

MINIMA OF ECLIPSING BINARY STARS, II

by

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This report continues previous lists of minima published in the International Astronomical Union's Information Bulletin on Variable Stars, No. 795, and in J.A.A.V.S.O., 3, No. 2. This work is sponsored by the AAVSO with the writer currently acting as program coordinator. This report contains 230 observed heliocentric minima of 52 eclipsing binary stars derived from observations submitted by participants in the AAVSO's eclipsing binary program. Except where otherwise noted, we continue, as has been our practice in the past, using linear elements given in the main listing of the 1969 General Catalog of Variable Stars to compute the O-C's without regard to additional linear or nonlinear elements which might appear in the notes following the main listing and without regard to more recent elements which may be listed in the supplements to the catalog. This practice is continued so that the O-C's published here may be readily compared with those we have published in the past. The number of estimates used for each minimum is given under n.

<u>J.D. hel.</u>	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>RT Andromedae</u>				
40625.536	11675	-0.009	11	J. Bortle
40794.729	11944	+0.002	11	S. Cook
40830.562	12001	-0.014	9	P. Atwood
40856.358	12042	-0.004	11	M. Baldwin
40879.635	12079	+0.002	13	D. Ortwein
40917.361	12139	-0.008	12	M. Baldwin
40925.551	12152	+0.006	11	D. Ortwein
<u>WZ Andromedae</u>				
40849.334	8300	-0.003	11	M. Baldwin
40858.357	8313	-0.023	20	M. Baldwin
<u>XZ Andromedae</u>				
40865.795	1260	-0.002	8	T. Cragg
40917.368	1298	-0.006	15	M. Baldwin
<u>AB Andromedae</u>				
40836.700	14243	-0.005	15	D. Ortwein
40849.336	14281	+0.019	11	M. Baldwin
40850.329	14284	+0.017	11	M. Baldwin
40850.650	14285	+0.005	12	D. Ortwein
40852.323	14290	+0.019	8	M. Baldwin
40853.321	14293	+0.022	10	M. Baldwin
40854.315	14296	+0.019	9	M. Baldwin
40856.471	14302.5	+0.018	11	M. Baldwin
40858.462	14308.5	+0.018	9	M. Baldwin
40862.608	14321	+0.015	11	E. Mayer
40888.656	14399.5	+0.010	10	D. Ortwein
40893.623	14414.5	-0.002	8	D. Ortwein
40898.614	14429.5	+0.012	12	D. Ortwein
<u>RY Aquarii</u>				
40865.699:	3556	-0.068:	8	T. Cragg

<u>J.D. hel.</u>	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>CX Aquarii</u>				
40849.738	7907	+0.007	16	T. Cragg
40856.413	7919	+0.010	18	M. Baldwin
<u>XZ Aquilae</u>				
40801.753	3236	-0.008	15	L. Hazel
40816.753	3243	+0.019	17	E. Mayer
<u>OO Aquilae</u>				
40745.787	13458	-0.017	24	B. Conner
40773.665	13513	-0.013	11	E. Mayer
40774.677	13515	-0.014	18	D. Ortwein
40775.700	13517	-0.005	23	B. Conner
40776.702	13519	-0.017	22	B. Conner
40789.645	13544.5	+0.003	13	D. Ortwein
40794.705	13554.5	-0.005	10	S. Cook
40806.600	13578	-0.019	8	W. Hampton
40806.609	13578	-0.011	8	D. Ortwein
40823.604	13611.5	+0.007	12	D. Ortwein
40824.612	13613.5	+0.002	12	D. Ortwein
40850.437	13664.5	-0.020	13	M. Baldwin
40859.305	13682	-0.020	10	M. Baldwin
40860.586	13684.5	-0.006	16	B. Conner
40862.603	13688.5	-0.017	12	E. Mayer
40877.294	13717.5	-0.023	16	M. Baldwin
40881.614	13726	-0.010	13	B. Conner
40915.561	13793	-0.019	16	B. Conner
<u>V346 Aquilae</u>				
40798.748	8559	-0.003	12	S. Cook
40850.750	8606	0.000	11	T. Cragg
40857.378	8612	-0.010	21	M. Baldwin
40869.560	8623	+0.002	11	D. Ortwein
40877.292	8630	-0.011	14	M. Baldwin
<u>WW Aurigae</u>				
40592.563	3028.5	+0.003	14	D. Ortwein
40597.608	3030.5	-0.002	12	M. Daw
40597.613:	3030.5	+0.003:	13	R. Sweetsir
40616.564:	3038	+0.016:	8	K. Simmons
40626.652	3042	+0.004	14	D. Ortwein
40645.594	3049.5	+0.009	19	K. Simmons
40645.567:	3049.5	-0.018:	10	M. Daw
40669.567	3059	-0.006	20	K. Simmons
40679.668:	3063	-0.005:	15	B. Conner
40948.578	3169.5	-0.010	13	J. Green
<u>SV Camelopardalis</u>				
40657.646	11601	-0.005	15	R. Thompson
40692.640	11660	-0.002	16	E. Mayer
40727.630	11719	-0.003	12	E. Mayer
40742.451:	11744	-0.009:	14	M. Baldwin
40850.402	11926	+0.003	12	M. Baldwin
40853.365	11931	+0.001	15	M. Baldwin
40856.331	11936	+0.002	12	M. Baldwin
40864.622	11950	-0.010	8	W. Hampton
40947.686	12090	+0.023	12	J. Green

<u>J.D. hel</u>	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>AL Camelopardalis</u>				
40656.568	10724	-0.002	14	J. Bortle
40701.728	10758	-0.005	23	E. Mayer
<u>R Canis Majoris</u>				
40589.589:	4467	-0.009:	17	R. Simpkins
40597.571	4474	+0.022	15	M. Daw
40597.571	4474	+0.022	15	R. Sweetsir
40606.633:	4482	-0.004:	19	R. Thompson
40615.734	4490	+0.009	14	R. Sweetsir
40631.614	4504	-0.013	16	R. Thompson
40681.610	4548	+0.001	19	R. Simpkins
40689.564	4555	+0.003	8	D. Ortwein
40941.739	4777	0.000	16	J. Green
40950.827	4785	+0.001	15	I. Lenss
<u>RZ Cassiopeiae</u>				
40588.6897	2882	-0.0013	16 (PEP)	H. Landis
40600.652	2892	+0.009	28	R. Sweetsir
40612.599	2902	+0.003	29	J. Green
40618.576	2907	+0.004	25	M. Daw
40618.576	2907	+0.004	22	R. Sweetsir
40655.621	2938	-0.004	15	J. Bortle
40655.629	2938	+0.004	22	R. Thompson
40692.668	2969	-0.009	17	D. Ortwein
40827.745	3082	+0.005	23	J. Green
40850.445	3101	-0.005	16	M. Baldwin
40856.423	3106	-0.003	18	M. Baldwin
40870.772	3118	+0.002	19	I. Lenss
40912.597	3153	-0.006	11	B. Small
40924.551	3163	-0.005	11	B. Small
40925.745	3164	-0.005	12	B. Small
40930.527:	3168	-0.004:	7	B. Small
40930.527	3168	-0.004	14	E. Mayer
40936.504	3173	-0.004	13	E. Mayer
40949.651	3184	-0.004	16	B. Small
40949.654	3184	-0.001	17	J. Green
40949.655	3184	0.000	10	T. Cragg
<u>TV Cassiopeiae</u>				
40877.563	11453	-0.008	9	E. Mayer
40924.713	11479	+0.014	18	T. Cragg
<u>AB Cassiopeiae</u>				
40837.744	5283	+0.006	13	L. Hazel
40855.516	5296	+0.009	13	M. Baldwin
40877.384	5312	+0.007	17	M. Baldwin
40941.632	5359	+0.012	22	E. Mayer
<u>U Cephei</u>				
40597.577	925	+0.012	15	M. Daw
40597.577	925	+0.012	15	R. Sweetsir
40709.762	970	+0.010	16	M. Daw
40709.764:	970	+0.012:	15	J. Green
40744.665	984	+0.011	20	M. Daw
40854.356	1028	+0.008	20	M. Baldwin
40859.342	1030	+0.008	14	M. Baldwin

<u>J.D. hel</u>	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>XX Cephei</u>				
40737.789	1177	-0.017	12	L. Hazel
40742.471	1179	-0.010	16	M. Baldwin
40859.339	1229	-0.008	9	M. Baldwin
<u>EG Cephei</u>				
40712.713	25308	+0.007	20	E. Mayer
40773.712	25420	+0.008	14	E. Mayer
40809.661	25486	+0.012	7	E. Mayer
40854.316	25568	+0.009	13	M. Baldwin
40856.497:	25572	+0.011:	13	M. Baldwin
40930.556	25708	+0.002	12	E. Mayer
<u>U Coronae Borealis</u>				
40709.691	6941	-0.022	20	M. Daw
40709.718	6941	+0.005	20	J. Green
<u>Y Cygni</u>				
40769.728:	10424.5	+0.134:	12	M. Daw
40772.743	10425.5	+0.153	10	D. Ortwein
40775.734	10426.5	+0.148	15	M. Daw
40778.757	10427.5	+0.174	18	M. Daw
40781.727	10428.5	+0.148	12	S. Cook
40784.729	10429.5	+0.153	11	D. Ortwein
40793.736	10432.5	+0.172	13	R. Simpkins
40814.646	10439.5	+0.107	17	B. Conner
40844.628:	10449.5	+0.126:	9	B. Conner
<u>WW Cygni (see note 1)</u>				
40852.318:	1683	+0.011:	15	M. Baldwin
<u>ZZ Cygni</u>				
40737.707	31180	-0.029	11	L. Hazel
40908.694	31452	-0.025	11	T. Cragg
<u>V477 Cygni</u>				
40809.628	3393	+0.021	8	L. Hazel
40830.720	3402	-0.010	17	R. Nolthenius
<u>TY Delphini</u>				
40852.342	10773	-0.003	9	M. Baldwin
40877.359	10794	0.000	16	M. Baldwin
<u>FZ Delphini</u>				
40784.749	12079	-0.004	14	D. Ortwein
40806.683	12107	0.000	11	D. Ortwein
40858.375	12173	0.000	21	M. Baldwin
40864.642	12181	+0.001	14	D. Ortwein
<u>Z Draconis</u>				
40855.438	5589	-0.002	11	M. Baldwin
<u>TW Draconis</u>				
40773.685	2453	-0.019	13	E. Mayer
<u>UZ Draconis</u>				
40859.323	6571	+0.005	11	M. Baldwin
<u>AI Draconis</u>				
40783.707	1440	+0.003	12	S. Cook
<u>RX Herculis</u>				
40798.717	4289	+0.022	10	S. Cook

<u>J.D. hel</u>	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>SZ Herculis</u>				
40679.700:	6958	+0.018:	16	B. Conner
40733.693	7024	+0.017	25	B. Conner
40737.774	7029	+0.007	18	L. Hazel
40751.693	7046	+0.018	13	W. Hampton
40760.689	7057	+0.015	17	D. Ortwein
40764.783	7062	+0.019	13	S. Cook
40864.588	7184	+0.017	13	W. Hampton
40868.681	7189	+0.019	14	T. Cragg
<u>CT Herculis</u>				
40768.706	791	+0.026	15	B. Conner
40775.869	795	+0.043	12	B. Conner
40777.629	796	+0.017	13	B. Conner
<u>SW Lacertae</u>				
40840.623	10189.5	-0.008	12	D. Ortwein
40849.604	10217.5	-0.008	9	W. Hampton
40850.405	10220	-0.008	11	M. Baldwin
40852.328	10226	-0.010	9	M. Baldwin
40858.421	10245	-0.010	16	M. Baldwin
40942.611	10507.5	-0.012	20	R. Thompson
<u>VX Lacertae</u>				
40857.344	6173	-0.035	15	M. Baldwin
40858.416	6174	-0.036	26	M. Baldwin
40861.644	6177	-0.032	9	D. Ortwein
<u>CM Lacertae</u>				
40852.341	8616	+0.002	11	M. Baldwin
<u>Y Leonis</u>				
40681.637	4147	+0.045	41	E. Mayer
40713.675	4166	+0.048	16	E. Mayer
40954.791	4309	+0.056	14	E. Mayer
<u>EW Lyrae</u>				
40750.826	2957	+0.032	14	L. Hazel
<u>FL Lyrae</u>				
40765.653	1168	+0.016	12	D. Ortwein
40863.6539	1213	+0.0001	21 (PEP)	D. Peterson
<u>U Ophiuchi</u>				
40744.657:	19355	-0.016:	22	M. Daw
40764.796	19367	-0.005	13	S. Cook
<u>ER Orionis</u>				
40602.652	9669	+0.003	9	D. Ortwein
40641.608	9761	+0.006	11	D. Ortwein
40655.589	9794	+0.015	11	D. Ortwein
40898.805	10368.5	-0.012	16	I. Lenss
40941.560	10469.5	-0.021	12	E. Mayer
<u>U Pegasi</u>				
40849.392:	11574	-0.003:	12	M. Baldwin
40850.325	11576.5	-0.007	12	M. Baldwin
40852.391	11582	-0.002	12	M. Baldwin
40853.324	11584.5	-0.006	13	M. Baldwin
40856.323	11592.5	-0.005	11	M. Baldwin
40858.371	11598	-0.018	17	M. Baldwin
40923.600	11772	-0.002	10	D. Ortwein

J.D. hel.	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>RT Persei</u>				
40858.418	19196	-0.050	19	M. Baldwin
<u>ST Persei</u>				
40855.519	666	+0.002	19	M. Baldwin
<u>XZ Persei</u>				
40856.411	13638	+0.001	31	M. Baldwin
<u>β Persei</u>				
40600.778	391	-0.018	23	R. Sweetsir
40841.644	475	-0.013	17	R. Simpkins
40858.8424	481	-0.0192	24 (PEP)	H. Landis
40924.792	504	-0.020	23	B. Conner
40947.704:	512	-0.047:	23	J. Green
40947.734	512	-0.016	26	B. Conner
<u>Y Piscium</u>				
40856.417	1547	+0.096	33	M. Baldwin
<u>U Sagittae</u>				
40794.749	3456	+0.009	15	S. Cook
<u>X Trianguli</u>				
40597.550	3114	-0.019	12	J. Bortle
40830.723	3354	-0.015	33	R. Thompson
40866.665	3391	-0.020	9	T. Cragg
40866.667	3391	-0.018	9	L. Hazel
40898.729	3424	-0.017	12	T. Cragg
<u>W Ursae Majoris</u>				
40625.720	5494	-0.047	8	T. Cragg
40655.582	5583.5	-0.046	17	J. Bortle
40656.583	5586.5	-0.046	12	J. Bortle
40669.608:	5625.5	-0.033:	20	K. Simmons
40670.598:	5628.5	-0.044:	16	K. Simmons
40675.602	5643.5	-0.045	12	E. Mayer
40680.766	5659	-0.053	12	E. Mayer
40692.606	5694.5	-0.057	17	E. Mayer
40703.630	5727.5	-0.043	13	E. Mayer
<u>VV Ursae Majoris</u>				
40713.639	4895	+0.058	11	E. Mayer
<u>BU Vulpeculae</u>				
40737.699	12661	-0.001	11	L. Hazel
40737.700	12661	0.000	12	D. Ortwein
40741.684	12663	+0.001	13	D. Ortwein
40774.683	12726	-0.001	15	D. Ortwein
40790.626	12754	+0.010	10	D. Ortwein
40831.585	12826	+0.002	13	D. Ortwein
40854.346	12866	+0.003	9	M. Baldwin
40855.485	12868	+0.004	13	M. Baldwin
40858.329	12873	+0.003	14	M. Baldwin
40864.588	12884	+0.003	13	L. Hazel

- 1) Time of minimum determined from observations of the last half of the eclipse of JD2440852 and a small portion of the first half of the eclipse of JD2440855.