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BV PHOTOMETRY OF BM Cas

The long period eclipsing binary BM Cas ( $P=197^d28$ ) is of considerable interest, especially since Thiessen (1956) has suggested that one component of the system is a classical Cepheid ( $P=27^d$ ).

The two-colour photoelectric observations were obtained with the Ege University Observatory 48 cm Cassegrain telescope and an unrefrigerated 1P21 photomultiplier. The observations were made from February 1972 to May 1973, on 49 nights. BD+63<sup>o</sup>101 was used as comparison star. The differential magnitudes were corrected for differential extinction. The phases were calculated with the light elements given by Beyer (1952-1964);

$$\text{Hel.Min.I} = \text{J.D. } 2425\ 772.9 + 197^d28 \cdot E + 2^d6 \sin(7^o11 \cdot E + 104^o).$$

The results are given in the Table, where the columns list the heliocentric Julian date, V and (B-V), respectively.

The light and colour curves are shown in the figure, where the instrumental magnitude differences between the variable and the comparison star have been plotted against the phases.

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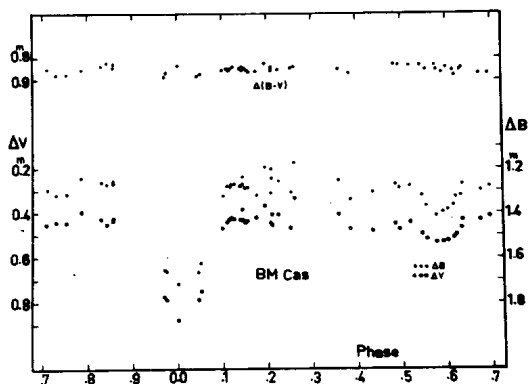


Table  
 Differential BV Magnitudes  
 (BM Cas minus BD + 63<sup>o</sup>101)

J.D.(Hel.)	$\Delta V$	(B-V)	J.D.(Hel.)	$\Delta V$	(B-V)
2441000+			2441000+		
356.2249	0.882	0.836	573.2761	0.476	0.845
365.2370	.785	.880	575.2586	.435	.853
366.2347	.745	.878	.2648	.443	.852
.2429	.760	.870	.2694	.455	.838
384.3967	.385	.853	576.3255	.433	.859
394.2550	.364	.930	.3318	.430	.857
.2613	.368	.829	.3383	.428	.849
.2672	.373	.827	577.2488	.427	.838
.2738	.372	.816	.2555	.427	.843
397.2397	.415	.822	.2613	.422	.868
.2438	.400	.867	578.2743	.431	.838
.2505	.405	.853	.2806	.446	.828
.2592	.410	.813	.2882	.419	.860
.2660	.405	.848	.2944	.416	.853
400.2519	.407	.853	581.2958	.435	.851
407.2678	.335	.840	.3027	.425	.850
478.5521	.450	.872	.3092	.435	.844
.5468	.435	.887	.3168	.432	.846
.5568	.462	.880	582.2688	.432	.844
481.4039	.437	.833	.2770	.427	.844
.4116	.434	.863	.2820	.432	.839
.4172	.424	.839	.2877	.437	.834
489.5452	.430	.870	583.4129	.450	.835
493.5123	.418	.868	.4203	.440	.855
.5183	.411	.870	.4300	.445	.850
.5249	.411	.870	.4371	.445	.840
499.5386	.436	.882	.4441	.440	.845
.5441	.439	.882	584.4190	.440	.845
.5497	.446	.872	.4280	.440	.850
504.5509	.437	.875	.4342	.430	.867
.5575	.441	.876	588.2449	.467	.859
510.5257	.388	.854	.2505	.457	.864
.5330	.398	.854	.2567	.462	.854
.5407	.403	.849	.2626	.462	.869
519.5586	.415	.845	594.4931	.448	.866
.5670	.435	.830	.4993	.453	.856
524.5422	.440	.840	.5060	.438	.871
.5478	.435	.855	.5127	.443	.859
.5531	.435	.845	603.2470	.454	.846
547.3099	.779	.896	.2709	.471	.853
.3157	.774	.871	.2771	.476	.837
.3216	.774	.881	604.2466	.456	.859
548.2759	.794	.867	.2532	.450	.849
.2823	.789	.847	.2585	.455	.865
.2880	.779	.872	624.2283	.418	.846
.2935	.794	.882	.2326	.409	.840
572.2866	.491	.864	.2368	.387	.871
.2932	.486	.844	639.5686	.464	.850
573.2631	.461	.860	.5738	.481	.833
.2698	.471	.860	.5792	.497	.804

Table (continued)

J.D.(Hel.) 2441000+	$\Delta V$	(B-V)	J.D.(Hel.) 2441000+	$\Delta V$	(B-V)
649.2809	0.446	0.804	670.2644	0.530	0.871
.2879	.452	.852	672.2398	.560	.825
.2961	.444	.820	.2526	.550	.835
.3040	.455	.822	.2600	.525	.870
.3111	.445	.838	675.1744	.505	.870
651.2475	.470	.834	.1810	.510	.865
.2555	.452	.831	.1898	.515	.837
.2634	.452	.834	678.2610	.485	.855
.2680	.449	.832	.2690	.460	.848
655.5133	.435	.836	.2759	.462	.858
.5206	.452	.833	693.2451	.446	.846
.5265	.447	.836	.2518	.446	.856
660.5180	.493	.847	.2562	.453	.849
.5257	.484	.828	719.3979	.455	.820
.5317	.503	.822	.4045	.445	.830
663.3224	.518	.853	.4104	.450	.820
.3276	.516	.853	722.3278	.445	.818
667.3059	.535	.880	.3346	.432	.833
.3132	.530	.885	.3400	.440	.815
.3205	.535	.880	.3448	.405	.845
670.2378	.540	.856	826.5073	.460	.877
.2499	.535	.853	.5129	.476	.867
.2576	.525	.881	.5178	.484	.868

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CORRECTION TO I.B.V.S. No. 1113

"10-inch (25 cm)" should be read "8-inch (20 cm)"

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