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PHOTOELECTRIC V(RI)$_C$ OBSERVATIONS AND NEW CLASSIFICATION FOR V641 CENTAURI

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V641 Cen is listed in the GCVS-IV as a classical Cepheid with the elements:

$$\text{Max JD}_{hel} = 2441771.771 + 35.216 \times \text{E}.$$

We included the star in our program of photoelectric observations for Cepheids because only 17 UBV observations for the star (in the time interval JD 2441108–785) were published previously (Grayzeck 1978). The results of our monitoring of the star during three observing runs (JD 2449520–64, JD 2449802–27, and JD 2450568–84) were published by Berdnikov and Turner (1995a,b; 1998). An additional 49 observations of the variable in $V(RI)_c$ were obtained during March-April 1998 using the 0.5-m reflector of the South African Astronomical Observatory (Table 1). The accuracy of the individual observations is near $\pm 0\overset{\text{m}}{.}01$ in all filters. The new data, as well as all previously published observations, are plotted in Fig. 1 using the above elements. It should be clear from the nature of the seasonal variations for V641 Cen that the shape of its light curve is not stable. Therefore, V641 Cen cannot be a classical Cepheid. Based upon the long time scale and quasi-periodic nature of its light variations, as well as its spectral type of F5-G9 (GCVS-IV), V641 Cen is most likely a semiregular variable of type SRD.

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Table 1

JD hel 2450000+	Phase	V	V–R_c	V–I_c	JD hel 2450000+	Phase	V	V–R_c	V–I_c
891.4787	.965	10.278	1.061	2.056	910.3930	.502	10.446	1.139	2.233
891.5744	.968	10.268	1.060	2.047	910.4635	.504	10.421	1.134	2.227
892.4770	.993	10.269	1.070	2.071	910.4874	.505	10.481	1.155	2.259
892.5933	.997	10.268	1.063	2.071	910.5743	.507	10.460	1.138	2.229
893.3859	.019	10.294	1.071	2.098	912.3303	.557	10.492	1.147	2.253
893.4888	.022	10.260	1.046	2.070	912.4080	.559	10.497	1.136	2.240
896.5103	.108	10.290	1.088	2.101	912.4885	.561	10.504	1.150	2.245
897.4188	.134	10.299	1.094	2.090	912.5774	.564	10.520	1.138	2.283
901.5472	.251	10.309	1.092	2.128	913.3299	.585	10.531	1.155	2.279
902.4304	.276	10.303	1.095	2.140	913.4003	.587	10.541	1.163	2.291
902.4912	.278	10.315	1.114	2.151	913.4749	.590	10.533	1.157	2.290
903.5502	.308	10.312	1.113	2.146	914.3251	.614	10.540	1.130	2.292
904.4052	.332	10.323	1.104	2.161	914.3910	.616	10.558	1.160	2.296
904.5036	.335	10.331	1.107	2.153	914.4760	.618	10.562	1.164	2.289
905.3541	.359	10.325	1.089	2.140	914.5517	.620	10.582	1.170	2.306
907.3752	.416	10.386	1.130	2.185	915.4139	.645	10.574	1.145	2.292
907.4295	.418	10.379	1.120	2.195	915.5008	.647	10.604	1.151	2.308
907.6029	.423	10.472	1.126	2.183	916.3198	.670	10.580	1.132	2.277
908.3709	.445	10.417	1.130	2.214	916.3919	.672	10.609	1.159	2.318
908.4285	.446	10.418	1.119	2.211	916.4724	.675	10.630	1.175	2.346
908.5164	.449	10.445	1.151	2.230	916.5561	.677	10.593	1.153	2.307
908.5804	.451	10.411	1.134	2.218	917.3412	.699	10.637	1.163	2.325
909.4854	.476	10.422	1.128	2.219	917.4078	.701	10.616	1.162	2.321
909.5804	.479	10.412	1.134	2.214	917.4792	.703	10.642	1.175	2.334
910.3165	.500	10.450	1.122	2.227					

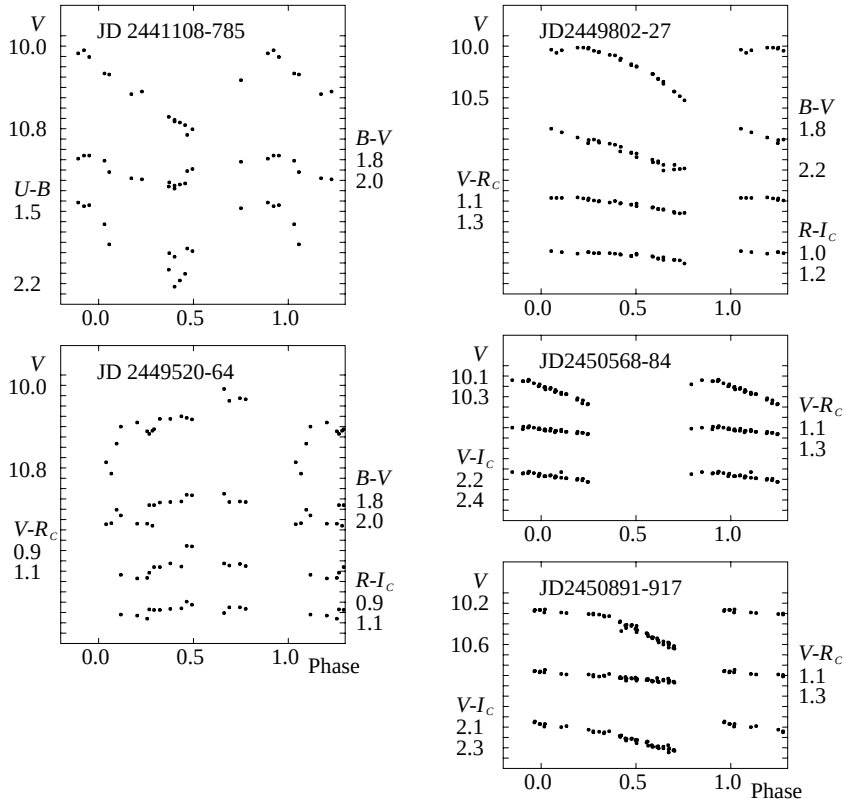

Figure 1.