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UBV PHOTOELECTRIC MINIMA OF SV CENTAURI

SV Centauri is a Beta-Lyrae type eclipsing binary known by large period changes. A few UBV photoelectric observations including one primary and one secondary minimum made by the author and B.J. Harris at Perth Observatory in 1974 and 1975 are presented in this paper. The 60cm Lowel-Perth reflector at Perth Observatory and the integrating photometer, described by Millis *et al.* (1974), were used for measurements. The photometer contains standard UBV filters and EMI 6526S photomultiplier. Each observation consisted of at least three 10 sec integrations in each colour. The variable star and its comparison were observed in the usual sequence CVCVC etc. The star HD 102503 which is of nearly the same colour and only at an angular distance of 5 min of arc from SV Cen served as comparison star. The brightness of the sky background was read after the measurement with each filter.

The reduced data in Table I represents time in heliocentric Julian Days and observed differential magnitudes (in telescope-photometer natural system) in the sense variable star minus comparison star, linearly interpolated for the time of the measurement of the variable. The reduction of measured values was performed with the Hewlett-Packard 1900 desk calculator (with extended memory HP 9101A) and both the measured values and the reduced data were plotted simultaneously on the HP 9125B calculator plotter in the way described in a previous paper (Kvíz, 1975).

The time of minima was computed according to Kwee and van Woerden's (1956) method. The errors given in Table 2 may be spurious, as owing to various circumstances the accuracy of the time of individual measurements in 1974 was hardly better than .001 day. The observations in February 1974 were made by Mr. B.J. Harris, government astronomer, the rest by the author.

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References:

- Kvíz, Z. 1975, Proc. Astr. Soc. Australia 2, 351.  
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Millis, R.L. *et al.* 1974, Icarus 23, 425.

Table I

UBV Photoelectric Measurements of SV Centauri

JD <sub>0</sub> 2440000.+	$\Delta V$		$\Delta B$		$\Delta U$
2068.1484	+1.172	2068.1498	+1.195	2068.1519	+1.098
1651	+1.250	1665	+1.229	1679	+1.130
1831	+1.328	1852	+1.305	1866	+1.217
2033	+1.383	2047	+1.391	2060	+1.271
2262	+1.482	2283	+1.486	2297	+1.368
2387	+1.499	2408	+1.509	2429	+1.385
2547	+1.505	2560	+1.485	2581	+1.399
2679	+1.477	2692	+1.454	2706	+1.365
2845	+1.415	2859	+1.406	2873	+1.317
3012	+1.355	3033	+1.334	3047	+1.244
3158	+1.302	3179	+1.273	3199	+1.187
3310	+1.263	3331	+1.246	3345	+1.149
3435	+1.218	3449	+1.205	3463	+1.110
2069.1346	+1.655	2069.1367	+1.681	2069.1380	+1.704
1394	+1.639	1415	+1.649	1429	+1.685
1450	+1.612	1464	+1.612	1485	+1.622
1561	+1.544	1575	+1.552	1589	+1.561
1700	+1.448	1721	+1.441	1735	+1.463
2089	+1.269	2103	+1.271	2117	+1.244
2097.2084	+1.718	2097.2112	+1.720	2097.2133	+1.714
2230	+1.765	2251	+1.831	2265	+1.882
2404	+1.898	2424	+1.930	2445	+1.978
2549	+1.975	2570	+2.046	2591	+2.145
2695	+2.071	2716	+2.110	2737	+2.225

2097.2695	+2.071	2097.2716	+2.110	2097.2737	+2.225
2772	+2.101	2792	+2.108	2813	+2.230
2924	+2.008	2945	+2.004	2966	+2.137
3161	+1.873	3174	+1.835	3195	+1.888
3376	+1.677	3397	+1.677	3417	+1.720
2427.1825	+1.123	2427.1843	+1.113	2427.1849	+1.045
1913	+1.146	1926	+1.164	1940	+1.196
2007	+1.176	2020	+1.178	2036	+1.118
2109	+1.224	2125	+1.215	2136	+1.235
2199	+1.256	2210	+1.247	2427	+1.232
2287	+1.289	2298	+1.276	2310	+1.305
2374	+1.312	2387	+1.301	2398	+1.280
2455	+1.356	2467	+1.347	2479	+1.310
2540	+1.381	2552	+1.380	2564	+1.423
2618	+1.418	2633	+1.419	2659	+1.534
2727	+1.468	2740	+1.483	2751	+1.566
2826	+1.525	2837	+1.549	2848	+1.577
2909	+1.585	2921	+1.605	2932	+1.559
2992	+1.632	3004	+1.647	3016	+1.667
3078	+1.677	3091	+1.719	3101	+1.794
3157	+1.750	3169	+1.775	3179	+1.791
3241	+1.817	3254	+1.840	3265	+1.987
3326	+1.892	3338	+1.909	3349	+2.044

Table II

Time of minimum

	T min	$\sigma$
Primary	2097.2754	$\pm .0006$
Secondary	2068.2482	$\pm .0005$