-2440000	V	B-V	n	JD-2440000	V	B-V	n
6300.34	9.04	+2.73	2	6605.40	9.925	+2.97	3
	+2	+2			+20	+3	
6311.32	9.304	+2.82	5	6915.54	8.522	+2.78	5
	+5	+3			+3	+1	
6592.43	9.658	+2.84	3				
	+1	+1					

These photoelectric observations - although somewhat fragmentary - confirm that the period of variability of this star is near the value $P = 239.7$ days published in Kholopov et al. (1985).

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Reference :

Kholopov, P.N. et al.; 1985, General Catalogue of Variable Stars, Vol.II,
 Nauka, Moscow