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**MINIMUM TIMES OF SEVERAL ECLIPSING BINARIES**

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**Observatory and telescope:**

1.5m Carlos Sanchez Telescope ( <b>TCS</b> ), Teide Obsv., Tenerife, Spain
36" Crossley Telescope ( <b>CRO</b> ) of Lick Observatory

**Detector:**

	TCS: Single channel NIR photometer equipped with an InSb detector and standard H (1.6 $\mu$ m) filter, switching between source and sky every 10 seconds. CRO: CCD Kodak KAF4200 with Johnson-Cousins R filter, 12'x12' field of view.
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**Method of data reduction:**

TCS: derivation of source magnitudes by on-line reduction. Nearby reference stars that were observed before and after the eclipses were used to remove any extinction slope. CRO: 'Vaphot' <sup>1</sup> (Deeg & Doyle 2001) differential photometry package for IRAF, using as references several stars visible in the same CCD field.
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**Method of minimum determination:**

Unless noted otherwise, minimum times were determined with the Kwee-van-Woerden Algorithm (Kwee & van Woerden 1956)
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**Observed star(s):**

Star name	GCVS type	Coordinates (J2000)		Comp. star	Ephemeris		Source
		RA	Dec		E	2400000+P [day]	
RT AND	EA/DW/RS	23 11 10.1	+53 01 33	-	36697.8570	0.628930880	1
EE AQR	EB/KE:	22 34 42.0	-19 51 35	-	40828.7804	0.50899590	1
44I BOO	EW/KW	15 03 47.3	+47 39 15	-	39852.4644	0.2678176	2
VW CEP	EW/KW	20 37 21.5	+75 36 01	-	51067.2820	0.2783140	3
XX CEP	EA/SD	23 38 20.3	+64 20 03	-	41539.5307	2.3373260	1
BV DRA	EW/KW	15 11 50.4	+61 51 25	-	45739.1151	0.350066568	1
FL LYR	EA/DM	19 12 04.9	+46 19 27	-	38221.5535	2.17815381	1
TZ LYR	EB/D	18 15 49.7	+41 06 38	-	20669.455	0.52882516	1
V566 OPH	EW/KW	17 56 52.4	+04 59 15	-	40418.540	0.40964360	1
UV PSC	EA/D:/RS	01 16 55.1	+06 48 42	-	44932.2977	0.86104716	1
ER VUL	EW/DW/RS	21 02 25.5	+27 48 26	-	40182.2593	0.69809479	1

<sup>1</sup>code available from [ftp://ftp.iac.es/pub/users/hdeeg/tep\\_dist/](ftp://ftp.iac.es/pub/users/hdeeg/tep_dist/)

**Source(s) of the ephemeris:**

1.: Kreiner et al. 2001; 2.: Rovithis & Rovithis-Livaniou 1990; 3.: Pribulla et al. 2000

**Times of minima:**

Star name	Time of min. HJD 2400000+	Error	Type	Filter	$O - C$ [day]	Rem.
RT AND	50328.6564	0.0001	I	H	-0.0196	TCS
	50329.6002	0.0002	II	H	-0.0192	TCS
	50330.5441	0.0001	I	H	-0.0187	TCS
	51340.9203	0.0001	II	R	-0.0199	CRO
	51379.9158	0.0002	II	R	-0.0182	CRO
EE AQR	50654.6889	0.0002	II	H	-0.0029	TCS
44I BOO	50328.4390	0.002	I	H	0.0214	TCS,tp
	50655.4455	0.0003	I	H	0.0225	TCS
VW CEP	50271.7420	0.003	II	R	0.0206	CRO,tp
	51362.8508	0.0003	I	R	-0.0007	CRO
XX CEP	50285.7620	0.002	I	R	-0.0426	CRO,tp
	50993.9636	0.0002	I	R	-0.0507	CRO
	51346.8959	0.0001	I	R	-0.0547	CRO
BV DRA	50330.4145	0.001	II	H	0.0013	TCS,tp
	50653.5264	0.0001	II	H	0.0018	TCS
FL LYR	50654.4547	0.0004	I	H	-0.0008	TCS
	50655.5427	0.0002	II	H	-0.0019	TCS
TZ LYR	50657.5611	0.0003	I	H	0.0178	TCS
V566 OPH	50334.4103	0.0002	I	H	0.0373	TCS
	50652.5025	0.0001	II	H	0.0413	TCS
	50654.5506	0.0001	II	H	0.0411	TCS
UV PSC	50333.6434	0.0001	I	H	-0.0032	TCS
	50334.5051	0.0002	I	H	-0.0025	TCS
	50652.6656	0.0001	II	H	0.0011	TCS
	50655.6767	0.0001	I	H	-0.0015	TCS
ER VUL	50329.4115	0.0005	II	H	-0.0046	TCS

**Explanation of the remarks in the table:**

TCS, CRO indicate the telescope. tp: minimum determined by tracing paper. Used in cases where data were not apt for processing by Kwee-van-Woerden algorithm

**Remarks:**


**References:**

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- Kreiner, J. M.; Kim, C.-H.; Nha, I.-S. 2001, An Atlas of O-C Diagrams of Eclipsing Binary Stars
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