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PHOTOELECTRIC PHOTOMETRY OF CW Ser

The RR_S-star CW Ser was observed photoelectrically in two successive nights in June, 1975. It was observed because no photoelectric data of this star have been published so far. The third edition of the GCVS (Kukarkin et al., 1970) gives a photographic magnitude variation between 11^m and 12^m.

Our differential measurements in B and V are listed in Table 1. Comparison star was a 10th magnitude star 2′ south and 39^s east of CW Ser. Each value in Table 1 is a normal point corresponding to a total integration time of 160 sec.

The light curves are shown in Fig.1. The measurements of June 11 have been plotted as circles, those of June 12 as crosses. The larger scatter of the observations of June 12 is caused by minor weather conditions. Two times of maximum have been determined. They are

$$\text{Max.} = JD_{\odot}\ 2442575.500 \pm 1$$

and

$$\text{Max.} = JD_{\odot}\ 2442576.443 \pm 1$$

According to these values and the epoch given in the GCVS the period has to be slightly increased by 4 units on the eighth digit. The improved period value is

$$P = 0^d.18915054 \pm 1$$

The amplitudes in B and V are

$$\Delta B = 0^m.75 \pm 0^m.05$$

$$\Delta V = 0^m.50 \pm 0^m.05$$

The time for the rising branch is 0.32 periods, confirming the value given in the GCVS. The photographic amplitude, however, is smaller than the value given in the GCVS.

Comparison of the observations of the two different nights suggests that an amplitude variation may occur in CW Ser, as it is observed for many other RR_S-stars.

Table 1

$JD_{\odot}$ 2442000+	ΔB	$JD_{\odot}$ 2442000+	ΔV
575.4299	1.00	575.4350	1.50
.4368	0.94	.4369	1.46
.4455	.89	.4442	1.47
.4526	.79	.4492	1.42
.4593	.71	.4556	1.36
.4659	.64	.4613	1.27
.4716	.56	.4677	1.25
.4780	.43	.4752	1.05
.4855	.34	.4823	1.06
.4906	.28	.4884	1.05
.4958	.19	.4936	1.02
.5013	.21	.4988	0.97
.5072	.23	.5047	0.98
.5135	.26	.5107	0.98
.5190	.38	.5165	1.06
.5250	.42	.5219	1.11
.5310	.43	.5286	1.12
.5363	.46	576.4096	1.31
576.4104	.66	.4156	1.25
.4169	.54	.4188	1.18
.4238	.39	.4274	1.07
.4353	.22	.4360	0.99
.4410	.24	.4408	1.00
.4476	.23	.4471	0.97
.4599	.34	.4589	1.03
.4648	.37	.4641	1.06
.4691	.38	.4686	1.06
.4764	.41	.4759	1.05
.5106	.62	.4811	1.07
.5160	.68	.4889	1.06
.5224	.69	.4939	1.12
.5325	.67	.4997	1.16
.5413	.69	.5077	1.17
.5486	.77	.5134	1.22
.5564	.78	.5182	1.26
.5610	0.90	.5254	1.29
		.5349	1.33
		.5439	1.31
		.5514	1.33
		.5585	1.34
		.5616	1.36

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Fig. 1