

THE OSMANIA UNIVERSITY



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**ASTRONOMY DEPARTMENT
OSMANIA UNIVERSITY, HYDERABAD-500 007.**

CONTRIBUTION No. 24

PHOTO ELECTRIC OBSERVATIONS OF V CRATERIS

BY

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and M. PARTHASARTHY**

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PHOTOELECTRIC OBSERVATIONS OF V CRATERIS

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Photoelectric Observations of short period eclipsing binary V Crateris (BD-16° 3260) made by us in the B & V colours of Johnson and Morgan's UBV system between 1973 and 1976 using the 1.2 m reflector of the Japal-Rangapur Observatory are reported in this contribution.

The star BD-16° 3256 was observed as the Comparison star. For verifying the constancy of this comparison star another star BD-15° 3256 was observed occasionally as Check star. The observations were reduced to outside the earth's atmosphere by applying the extinction correction using the nightly extinction coefficients for each filter determined from the observations of the comparison star. The instrumental magnitudes were then converted to the standard system applying transformation coefficients determined from the observations of BV standard stars on a few nights. The magnitude and colour of the comparison star in the standard system were found to be $V = 10.21$ and $B-V = 0.88$ respectively.

Table I lists the magnitude differences (Check-Comparison) along with the Heliocentric Julian Date of the observation. From these differences the standard error of a observation is found to be 0.010 mag both for V and B filters.

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Table II lists the data-wise observation of V Crateris. The column headings are: Heliocentric Julian Day and the magnitude difference (Variable - Comparison) in the standard system.

NBS, MBKS, PVR and MPS had participated in observations of V Crateris on 24, 17, 15 and 4 nights respectively. Most of the reduction work was done by NBS.

TABLE I
MAGNITUDE DIFFERENCES (BD-15°3256 - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
1397.2355	-2.058	1397.2360	-2.424
.2553	-2.051	.2549	-2.401
.3011	-2.061	.3015	-2.427
.3222	-2.069	.3226	-2.432
.3475	-2.066	.3470	-2.432
.3662	-2.060	.3657	-2.417
.3987	-2.058	.3975	-2.425
1398.1802	-2.041	1398.1816	-2.429
.2099	-2.063	.2109	-2.433
1399.1791	-2.051	1399.1805	-2.431
.2061	-2.059	.2046	-2.422
.2430	-2.052	.2448	-2.412
.2621	-2.024	.2609	-2.398
1412.1319	-2.061	1412.1329	-2.436
.1593	-2.064	.1603	-2.434
.1878	-2.056	.1892	-2.439
.2520	-2.066	.2510	-2.434
2072.3955	-2.064	2072.3963	-2.426
.4563	-2.052	.4558	-2.429
2073.2940	-2.058	2073.2934	-2.443
.4291	-2.056	.4287	-2.419
2511.2685	-2.058	2511.2668	-2.419
2512.3216	-2.071	2512.3224	-2.428
2519.2616	-2.080	2519.2626	-2.458
.3336	-2.071	.3329	-2.432
.3368	-2.066		
.3380	-2.074		
.3388	-2.066		
.3400	-2.077		

TABLE I (continued)
MAGNITUDE DIFFERENCES (BD-15°3256 - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
2520.3431	-2.070	2520.3415	-2.418
		.3425	-2.424
2800.4055	-2.037	2800.4069	-2.438
.4817	-2.054	.4831	-2.428
2801.4251	-2.056	2801.4264	-2.433
.4283	-2.058	.4269	-2.435
.4683	-2.065	.4692	-2.456
.4706	-2.069	.4696	-2.447
2802.3274	-2.046	2802.3288	-2.430
.3892	-2.062	.3904	-2.417
.4570	-2.080	.4638	-2.446
.4628	-2.078		
2814.3019	-2.061	2814.3031	-2.431
.3651	-2.055	.3661	-2.441
.4727	-2.045	.4741	-2.430
2815.2728	-2.061	2815.2717	-2.425
.3430	-2.047	.3497	-2.448
.3441	-2.047	.3686	-2.445
.3454	-2.040		
.3464	-2.061		
.3472	-2.064		
.3484	-2.060		
.3697	-2.076		
.3709	-2.080		
.3721	-2.082		
.3732	-2.071		
.3740	-2.066		
.3746	-2.048		
2828.2888	-2.060	2828.2873	-2.447
.3627	-2.056	.3594	-2.455
.3636	-2.079	.3608	-2.454
.3653	-2.070	.3714	-2.439
.3662	-2.072		
.3676	-2.075		
.3711	-2.064		

TABLE I (continued)
MAGNITUDE DIFFERENCES (BD-15°3256 - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
2829.2627	-2.062	2829.2616	-2.425
.3143	-2.057	.3131	-2.422
.3159	-2.042	.3195	-2.434
.3169	-2.048	.3943	-2.432
.3183	-2.056		
.3954	-2.056		
2835.2560	-2.056	2835.2549	-2.433
.3256	-2.054	.3242	-2.424
.3274	-2.061	.3315	-2.439
.3287	-2.062	.4004	-2.437
.3301	-2.058		
.4017	-2.051		
.4026	-2.051		
2836.2344	-2.066	2836.2332	-2.436
.3049	-2.054	.3121	-2.427
.3064	-2.061	.3899	-2.434
.3074	-2.063		
.3083	-2.052		
.3097	-2.049		
.3884	-2.051		
2844.3295	-2.053	2844.3276	-2.451
.4162	-2.042	.4148	-2.439
2845.1745	-2.052	2845.1759	-2.416
.2164	-2.053	.2145	-2.429
.3608	-2.065	.2153	-2.421
		.3582	-2.431
		.3593	-2.429
2871.3635	-2.076	2871.3619	-2.420
2872.3868	-2.050	2872.3892	-2.425
2898.1760	-2.065	2898.1772	-2.467

TABLE II
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
March 20, 1972			
1397.2274	.173	1397.2281	-.276
.2292	.161	.2285	-.285
.2412	.181	.2420	-.259
.2431	.192	.2430	-.274
.2488	.186	.2478	-.243
.2494	.185	.2501	-.252
.2586	.170	.2579	-.139
.2599	.152	.2594	-.149
.2640	.155	.2633	-.138
.2753	.291	.2746	-.173
.2769	.305	.2763	-.152
.2819	.342	.2834	-.089
.2828	.334	.2847	-.075
.2840	.349	.2890	-.051
.2895	.391	.2901	-.035
.2906	.406	.2950	.011
.2946	.447	.2963	.041
.2956	.450	.2997	.067
.3002	.501	.3038	.112
.3033	.518	.3062	.134
.3067	.571	.3074	.143
.3079	.593	.3116	.191
.3110	.621	.3124	.201
.3120	.637	.3159	.238
.3164	.674	.3169	.267
.3174	.689	.3207	.284
.3213	.727	.3249	.299
.3245	.711	.3301	.341
.3306	.756	.3311	.339
.3318	.750	.3367	.328
.3363	.750	.3377	.323
.3373	.761	.3414	.308
.3399	.712	.3422	.306
.3427	.693	.3461	.288
.3456	.681	.3492	.235
.3499	.659	.3533	.203
.3527	.624	.3542	.182
.3539	.629	.3574	.152
.3581	.577	.3590	.142

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
March 20, 1972 (contd.)			
1397.3597	.569	.3645	.088
.3643	.504	.3685	.029
.3690	.447	.3732	-.029
.3726	.412	.3746	-.043
.3739	.406	.3782	-.092
.3786	.366	.3796	-.107
.3798	.363	.3838	-.135
.3833	.318	.3845	-.137
.3842	.308	.3883	-.180
.3887	.287	.3898	-.204
.3904	.272	.3969	-.212
.3958	.257	.4004	-.236
.3965	.246	.4059	-.258
.4009	.205	.4071	-.253
.4054	.200	.4111	-.233
.4066	.183	.4122	-.243
.4116	.186		
.4126	.206		
March 21, 1972			
1398.1642	.155	.1636	-.307
.1664	.146	.1649	-.299
.1668	.148	.1713	-.308
.1725	.152	.1716	-.327
.1730	.149	.1768	-.312
.1782	.152	.1773	-.303
.1784	.155	.1866	-.307
.1881	.138	.1871	-.321
.1888	.149	.1926	-.318
.1948	.135	.1931	-.318
.1952	.144	.1996	-.300
.2008	.125	.2001	-.309
.2014	.121	.2057	-.321
.2071	.121	.2064	-.330
.2135	.129	.2173	-.325
.2186	.152	.2178	-.313
.2193	.164	.2275	-.281

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
March 21, 1972 (contd.)			
1398.2290	.116	1398.2280	-.277
.2295	.123		
March 22, 1972			
1399.1557	.186	1399.1571	-.274
.1587	.188	.1577	-.279
.1591	.180	.1642	-.279
.1660	.177	.1647	-.288
.1664	.165	.1716	-.286
.1734	.163	.1723	-.303
.1738	.163	.1823	-.295
.1835	.153	.1824	-.310
.1840	.159	.1877	-.302
.1889	.144	.1881	-.291
.1894	.145	.1930	-.292
.1946	.137	.1934	-.291
.2000	.158	.1987	-.297
.2005	.157	.1991	-.301
.2118	.143	.2105	-.313
.2123	.145	.2111	-.315
.2189	.150	.2173	-.307
.2194	.135	.2182	-.312
.2554	.123	.2236	-.319
.2260	.111	.2245	-.326
.2328	.135	.2315	-.312
.2335	.129	.2321	-.319
.2391	.127	.2382	-.324
.2398	.144	.2386	-.336
.2508	.138	.2494	-.328
.2513	.130	.2500	-.325
.2565	.132	.2550	-.329
.2570	.128	.2557	-.350
.2655	.100	.2641	-.335
.2707	.113	.2691	-.322
.2712	.119	.2696	-.314
.2763	.127	.2750	-.324
.2768	.115	.2757	-.333

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Cr1 - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
March 22, 1972 (contd.)			
1399.2838	.119	1399.2805	-.363
.2886	.185	.2815	-.360
.3553	.174	.2825	-.327
.3612	.195	.2880	-.279
.3678	.178	.3548	-.277
		.3604	-.249
		.3669	-.243
April 4, 1972			
1412.1225	.361	1412.1218	-.072
.1263	.342	.1257	-.105
.1307	.308	.1301	-.141
.1450	.214	.1365	-.191
.1491	.216	.1444	-.217
.1533	.183	.1483	-.232
.1577	.180	.1526	-.255
.1651	.187	.1570	-.263
.1690	.180	.1642	-.283
.1734	.173	.1685	-.278
.1780	.168	.1727	-.277
.1820	.161	.1772	-.277
.1863	.165	.1811	-.288
.1945	.159	.1856	-.300
.1987	.153	.1933	-.297
.2050	.158	.2006	-.308
.2099	.151	.2044	-.300
.2140	.143	.2087	-.311
.2194	.146	.2132	-.315
.2240	.140	.2188	-.305
.2299	.128	.2233	-.309
.2356	.132	.2291	-.328
.2397	.126	.2347	-.317
.2487	.146	.2390	-.316
.2572	.131	.2494	-.315
		.2564	-.330

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	Δ V	Hel. JD 2440000+	Δ B
Jan. 24, 1974			
2072.3892	.224	2072.3897	-.259
.3899	.206	.3904	-.263
.4113	.177	.4138	-.277
.4219	.169	.4226	-.289
.4245	.168	.4234	-.309
.4323	.156	.4313	-.301
.4405	.147	.4331	-.306
.4429	.135	.4349	-.327
.4474	.160	.4398	-.298
.4499	.147	.4414	-.331
.4611	.124	.4422	-.351
.4620	.123	.4484	-.315
.4656	.156	.4504	-.319
.4665	.139	.4605	-.301
.4729	.153	.4616	-.313
.4737	.137	.4661	-.318
		.4670	-.328
		.4724	-.296
		.4733	-.309
Jan. 25, 1974			
2073.2879	.178	2073.2872	-.262
.2890	.174	.2885	-.264
.3011	.191	.3006	-.235
.3021	.181	.3016	-.272
.3057	.178	.3063	-.232
.3067	.187	.3072	-.252
.3109	.201	.3104	-.248
.3124	.202	.3117	-.252
.3174	.216	.3180	-.261
.3188	.218	.3195	-.242
.3281	.252	.3276	-.234
.3296	.271	.3288	-.214
.3354	.285	.3362	-.157
.3370	.295	.3378	-.131
.3440	.339	.3447	-.088
.3455	.377	.3461	-.079

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Cr_t - BD-16°3241)

Hel. JD 2440000+	Δ V	Hel. JD 2440000+	Δ B
Jan. 25, 1974 (contd.)			
2073.3469	.377	2073.3474	-.078
.3482	.381	.3489	-.033
.3565	.472	.3557	.041
.3578	.477	.3572	.051
.3587	.486	.3582	.047
.3595	.496	.3591	.082
.3619	.515	.3625	.072
.3632	.537	.3637	.111
.3640	.549	.3645	.112
.3649	.565	.3683	.156
.3688	.594	.3692	.169
.3697	.590	.3702	.165
.3706	.607	.3711	.190
.3715	.618	.3749	.236
.3745	.668	.3763	.240
.3758	.679	.3771	.261
.3767	.675	.3779	.266
.3774	.684	.3809	.285
.3815	.727	.3820	.291
.3825	.718	.3829	.311
.3834	.727	.3838	.293
.3843	.742	.3887	.337
.3881	.753	.3899	.350
.3891	.752	.3907	.342
.3903	.752	.3915	.347
.3911	.745	.3945	.343
.3950	.759	.3957	.352
.3963	.743	.3967	.339
.3972	.746	.3977	.340
.3983	.744	.4016	.322
.4011	.730	.4032	.302
.4037	.732	.4042	.300
.4046	.711	.4050	.296
.4055	.703	.4060	.252
.4063	.700	.4102	.253
.4091	.671	.4110	.238
.4106	.667	.4117	.222
.4114	.658	.4127	.205
.4121	.652	.4158	.182
.4163	.627	.4167	.167
.4170	.605	.4175	.161

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
Jan. 25, 1974 (contd.)			
2073.4181	.595	2073.4185	.153
.4189	.595	.4229	.097
.4224	.538	.4239	.078
.4235	.532	.4247	.080
.4243	.515	.4256	.059
.4251	.500	.4324	.001
.4328	.405	.4332	-.013
.4336	.419	.4340	-.030
.4345	.404	.4348	-.040
.4353	.387	.4383	-.058
.4389	.390	.4405	-.100
.4411	.361	.4433	-.124
.4446	.325	.4502	-.170
.4497	.282	.4529	-.193
.4509	.277	.4535	-.201
.4520	.275	.4577	-.235
.4583	.228	.4588	-.235
.4595	.222	.4602	-.230
.4608	.216	.4657	.272
.4650	.215	.4669	-.256
.4663	.187	.4681	-.263
.4676	.200	.4750	-.276
.4757	.183	.4763	-.287
.4770	.180	.4777	-.301
.4783	.178	.4838	-.289
.4832	.171	.4853	-.293
.4845	.163		
April 8, 1975			
2511.2384	.186	2511.2395	-.285
.2420	.169	.2409	-.281
.2504	.144	.2486	-.294
.2558	.154	.2573	-.309
.2593	.118	.2581	-.321
.2756	.162	.2763	-.313
.2789	.159	.2778	-.298
.2906	.167	.2888	-.312
.2937	.153	.2925	-.312
.2999	.161	.3151	-.287

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Cr1 - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
April 8, 1975 (contd.)			
2511.3143	.174	2511.3166	-.280
.3177	.148	.3231	-.294
.3221	.158	.3242	-.291
.3250	.158	.3304	-.303
.3295	.151	.3314	-.305
.3325	.153	.3378	-.276
.3366	.175	.3389	-.283
.3397	.159	.3529	-.284
.3583	.183	.3541	-.266
.3629	.200	.3569	-.251
.3671	.196	.3640	-.258
.3688	.168	.3649	-.270
.3732	.161	.3678	-.259
.3748	.195	.3740	-.262
		.3753	-.265
April 9, 1975			
2512.2113	.343	2512.2123	-.094
.2210	.294	.2202	-.150
.2226	.296	.2218	-.168
.2292	.237	.2285	-.218
.2307	.228	.2300	-.226
.2405	.193	.2398	-.291
.2423	.185	.2414	-.265
.2487	.177	.2481	-.278
.2517	.197	.2509	-.251
.2795	.163	.2802	-.324
.2810	.150	.2816	-.327
.2877	.158	.2884	-.298
.2892	.152	.2899	-.308
.2957	.138	.2964	-.287
.2978	.163	.2972	-.291
.2990	.187	.2997	-.306
.3129	.136	.3123	-.330
.3159	.133	.3149	-.313
.3271	.116	.3280	-.326
.3301	.132	.3309	-.325
.3416	.117	.3409	-.342
.3439	.124	.3432	-.324

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Cr^t - BD-16°3241)

Hel. JD 2440000+	Δ V	Hel. JD 2440000+	Δ B
April 9, 1975 (contd.)			
2512.3484	.121	2512.3491	-.338
.3507	.114	.3515	-.332
.3625	.150	.3634	-.303
.3657	.139	.3669	-.314
April 16, 1975			
2519.1346	.325	2519.1360	-.118
.1387	.360	.1373	-.115
.1876	.727	.1870	.307
.1905	.709	.1896	.281
.1964	.739	.1982	.297
.2007	.677	.2016	.252
.2078	.616	.2071	.174
.2105	.589	.2096	.156
.2159	.509	.2166	.059
.2185	.507	.2193	.039
.2244	.435	.2237	-.021
.2270	.400	.2262	-.040
.2315	.361	.2325	-.107
.2348	.330	.2356	-.126
.2409	.290	.2402	-.171
.2437	.286	.2429	-.173
.2500	.229	.2510	-.235
.2531	.218	.2523	-.243
.2673	.185	.2682	-.295
.2703	.175	.2694	-.298
.2860	.136	.2852	-.307
.2873	.133	.2881	-.330
.3070	.155	.3056	-.297
.3100	.156	.3063	-.297
.3231	.134	.3109	-.291
.3253	.134	.3223	-.333
.3444	.109	.3246	-.335
.3469	.112	.3452	-.322
.3530	.114	.3477	-.325
.3554	.119	.3522	-.328
		.3546	-.332

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Cr^t - BD-16°3241)

Hel. JD 2440000+	Δ V	Hel. JD 2440000+	Δ B
April 17, 1975			
2520.1328	.160	2520.1314	-.265
.1773	.232	.1763	-.241
.1787	.188	.1797	-.232
.1835	.208	.1842	-.224
.1861	.229	.1854	-.227
.1909	.203	.1900	-.266
.1922	.205	.1929	-.260
.1975	.199	.1990	-.253
.2011	.198	.2003	-.268
.2062	.302	.2052	-.141
.2113	.299	.2105	-.196
.2159	.288	.2152	-.262
.2206	.304	.2199	-.124
.2421	.358	.2428	-.223
.2545	.255	.2531	-.127
.2947	.176	.2929	-.285
.3045	.188	.2987	-.247
.3127	.160	.3110	-.281
.3213	.161	.3194	-.284
.3297	.156	.3279	-.283
.3357	.164	.3345	-.271
.3465	.148	.3472	-.281
.3579	.148	.3584	-.289
Jan. 22, 1976			
2800.4203	.189	2800.4228	-.270
.4212	.188	.4237	-.273
.4469	.166	.4430	-.288
.4478	.166	.4451	-.290
.4709	.157	.4730	-.308
.4715	.156	.4745	-.296
Jan. 24, 1976			
2802.3040	.136	2802.3021	-.306
.3058	.136	.3064	-.311
.3186	.142	.3162	-.308
.3198	.149	.3172	-.314
.3374	.147	.3348	-.308

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	Δ V	Hel. JD 2440000+	Δ B
Jan. 24, 1976 (contd.)			
2802.3388	.152	2802.3370	-.300
.3439	.137	.3457	-.293
.3474	.159	.3487	-.297
.3536	.161	.3550	-.299
.3604	.190	.3613	-.271
.3664	.187	.3674	-.270
.3720	.180	.3729	-.263
.3776	.180	.3786	-.258
.3829	.209	.3840	-.215
.3948	.195	.3958	-.258
.4001	.176	.4011	-.300
.4052	.158	.4064	-.266
.4124	.259	.4135	-.208
.4183	.254	.4193	-.197
.4247	.295	.4258	-.219
.4300	.243	.4312	-.228
.4354	.290	.4372	-.197
.4363	.284	.4434	-.191
.4424	.318	.4496	-.186
.4486	.310	.4704	-.215
.4695	.295		
Feb. 5, 1976			
2814.2848	.182	2814.2861	-.288
.2876	.178	.2889	-.303
.2934	.153	.2948	-.302
.2971	.149	.2960	-.297
.3084	.144	.3100	-.276
.3121	.142	.3111	-.279
.3168	.141	.3178	-.294
.3198	.154	.3189	-.307
.3247	.173	.3257	-.269
.3296	.177	.3285	-.291
.3341	.205	.3350	-.265
.3370	.202	.3360	-.268
.3415	.215	.3424	-.281
.3443	.213	.3434	-.248
.3484	.235	.3493	-.236
.3511	.252	.3503	-.234
.3562	.235	.3571	-.214

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	Δ V	Hel. JD 2440000+	Δ B
Feb. 5, 1976 (contd.)			
2814.3596	.257	2814.3586	-.218
.3717	.290	.3730	-.202
.3750	.290	.3741	-.205
.3793	.277	.3803	-.194
.3825	.290	.3814	-.192
.3868	.304	.3878	-.192
.3898	.303	.3889	-.174
.3940	.303	.3949	-.198
.3967	.301	.3959	-.176
.4043	.286	.4052	-.215
.4062	.274	.4072	-.212
.4155	.279	.4178	-.198
.4171	.278	.4196	-.200
.4186	.280	.4216	-.202
.4327	.259	.4346	-.205
.4336	.259	.4383	-.223
.4356	.252	.4460	-.242
.4450	.224	.4480	-.244
.4471	.220	.4556	-.255
.4547	.206	.4575	-.259
.4565	.209	.4646	-.267
.4636	.193	.4664	-.272
.4655	.183	.4789	-.299
.4796	.163	.4802	-.291
.4810	.152	.4852	-.253
.4866	.175	.4877	-.265
.4890	.183	.4936	-.299
.4943	.167	.4959	-.258
.4968	.183	.5018	-.276
.5026	.155	.5043	-.292
.5059	.160	.5052	-.267
Feb. 6, 1976			
2815.2533	.115	2815.2544	-.345
.2575	.126	.2558	-.345
.2584	.129	.2591	-.337
.2649	.096	.2600	-.347
.2671	.092	.2656	-.341
.2768	.110	.2680	-.351

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Cr1 - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
Feb. 6, 1976 (contd.)			
2815.2797	.104	2815.2775	-.355
.2857	.122	.2783	-.357
.2879	.124	.2805	-.363
.2926	.118	.2811	-.364
.2949	.106	.2851	-.363
.2957	.109	.2871	-.366
.3027	.106	.2934	-.354
.3066	.120	.2964	-.347
.3239	.121	.2971	-.355
.3278	.127	.3045	-.364
.3288	.128	.3056	-.360
.3346	.133	.3258	-.347
.3365	.134	.3271	-.340
.3373	.142	.3296	-.348
.3550	.159	.3337	-.335
.3571	.162	.3359	-.336
.3607	.148	.3541	-.310
.3630	.165	.3563	-.312
.3803	.212	.3614	-.309
.3826	.232	.3639	-.302
.3892	.273	.3810	-.233
.3918	.290	.3835	-.222
.3966	.319	.3846	-.229
.4001	.365	.3884	-.194
.4061	.424	.3908	-.180
.4067	.434	.3975	-.128
.4075	.431	.3985	-.127
.4096	.457	.4009	-.104
.4133	.488	.4054	-.051
.4154	.499	.4089	-.013
.4219	.588	.4140	.054
.4241	.608	.4162	.081
.4299	.680	.4228	.167
.4327	.710	.4246	.177
.4363	.734	.4291	.240
.4384	.730	.4313	.265
.4435	.757	.4320	.265
.4462	.742	.4369	.295
.4505	.734	.4391	.315
.4532	.727	.4428	.324

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
Feb. 6, 1976 (contd.)			
2815.4593	.687	2815.4453	.322
.4619	.661	.4512	.318
.4661	.629	.4541	.302
.4686	.602	.4584	.276
.4742	.563	.4612	.242
.4775	.514	.4670	.187
.4814	.464	.4711	.158
.4837	.452	.4736	.113
.4892	.387	.4757	.103
.4915	.361	.4766	.085
.4955	.336	.4823	.022
.4976	.314	.4843	.002
.5030	.276	.4883	-.039
.5053	.280	.4907	-.065
		.4962	-.114
		.4984	-.122
		.5023	-.155
		.5045	-.182
Feb. 19, 1976			
2828.2591	.097	2828.2605	-.344
.2634	.108	.2619	-.338
.2717	.118	.2692	-.321
.2731	.110	.2706	-.327
.2804	.113	.2778	-.334
.2818	.114	.2792	-.365
.2967	.124	.2943	-.321
.2983	.117	.2959	-.310
.3062	.113	.3041	-.310
.3076	.115	.3051	-.317
.3148	.148	.3127	-.317
.3159	.152	.3139	-.313
.3234	.162	.3207	-.306
.3247	.154	.3222	-.289
.3314	.132	.3289	-.295
.3326	.145	.3304	-.305
.3414	.175	.3389	-.296
.3423	.144	.3402	-.306
.3437	.157	.3499	-.281

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
Feb. 19, 1976 (contd.)			
2828.3528	.193	2828.3516	-.306
.3542	.190	.3814	-.247
.3788	.198	.3830	-.247
.3804	.192	.3913	-.218
.3887	.207	.3926	-.232
.3901	.199	.4016	-.206
.3986	.253	.4033	-.193
.4001	.264	.4119	-.201
.4091	.289	.4137	-.199
.4107	.280		
Feb. 20, 1976			
2829.2358	.164	2829.2334	-.267
.2368	.152	.2345	-.267
.2429	.158	.2443	-.303
.2464	.162	.2454	-.302
.2554	.140	.2532	-.294
.2569	.148	.2544	-.283
.2700	.133	.2673	-.301
.2714	.134	.2687	-.321
.2787	.136	.2761	-.304
.2799	.133	.2777	-.311
.2868	.142	.2843	-.304
.2882	.134	.2857	-.314
.2973	.134	.2946	-.305
.2991	.126	.2964	-.393
.3063	.124	.3039	-.313
.3076	.123	.3052	-.313
.3084	.136	.3261	-.328
.3241	.134	.3273	-.319
.3252	.135	.3338	-.326
.3316	.146	.3349	-.319
.3327	.132	.3589	-.309
.3387	.145	.3642	-.303
.3400	.138	.3653	-.302
.3409	.134	.3714	-.288
.3602	.146	.3724	-.307
.3662	.153	.3798	-.303
.3676	.159	.3809	-.300
.3734	.157	.3873	-.286

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
Feb. 20, 1976 (contd.)			
2829.3747	.141	2829.3884	-.277
.3817	.192	.3997	-.282
.3831	.159	.4007	-.270
.3891	.167		
.3902	.180		
.4017	.188		
.4027	.184		
.4039	.195		
Feb. 26, 1976			
2835.2390	.134	2835.2374	-.319
.2397	.141	.2419	-.318
.2408	.131	.2479	-.336
.2467	.134	.2491	-.346
.2501	.120	.2605	-.336
.2622	.120	.2647	-.340
.2635	.113	.2719	-.335
.2702	.108	.2733	-.328
.2745	.128	.2794	-.333
.2809	.125	.2833	-.332
.2821	.121	.2912	-.340
.2891	.116	.2925	-.340
.2937	.116	.3064	-.337
.3079	.117	.3103	-.339
.3092	.120	.3168	-.338
.3151	.119	.3182	-.335
.3194	.129	.3391	-.331
.3374	.140	.3404	-.328
.3414	.151	.3475	-.307
.3426	.155	.3519	-.311
.3492	.154	.3603	-.319
.3505	.156	.3619	-.311
.3587	.146	.3685	-.294
.3630	.142	.3730	-.289
.3699	.173	.3739	-.295
.3705	.180	.3812	-.284
.3719	.166	.3849	-.280
.3827	.164	.3911	-.276
.3837	.175	.3926	-.265
.3898	.182	.3935	-.272

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	Δ V	Hel. JD 2440000+	Δ B
Feb. 26, 1976 (contd.)			
2835.3950	.202	2835.4077	-.245
.4091	.234	.4113	-.234
.4103	.239	.4185	-.209
.4160	.245	.4195	-.213
.4169	.252		
.4205	.255		
Feb. 27, 1976			
2836.2065	.226	2836.2051	-.237
.2074	.223	.2096	-.228
.2086	.207	.2155	-.252
.2142	.205	.2168	-.254
.2178	.217	.2224	-.274
.2240	.181	.2263	-.267
.2252	.190	.2387	-.288
.2280	.181	.2423	-.274
.2400	.194	.2498	-.300
.2412	.189	.2510	-.297
.2473	.174	.2569	-.294
.2486	.166	.2603	-.305
.2521	.157	.2669	-.304
.2583	.156	.2683	-.310
.2594	.142	.2750	-.316
.2652	.133	.2787	-.306
.2696	.128	.2850	-.324
.2764	.137	.2860	-.318
.2779	.137	.2923	-.331
.2837	.138	.2962	-.314
.2877	.136	.3186	-.334
.2937	.123	.3200	-.332
.2951	.135	.3265	-.329
.3172	.119	.3305	-.338
.3209	.132	.3330	-.330
.3217	.135	.3377	-.341
.3282	.132	.3389	-.346
.3294	.130	.3451	-.337
.3362	.115	.3511	-.325
.3400	.122	.3582	-.336
.3468	.120	.3593	-.345

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
Feb. 27, 1976 (contd.)			
2836.3500	.115	2836.3658	-.327
.3564	.126	.3703	-.327
.3608	.134	.3789	-.321
.3675	.136	.3804	-.318
.3690	.143	.3982	-.305
.3772	.150	.4030	-.311
.3818	.149	.4095	-.296
.4003	.160	.4107	-.290
.4017	.163		
.4080	.162		
.4118	.167		
March 6, 1976			
2844.1755	.322	2844.1738	-.137
.1783	.350	.1776	-.128
.1828	.376	.1837	-.060
.1852	.405	.1861	-.037
.1919	.462	.1908	.010
.1947	.488	.1936	.051
.1990	.534	.1999	.115
.2015	.561	.2024	.140
.2078	.632	.2068	.190
.2108	.661	.2099	.229
.2146	.688	.2156	.270
.2172	.718	.2180	.312
.2238	.739	.2236	.322
.2261	.758	.2253	.326
.2310	.769	.2319	.329
.2333	.737	.2341	.335
.2389	.718	.2380	.301
.2413	.703	.2406	.278
.2465	.646	.2473	.215
.2494	.637	.2502	.176
.2556	.566	.2549	.123
.2580	.529	.2573	.106
.2626	.487	.2633	.037
.2649	.461	.2660	-.002
.2708	.392	.2699	-.046
.2731	.373	.2724	-.068

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
March 6, 1976 (contd.)			
2844.2774	.335	2844.2788	-.131
.2809	.312	.2799	-.142
.2860	.279	.2874	-.201
.2891	.247	.2884	-.207
.2936	.221	.2948	-.238
.2969	.221	.2958	-.243
.3013	.227	.3026	-.253
.3048	.196	.3039	-.266
.3101	.178	.3115	-.270
.3136	.181	.3126	-.276
.3179	.163	.3192	-.283
.3213	.145	.3203	-.290
.3339	.149	.3352	-.328
.3376	.152	.3365	-.325
.3422	.158	.3438	-.313
.3460	.153	.3450	-.312
.3511	.138	.3526	-.309
.3549	.137	.3539	-.312
.3591	.130	.3606	-.324
.3627	.117	.3617	-.333
.3676	.116	.3694	-.330
.3716	.120	.3706	-.330
.3762	.117	.3778	-.326
.3801	.098	.3790	-.327
.3858	.107	.3872	-.330
.4007	.128	.4024	-.328
.4051	.121	.4041	-.324
.4229	.140	.4251	-.330
.4274	.128	.4264	-.335
.4325	.129	.4335	-.320
.4353	.137	.4374	-.319
.4365	.154		
March 7, 1976			
2845.1673	.153	2845.1659	-.293
.1683	.147	.1693	-.294
.1803	.174	.1815	-.278
.1838	.174	.1828	-.272
.1882	.170	.1898	-.298
.1920	.189	.1911	-.295
.1965	.190	.1977	-.280

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
March 7, 1976 (contd.)			
2845.2001	.168	2845.1991	-.285
.2067	.178	.2081	-.275
.2100	.199	.2093	-.257
.2221	.195	.2207	-.240
.2232	.204	.2241	-.244
.2283	.208	.2296	-.242
.2321	.222	.2309	-.229
.2384	.244	.2368	-.223
.2395	.249	.2404	-.227
.2459	.265	.2416	-.226
.2495	.256	.2473	-.216
.2545	.258	.2486	-.214
.2553	.253	.2567	-.194
.2597	.259	.2577	-.192
.2646	.286	.2586	-.190
.2689	.284	.2659	-.183
.2743	.282	.2668	-.182
.2774	.305	.2679	-.177
.2827	.308	.2755	-.167
.2862	.306	.2765	-.168
.2913	.302	.2841	-.175
.2952	.297	.2852	-.174
.2992	.289	.2926	-.183
.3024	.288	.2939	-.180
.3071	.273	.3006	-.195
.3104	.270	.3017	-.187
.3147	.273	.3084	-.185
.3182	.246	.3095	-.194
.3225	.252	.3160	-.200
.3268	.215	.3171	-.203
.3315	.221	.3241	-.220
.3352	.213	.3254	-.218
.3417	.221	.3329	-.228
.3429	.204	.3343	-.236
.3486	.205	.3402	-.236
.3527	.188	.3440	-.263
.3654	.171	.3502	-.262
.3694	.181	.3516	-.269
.3743	.179	.3669	-.269
.3782	.186	.3682	-.265
		.3756	-.288
		.3769	-.282

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
April 2, 1976			
2871.1218	.124	2871.1205	-.335
.1232	.135	.1244	-.329
.1291	.159	.1302	-.335
.1323	.139	.1313	-.329
.1393	.122	.1406	-.327
.1429	.110	.1419	-.317
.1437	.135	.1492	-.321
.1482	.127	.1503	-.320
.1513	.124	.1613	-.245
.1583	.119	.2159	-.219
.1595	.159	.2172	-.215
.2142	.228	.2251	-.211
.2181	.245	.2279	-.192
.2241	.275	.2346	-.177
.2269	.255	.2372	-.178
.2353	.289	.2443	-.178
.2379	.287	.2474	-.192
.2424	.280	.2546	-.185
.2431	.296	.2576	-.171
.2466	.289	.2638	-.167
.2555	.293	.2666	-.177
.2585	.300	.2708	-.176
.2628	.300	.2717	-.182
.2654	.306	.2747	-.204
.2727	.285	.2847	-.234
.2756	.286	.2885	-.198
.2814	.296	.2897	-.206
.2821	.290	.2948	-.233
.2830	.277	.2974	-.241
.2869	.275	.3044	-.232
.2877	.274	.3071	-.228
.2956	.232	.3109	-.216
.2983	.253	.3144	-.229
.2992	.237	.3197	-.254
.3035	.244	.3222	-.257
.3062	.242	.3262	-.256
.3118	.224	.3294	-.257
.3127	.217	.3302	-.249
.3151	.204	.3359	-.254

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	Δ V	Hel. JD 2440000+	Δ B
April 2, 1976 (contd.)			
2871.3190	.190	2871.3367	-.240
.3215	.186	.3396	-.257
.3270	.203	.3443	-.253
.3308	.179	.3469	-.259
.3349	.182	.3531	-.272
.3383	.181	.3558	-.269
.3451	.179	.3697	-.276
.3476	.184	.3723	-.247
.3522	.167	.3768	-.281
.3551	.151	.3794	-.289
.3689	.159	.3856	-.314
.3716	.128	.3879	-.271
.3776	.144		
.3803	.140		
.3846	.146		
.3871	.163		
April 3, 1976			
2872.2491	.251	2872.2499	-.198
.2499	.244	.2525	-.186
.2518	.264	.2564	-.133
.2579	.343	.2570	-.125
.2603	.336	.2595	-.093
.2647	.391	.2654	-.059
.2669	.403	.2678	-.054
.2793	.537	.2716	-.026
.2854	.582	.2784	.057
.2856	.585	.2840	.121
.2887	.567	.2877	.183
.2927	.643	.2934	.243
.2950	.683	.2958	.250
.3016	.756	.3000	.243
.3052	.767	.3006	.284
.3091	.751	.3040	.322
.3114	.766	.3097	.352
.3180	.708	.3120	.360
.3207	.656	.3171	.322
.3263	.675	.3198	.273
.3310	.599	.3277	.204
.3371	.549	.3289	.195

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	Δ V	Hel. JD 2440000+	Δ B
April 3, 1976 (contd.)			
2872.3409	.495	2872.3320	.135
.3574	.353	.3361	.101
.3600	.333	.3391	.071
.3645	.312	.3402	.077
.3673	.304	.3562	-.082
.3749	.218	.3592	-.119
.3793	.218	.3654	-.145
		.3683	-.170
		.3738	-.218
		.3769	-.222
		.3783	-.254
April 28, 1976			
2897.1745	.203	2897.1734	-.245
.1756	.214	.1767	-.243
.1836	.217	.1845	-.252
.1865	.229	.1856	-.256
.1871	.212	.1943	-.225
.1932	.271	.1954	-.225
.1972	.258	.1961	-.218
.2022	.263	.2033	-.211
.2087	.271	.2045	-.207
.2140	.261	.2074	-.198
.2170	.291	.2149	-.199
.2220	.266	.2161	-.206
.2254	.286	.2230	-.196
.2308	.297	.2245	-.197
.2331	.292	.2315	-.163
.2395	.308	.2341	-.192
.2421	.325	.2386	-.166
.2463	.320	.2413	-.175
.2490	.311	.2471	-.185
.2550	.318	.2497	-.184
.2581	.285	.2543	-.184
.2662	.283	.2571	-.174
.2693	.284	.2650	-.193
.2734	.273	.2684	-.189
.2759	.268	.2743	-.204
.2820	.204	.2767	-.216
.2848	.208	.2811	-.255
		.2841	-.283

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	Δ V	Hel. JD 2440000+	Δ B
April 29, 1976			
2898.1622	.169	2898.1610	-.307
.1632	.156	.1641	-.307
.1688	.181	.1697	-.270
.1715	.160	.1707	-.275
.1815	.195	.1821	-.288
.1836	.178	.1842	-.273
.1886	.241	.1878	-.264
.1918	.189	.1910	-.252
.1966	.166	.1942	-.292
.1993	.186	.1982	-.307
.2033	.153	.2041	-.314
.2056	.138	.2063	-.308
.2111	.237	.2103	-.215
.2138	.210	.2129	-.239
.2151	.217	.2246	-.184
.2189	.238	.2270	-.161
.2238	.271	.2305	-.136
.2263	.289	.2327	-.122
.2311	.319	.2387	-.092
.2334	.318	.2409	-.063
.2378	.344	.2443	-.033
.2402	.366	.2465	-.009
.2450	.436	.2521	.058
.2474	.472	.2556	.120
.2513	.473	.2595	.187
.2537	.542	.2620	.137
.2545	.585	.2703	.219
.2604	.599	.2735	.306
.2629	.594	.2800	.339
.2637	.584	.2828	.348
.2694	.647	.2895	.352
.2725	.675	.2925	.327
.2807	.756	.2936	.287
.2838	.783	.2983	.246
.2886	.743	.3011	.284
.2916	.791	.3086	.121
.2991	.702	.3120	.027
.3021	.669	.3208	-.094
.3076	.507		
.3109	.431		

TABLE II (continued)
MAGNITUDE DIFFERENCES (V Crt - BD-16°3241)

Hel. JD 2440000+	ΔV	Hel. JD 2440000+	ΔB
May 5, 1976			
2904.1826	.155	2904.1818	-.316
.1852	.186	.1843	-.276
.1859	.197	.1908	-.296
.1899	.197	.1957	-.275
.1948	.219	.2023	-.232
.2032	.225	.2056	-.236
.2039	.212	.2109	-.222
.2063	.233	.2135	-.216
.2101	.243	.2141	-.216
.2127	.242	.2260	-.220
.2247	.253	.2270	-.205
.2277	.284	.2341	-.193
.2328	.258	.2351	-.164
.2363	.287	.2409	-.175
.2401	.296	.2439	-.182
.2424	.295	.2475	-.173
.2432	.299	.2496	-.177
.2482	.320	.2503	-.178
.2510	.297	.2571	-.174
.2564	.306	.2578	-.179
.2594	.300	.2603	-.184
.2659	.303	.2642	-.188
.2669	.298	.2650	-.190
.2700	.262	.2692	-.223
.2707	.276	.2801	-.227
.2716	.283	.2814	-.202
.2772	.281	.2877	-.192
.2781	.261		
.2821	.241		
.2890	.250		