

COMMISSION 27 OF THE I. A. U.  
 INFORMATION BULLETIN ON VARIABLE STARS

NUMBER 373

Konkoly Observatory  
 Budapest  
 1969 August 30

1969 UBV OBSERVATIONS OF CG CYGNI

UBV photoelectric data, in the form of dual 10-second integrations in each filterband, of the eclipsing binary CG Cygni were taken during June 1969 at the Kitt Peak National Observatory using a 16" reflector. The observations are part of a continuing program, begun in 1965, the purpose of which is to study the asymmetries in the light curve maxima of close binaries. The data consist of differential values between the variable star and BD +34°4216. Phases were computed using the light elements

$$E = 2422967.4283 \quad \text{and} \quad p^{-1} = 1.5844252^{d-1}$$

<u>Julian Date</u>	<u>Cycle Phase</u>	<u>DV</u>	<u>D(B-V)</u>	<u>D(U-B)</u>
2440300+	27500+			
78.9286	87.2205	1.129	0.137	0.152
78.9310	87.2241	1.095	0.179	0.141
79.8932	88.7488	1.100	0.144	0.113
79.8957	88.7524	1.120	0.103	0.101
79.9040	88.7656	1.109	0.110	0.134
79.9063	88.7695	1.097	0.125	0.122
79.9406	88.8237	1.133	0.100	0.146
79.9432	88.8279	1.122	0.111	0.157
79.9467	88.8335	1.131	0.125	0.123
79.9486	88.8364	1.116	0.129	0.118
79.9527	88.8430	1.121	0.132	0.141
80.9343	90.3984	1.063	0.121	0.087
80.9362	90.4016	1.066	0.122	0.119
80.9378	90.4043	1.059	0.115	0.094
80.9396	90.4070	1.072	0.106	0.126
80.9422	90.4111	1.096	0.098	0.091
80.9438	90.4136	1.088	0.111	0.101
80.9447	90.4150	1.100	0.099	0.106
80.9457	90.4167	1.106	0.098	0.096
80.9476	90.4197	1.103	0.101	0.127
80.9508	90.4248	1.122	0.088	0.118
80.9525	90.4275	1.125	0.087	0.109
80.9535	90.4290	1.119	0.097	0.125
80.9555	90.4321	1.126	0.095	0.105
80.9578	90.4360	1.152	0.091	0.087
80.9594	90.4382	1.170	0.077	0.093

<u>Julian Date</u>	<u>Cycle Phase</u>	<u>DV</u>	<u>D(B-V)</u>	<u>D(U-V)</u>
2440300+	27500+			
81.9007	91.9299	1.256	0.179	0.145
81.9017	91.9314	1.277	0.166	0.156
81.9025	91.9326	1.292	0.172	0.136
81.9034	91.9341	1.297	0.184	0.141
81.9044	91.9358	1.318	0.180	0.194
81.9057	91.9377	1.354	0.167	0.190
81.9067	91.9392	1.359	0.178	0.179
81.9076	91.9407	1.389	0.176	0.180
81.9087	91.9424	1.420	0.173	0.191
81.9119	91.9478	1.490	0.185	0.203
81.9130	91.9492	1.500	0.195	0.198
81.9138	91.9504	1.551	0.170	0.272
81.9147	91.9519	1.534	0.204	0.225
81.9156	91.9536	1.570	0.199	0.236
81.9173	91.9563	1.605	0.188	0.258
81.9182	91.9578	1.620	0.188	0.300
81.9192	91.9590	1.629	0.222	0.238
81.9201	91.9604	1.639	0.217	0.301
81.9234	91.9658	1.729	0.229	0.289
81.9244	91.9675	1.750	0.229	0.290
81.9257	91.9692	1.765	0.252	0.318
81.9268	91.9712	1.790	0.241	0.293
81.9285	91.9741	1.796	0.259	0.291
81.9295	91.9756	1.802	0.253	0.315
81.9306	91.9771	1.808	0.236	0.328
81.9314	91.9783	1.787	0.266	0.334
81.9334	91.9817	1.805	0.229	0.331
81.9344	91.9834	1.795	0.227	0.307
81.9353	91.9849	1.786	0.227	0.303
81.9363	91.9863	1.756	0.235	0.321
81.9373	91.9880	1.722	0.234	0.312
81.9383	91.9895	1.727	0.219	0.297
81.9429	91.9968	1.638	0.184	0.295
81.9440	91.9983	1.587	0.207	0.271
81.9459	92.0015	1.545	0.215	0.270
82.8379	93.4148	1.103	0.113	0.079
82.8403	93.4185	1.101	0.110	0.092
83.8086	94.9526	1.568	0.192	0.212
83.8103	94.9556	1.613	0.195	0.208
83.8136	94.9607	1.686	0.187	0.274
83.8153	94.9634	1.729	0.198	0.247
83.8159	94.9641	1.739		
83.8162	94.9646	1.729		
83.8164	94.9653	1.751		
83.8167	94.9656	1.741		

<u>Julian Date</u>	<u>Cycle Phase</u>	<u>DV</u>	<u>D(B-V)</u>	<u>D(U-B)</u>
2440300+	27500+			
83.8170	94.9661	1.757		
83.8173	94.9666	1.767		
83.8175	94.9668	1.762		
83.8178	94.9673	1.764		
83.8180	94.9675	1.774		
83.8183	94.9680	1.779		
83.8186	94.9685	1.790		
83.8194	94.9700	1.807	0.225	0.310
83.8222	94.9741	1.834	0.210	0.338
83.8232	94.9758	1.847	0.207	0.354
83.8238	94.9768	1.838		
83.8241	94.9773	1.843		
83.8244	94.9778	1.825		
83.8246	94.9780	1.850		
83.8251	94.9788	1.836	0.233	0.1316
83.8262	94.9805	1.832	0.212	0.319
83.8278	94.9832	1.825	0.239	0.294
83.8309	94.9880	1.771	0.194	0.316
83.8321	94.9900	1.734	0.203	0.274
83.8335	94.9924	1.697	0.207	0.278
83.8343	94.9937	1.691	0.189	0.283
83.8379	94.9993	1.600	0.204	0.276
83.8400	95.0024	1.571	0.205	0.241
83.8411	95.0044	1.547	0.189	0.251
83.8450	95.0105	1.474	0.169	0.217
83.8469	95.0132	1.455	0.147	0.218
83.8478	95.0149	1.406	0.167	0.234
83.8494	95.0171	1.397	0.160	0.200
83.8991	95.0959	1.099	0.130	0.162
83.9009	95.0991	1.106	0.142	0.147
83.9021	95.1011	1.101	0.132	0.141
83.9037	95.1035	1.107	0.129	0.143
83.9103	95.1138	1.089	0.169	0.113
83.9114	95.1155	1.095	0.124	0.163
83.9132	95.1184	1.091	0.119	0.142
83.9146	95.1208	1.097	0.139	0.136
83.9355	95.1536	1.100	0.112	0.137
83.9370	95.1560	1.097	0.120	0.129
83.9385	95.1587	1.090	0.117	0.147
83.9396	95.1602	1.082	0.125	0.129
83.9435	95.1665	1.083	0.133	0.129
83.9446	95.1680	1.083	0.122	0.151
83.9462	95.1707	1.078	0.126	0.150
83.9473	95.1726	1.083	0.125	0.142
84.8726	96.6387	1.102	0.105	0.121

<u>Julian Date</u>	<u>Cycle Phase</u>	<u>DV</u>	<u>D(B-V)</u>	<u>D(U-B)</u>
2440300+	27500+			
84.8742	96.6414	1.098	0.109	0.115
84.8771	96.6460	1.090	0.121	0.098
84.8785	96.6484	1.080	0.116	0.109
84.8800	96.6506	1.100	0.106	0.106
84.8826	96.6550	1.105	0.101	0.114
84.8837	96.6565	1.095	0.116	0.111
84.8855	96.6597	1.095	0.111	0.136
84.8867	96.6616	1.111	0.096	0.129
84.8937	96.6724	1.099	0.116	0.123
84.8976	96.6785	1.104	0.104	0.118
84.8987	96.6804	1.092	0.117	0.120
84.9003	96.6829	1.095	0.119	0.127
84.9015	96.6848	1.088	0.122	0.124
84.9241	96.7207	1.102	0.111	0.140
84.9260	96.7234	1.114	0.106	0.133
84.9294	96.7288	1.116	0.094	0.121
84.9311	96.7314	1.105	0.112	0.127

The light curve has apparently undergone a greater change between June 1967 and June 1969 than it had between October 1965 and June 1967, the maxima now appearing nearly equal.

Reference: Milone, E.F. 1969, I.A.U. Colloquium on Non-Periodic Phenomena in Variable Stars. p. 457

E.F.MILONE

Gettysburg College,  
Kitt Peak National Observatory  
and The University of Maryland