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WHAT IS RX CEPHEI?

RX Cephei is classified as a probable SRD variable in the General Catalogue of Variable Stars (GCVS), with an uncertain period of about 55 days. Its spectral type is G6 II (Keenan & McNeil 1989). Because of its classification it was included in a program of observing yellow semiregular variables (e.g. Zsoldos 1990; Zsoldos & Percy 1991).

RX Cep was observed in 1990-91 with the 60-cm telescope of Konkoly Observatory in Budapest. The comparison and check stars were BD+81°27 and BD+82°30, respectively. The observations are listed in Table I. Their errors are usually smaller than 0^m010 in *V* and 0^m015 in *B - V*.

Table I
Observations of RX Cep

J.D.	<i>V</i>	<i>B - V</i>
2440000+		
8151.516	7.440	1.101
8163.415	7.438	1.095
8176.364	7.442	1.103
8202.399	7.443	1.099
8502.524	7.440	1.107
8506.460	7.452	1.100
8508.465	7.440	1.107
8534.396	7.436	1.097
8536.399	7.447	1.081
8557.348	7.452	1.075
8561.339	7.448	1.086
8562.392	7.444	1.082
8573.380	7.444	1.093
8597.303	7.449	1.097

The amplitude of the star as given in the GCVS is about 1 magnitude. The observations given in Table I do not confirm this large amplitude, in fact they do not show any variation at all. Since the GCVS amplitude is too large to dismiss it as error of visual observations, it seemed worth to gather all information on the variation of RX Cep from the literature. Table II contains the published amplitudes of the variable between 1880 and 1937. Those marked with an asterisk are not real amplitudes, but the difference between the brightest and faintest points during the whole observing run. It is interesting to note that RX Cep

was found constant by Payne-Gaposchkin (1952), too. Since the amplitudes in Table II are usually visual, the values smaller than 0^m3 should be considered as (at least) doubtful (e.g. in 1908–12 or 1928–32).

Table II
Amplitudes of RX Cep

Year	Amplitude	Reference
1880–87	1.0*	Knott (1899)
1882	0.6	Knott (1882)
1908–12	0.2*	Wendell (1913)
1911–23	0.7*	Jost (1933)
1915–19	0.4*	Luyten (1922)
1920–23	0.4*	Hassenstein (1925)
1923–32	0.5	Parenago (1938)
1928–32	0.3*	Carrasco (1935)
1931	0.3*	Rybka (1937)
1931	0.3	Zverev (1936)
1933–36	–	de Sitter (1937)
1937	0.4	Zverev (1938)

Obviously further observations are needed to determine the nature of RX Cep. If the large amplitudes are real in Table II, then RX Cep is a star deserving more attention.

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