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MINIMA OF ECLIPSING VARIABLES

This report continues the one in IBVS No. 129, and contains 106 observed minima of 37 eclipsing variable stars. All are visual timings reduced by the tracing-paper method, except where noted. Linear elements in the 1958 General Catalogue of Variable Stars were used to compute O - C's unless otherwise specified. The number of estimates used for each minimum is given under n.

J. D. \odot (2,400,000)	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>RT Andromedae</u>				
39318.633	+24,167	-0.014	22	C. Anderson
<u>AB Andromedae</u>				
39320.799	+12,791.5	+0.054	14	D. Williams
<u>OO Aquilae</u>				
39269.767	+ 9,951.5	-0.024	13	R. Monske
39271.793	+ 9,955.5	-0.026	13	R. Monske
39286.487	+ 9,984.5	-0.029	11	A. Howell
39287.505	+ 9,986.5	-0.024	12	A. Howell
39287.755	+ 9,987	-0.028	12	R. Monske
39288.765	+ 9,986	-0.031	13	R. Monske
39289.786	+ 9,991	-0.024	14	R. Monske
39291.805	+ 9,995	-0.032	17	D. Williams
39297.636	+10,006.5	-0.029	10	R. Monske
39298.652	+10,008.5	-0.027	12	R. Monske
39299.665	+10,010.5	-0.027	14	R. Monske
39300.679	+10,012.5	-0.027	14	R. Monske
39317.661	+10,046	-0.023	14	R. Monske
39318.672	+10,048	-0.025	11	R. Monske
39322.725	+10,056	-0.027	12	R. Monske
39328.809	+10,068	-0.024	11	R. Monske

<u>J. D. O</u>	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>V342 Aquilae</u> ¹				
39328.751	+ 1,090	+0.004	31	R. Monske
<u>V346 Aquilae</u>				
39300.720	+ 7,205	-0.026	17	R. Monske
<u>AR Aurigae</u>				
49183.616:	+ 3,009	-0.012	13	R. Monske
<u>Y Camelopardalis</u>				
39183.612	+ 4,462	-0.025	18	R. Monske
<u>SV Camelopardalis</u>				
39273.425	+11,779	-0.015	13	A. Howell
39290.621	+11,808	-0.018	11	F. Sanner
39291.796	+11,810	-0.029	11	F. Sanner
39294.769	+11,815	-0.021	13	F. Sanner
<u>AL Camelopardalis</u> ²				
39260.493	+ 9,673	-0.080	21	A. Howell
39280.411	+ 9,688	-0.087	11	A. Howell
<u>RZ Cassiopeiae</u>				
39052.7928	+18,153	-0.0382	89 ^{pe}	A. Stokes
39186.656	+18,265	-0.043	15	R. Monske
39198.609	+18,275	-0.043	15	R. Monske
39198.614:	+18,275	-0.038	23	D. Lucas
39259.567	+18,326	-0.043	9	A. Howell
39315.750:	+18,373	-0.036	14	C. Anderson
39321.722	+18,378	-0.041	16	R. Swanberg
39327.695	+18,383	-0.044	23	D. Lucas
39327.699	+18,383	-0.040	12	J. Ashbrook ³
<u>AB Cassiopeiae</u>				
39183.819	+10,021	+0.059	19	R. Monske
39186.550	+10,023	+0.057	14	R. Monske
39201.593	+10,034	+0.064	21	R. Monske

<u>J. D.</u> ☉	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>XX Cephei</u> 39183.520	(6,027	-0.045	11	R. Monske
<u>EG Cephei</u> ⁴ 39291.800	+22,699	+0.008	18	D. Williams
<u>Y Cygni</u> 39299.762	+ 9,934	+0.008 ⁵	21	D. Friedman
<u>ZZ Cygni</u> 39287.493	+28,873	-0.011	13	A. Howell
<u>V 477 Cygni</u> 39288.751	+ 2,745	-0.052	8	D. Williams
39295.793	+ 2,748	-0.051	11	D. Williams
<u>Z Draconis</u> 39192.578	+ 4,364	+0.013	12	C. Ricker
39200.717	+ 4,370	+0.007	13	R. Monske
39200.724	+ 4,370	+0.014	11	T. Cragg
39230.585	+ 4,392	+0.012	22	D. Lucas
39234.656	+ 4,395	+0.010	12	R. Monske
39272.664	+ 4,423	+0.010	20	R. Monske
39291.669	+ 4,437	+0.011	15	R. Monske
39295.740	+ 4,440	+0.010	10	T. Cragg
39299.813	+ 4,443	+0.010	15	R. Monske
39314.743	+ 4,454	+0.009	22	D. Lucas
<u>AI Draconis</u> 39245.621:	+12,185	+0.007	18	L. Hazel
39262.417	+12,199	+0.020	12	A. Howell
39269.604	+12,205	+0.014	19	J. Ashbrook
39275.610	+12,210	+0.026	22	D. Friedman
39288.782	+12,221	+0.011	15	R. Monske
39294.782	+12,226	+0.017	17	R. Monske
39300.773	+12,231	+0.014	15	R. Monske
39318.757	+12,246	+0.016	16	R. Monske

<u>J. D. ☉</u>	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>SZ Herculis</u> ⁶				
39245.573	+ 2,590	+0.010	17	A. Howell
39259.482	+ 2,607	+0.012	21	A. Howell
39286.477	+ 2,640	+0.010	14	A. Howell
39294.657	+ 2,650	+0.009	15	R. Monske
39294.661	+ 2,650	+0.013	19	D. Lucas
39303.658	+ 2,661	+0.011	16	R. Monske
39303.662	+ 2,661	+0.015	21	D. Lucas
39321.659	+ 2,683	+0.014	11	W. Hampton
39330.656	+ 2,694	+0.012	12	W. Lowder
 <u>SW Lacertae</u>				
39322.789	+49,732.5	+0.041	15	R. Swanberg
39323.748	+49,735.5	+0.038	12	R. Swanberg
39330.802	+49,757.5	+0.036	15	R. Swanberg
 <u>VX Lacertae</u>				
39291.801	+ 4,716	-0.025	16	D. Williams
 <u>CM Lacertae</u>				
39295.788	+ 7,646	0.000	12	D. Williams
 <u>Y Leonis</u>				
39199.567	+ 3,268	+0.032	16	R. Monske
39231.603	+ 3,287	+0.033	19	R. Monske
39231.605	+ 3,287	+0.035	21	L. Hazel
 <u>UV Leonis</u>				
39201.638	+10,342	-0.002	13	F. Sanner
39240.638	+10,407	-0.007	14	D. Williams
 <u>T. Leonis Minoris</u>				
39212.651	+ 5,085	-0.034	17	L. Hazel
39230.771	+ 5,091	-0.034	12	T. Cragg
 <u>SS Librae</u>				
39287.706	+13,238	+0.028	14	R. Monske
39323.641	+13,263	+0.013	16	R. Monske

<u>M. D. \odot</u>	<u>E</u>	<u>O - C</u>	<u>n</u>	<u>Observer</u>
<u>Delta Librae</u>				
39269.494:	+ 2,068	-0.015	6	A. Howell
<u>FL Lyrae</u>				
39238.753:	+ 2,471	-0.001	21	L. Hazel
39284.492	+ 2,492	-0.003	14	A. Howell
39299.749:	+ 2,499	+0.007	14	R. Monske
39299.753	+ 2,499	+0.011	22	D. Friedman
39310.625	+ 2,504	-0.008	21	J. Ashbrook
39323.702	+ 2,510	0.000	18	R. Monske
<u>Beta Lyrae</u>				
39276.4	+ 3,149	-0.1 ⁷	7	A. Howell
<u>U Ophiuchi</u>				
39269.449	+18,475.5	+0.002	8	A. Howell
39288.731	+18,487	-0.006	12	D. Williams
39300.475	+18,494	-0.003	13	A. Howell
<u>BV 544 Ophiuchi</u>				
38937.772 ⁸	+19,821	-0.006	9	D. Williams
<u>RT Persei</u>				
39199.546	+ 7,077	-0.018	12	R. Monske
<u>U Sagittae</u>				
39320.798	+ 6,564	+0.004	15	D. Williams
<u>BV 312 Tauri</u>				
39194.338 ⁹	+ 6,591	-0.001	9	A. Howell
<u>X Trianguli</u>				
39198.548	+ 4,635	+0.024	14	R. Monske
<u>W Ursae Majoris</u>				
39229.775	+14,208	+0.006	6	T. Cragg
39230.777	+14,211	+0.008	10	T. Cragg
<u>TX Ursae Majoris</u>				
39245.394	+ 7,449	-0.041	11	A. Howell

- 1 O - C was computed from elements given in IBVS No. 92.
- 2 O - C's were computed from elements in the 1960 supplement to the General Catalogue of Variable Stars.
- 3 The time of minimum was determined by fitting the observations to a mean light curve.
- 4 O - C was computed from elements in the 1960 supplement to the General Catalogue of Variable Stars.
- 5 Elements for apsidal motion were used in computing O - C.
- 6 O - C's were computed from the elements in Sky and Tele., May, 1963, page 277.
- 7 Quadratic elements were used in computing O - C.
- 8 The minimum at JD. 38936.772, reported in IBVS No. 119, is wrong; substitute the one given in this report.
- 9 O - C computed from elements given in Sky and Tele., November, 1963, page 264.

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