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B V OBSERVATIONS OF SIX RED VARIABLE STARS

Using an uncooled RCA 1P21 photomultiplier behind Schott filters BG 12 + GG 13 for B and GG 11 for V, photoelectric observations of red variable stars were made with the 75 cm telescope of the Wilhelm-Foerster Observatory. Four of the measured stars belong to the Mira-Ceti type, and the others are of type SRa (W Cyg) and Lb (VY UMa). Table 1 lists the obtained observations and Table 2 contains the used comparison stars. Some magnitudes and colours of comparison stars are taken from the USNO-catalogue, the rest was determined by measuring nearby standard stars.

It is well known from visual observations that Mira variable stars differ in maximum heights and light-curve from cycle to cycle. A comparison of the presented measurements of Chi Cyg and T Cep with older UBV observations of Landolt (1968, 1969) at the same phase of the V-light-curve shows that also the colour (B-V) differs, too, from cycle to cycle.

The presented colour (B-V) of the SRa star W Cyg is constant during the observed rise in V. This is in good agreement with the measurements of Smak (1964) during a decline.

The accuracy of the presented observations is in the order of $\pm 0^m.02$ for V and in the order of $\pm 0^m.01$ for (B-V).

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References:

- Landolt, A.U., 1968, Publ.Astron.Soc.Pacific 80, 680
1969, Publ.Astron.Soc.Pacific 81, 134
Smak, J., 1964, Astrophys. J. Suppl. S. 9, 141

Star	Julian Date	V	B-V
T Cep	2443 790 ^d	6.01	+1 ^m .52
	794	6.11	1.47
	808	6.42	1.54
	828	7.00	1.58
	833	7.16	1.59
	847	7.53	1.60
	862	8.05	1.64
R Cyg	328	8.15	1.81
W Cyg	794	6.29	1.51
	808	6.27	1.57
	828	6.00	1.46
	833	5.84	1.51
	848	5.57	1.58
Chi Cyg	790	4.43	1.66
	794	4.49	1.86:
	828	5.75	1.73
	832	5.87	1.87
	848	6.46	1.90
R Tri	808	9.24	1.35
	833	8.45	1.19
	848	7.82	1.12
	862	6.95	1.18
VY UMa	254	6.10	2.43:
	605	6.15	2.52
	606	6.14	2.43:

The observation of R Cyg was made with the 12" refractor and the first observation of VY UMa was made with the 6" refractor of the Wilhelm Foerster Observatory.

Star	V	B-V	Variable
SAO 019214	6 ^m .95	+0 ^m .06	T Cep
	8.17	+0.27	
031845	9.00	+1.50	R Cyg
031823	9.91	-0.09	
051109	6.19	+0.19	W Cyg
051161	6.72	-0.06	
068827	4.97	+0.47	Chi Cyg
068895	6.46	+0.20	
068835	6.18	+1.13	
068902	7.51	+1.24	
055741	7.85	+0.54	R Tri
055744	8.29	+1.22	
015269	5.00	+1.39	VY UMa