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**TIMES OF MINIMA OF ECLIPSING BINARIES**

LACY, C.H.S.; STRAUGHN, A.; DENGGER, F.

Department of Physics, University of Arkansas, Fayetteville, Arkansas 72701, USA;  
clacy@uark.edu

**Observatory and telescope:**

URSA Observatory at the University of Arkansas (ursa.uark.edu); 10-inch Schmidt-Cassegrain reflector.

**Detector:**

1020 × 1530 pixels SBIG ST8EN CCD cooled to (typ.)  
−15 °C; 1".15 square pixels; 20'(N – S) × 30'(E – W)  
field of view.

**Method of data reduction:**

Virtual measuring engine (Measure 1.8) written by C.H.S. Lacy (2002)

**Method of minimum determination:**

Kwee & van Woerden (1956)

**Observed star(s):**

Star name	GCVS type	Coordinates (J2000)		Comp. star	Ephemeris		Source
		RA	Dec		E 2400000+	P [day]	
KP Aql	EA/DM	19 02 30	+15 48 01	00693 01585 <sup>1</sup>	40396.4912	3.36747959	1
MU Cas	EA/DM	00 15 52	+60 25 54	01331 04014	51876.5835	9.652926	2
V396 Cas	EA/DM	23 13 36	+56 44.1	01337 04006	52180.7074	5.50545	2
V459 Cas	EA/DM	01 11 30	+61 08 48	00792 04030	51144.6845	8.458294	2
VZ Cep	EA/DM	21 50 11	+71 26 38	01497 04470	52054.8522	1.1833648	2
WW Cep	EA/DM	22 18 28	+69 51 40	00262 04467	51139.3157	4.60084540	2
RT CrB	EA/RS	15 38 03	+29 29 14	00004 02039	28273.243	5.1171590	3
RW CrB	EA/DM	15 39 15	+29 37 20	00004 02039	51931.9083	0.7264114	2
V885 Cyg	EA/DM	19 32 50	+30 01 17	01184 02655	52024.9940	1.6947950	2
V1061 Cyg	EA/D	21 07 21	+52 02 58	00278 03600	51159.3789	2.346656	2
LV Her	EA/DM	17 35 32	+23 10 31	00580 02076	52066.6996	18.4359348	4
FL Lyr	EA/DM	19 12 05	+46 19 27	00050 03542	45143.7256	2.1781542	5
CF Tau	EA/D	04 05 10	+22 29 48	00008 01814	51918.3467	2.75589	2
BP Vul	EA/DM	20 25 33	+21 02 18	01837 01644	51063.6717	1.9403491	2

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

1: Lacy (1987), 2: This paper, 3: General Catalogue of Variable Stars, Kholopov (1985), 4: Torres et al. (2001), 5: Popper et al. (1986)

<sup>1</sup>The names of the comparison stars are from the GSC

<b>Times of minima:</b>						
Star name	Time of min. HJD 2400000+	Error	Type	Filter	$O - C$ [day]	Rem.
KP Aql	52037.85597	0.00019	1	V	-0.01217	
MU Cas	52181.8024	0.0004	2	V	.00000	Sec. E=52181.8024
V396 Cas	52233.7417	0.0006	1	V	-0.0001	
	52078.8564	0.0004	2	V	-0.0002	Sec. phase=0.5
	52100.8763	0.0007	2	V	-0.0021	
	52111.8886	0.0005	2	V	-0.0007	
V459 Cas	52180.7074	0.0003	1	V	0.0000	
	52159.67448	0.00022	1	V	-0.0053	
VZ Cep	52176.5911	0.0006	1	V	-0.0053	
	52038.8768	0.0005	2	V	0.0000	Sec. phase=0.5
	52044.7941	0.0005	2	V	+0.0005	
	52051.8941	0.0005	2	V	+0.0003	
	52054.85215	0.00011	1	V	-0.00005	
	52073.7857	0.0002	1	V	-0.0003	
	52076.7444	0.0003	2	V	0.0000	
	52079.7030	0.0003	1	V	+0.0001	
	52080.88604	0.00019	1	V	-0.00019	
	52093.9027	0.0005	1	V	-0.0005	
	52108.6963	0.0003	2	V	+0.0010	
	52111.6527	0.0006	1	V	-0.0010	
	52112.83709	0.00014	1	V	+0.00001	
	52114.6150	0.0006	2	V	+0.0029	
	52154.8447	0.0004	2	V	-0.0018	
	52159.5800	0.0010	2	V	0.0000	
	52166.6797	0.0003	2	V	-0.0005	
	52179.6971	0.0003	2	V	0.0000	
	WW Cep	52233.5407	0.0004	1	V	+0.0004
52084.7911		0.0004	2	V	+0.0017	Sec. phase=0.5
	52091.6908	0.0003	1	V	+0.0001	
RT CrB	52011.7312	0.0009	1	V	-0.0124	
RW CrB	51960.9651	0.0003	1	V	+0.0003	
	52038.6919	0.0003	1	V	+0.0011	
	52046.6823	0.0003	1	V	+0.0010	
	52055.7604	0.0010	2	V	-0.0010	Sec. phase=0.5
	52078.6449	0.0003	1	V	+0.0015	
V885 Cyg	52080.8243	0.0004	1	V	+0.0015	
	52058.894	0.003	1	V	+0.0041	
	52154.6433	0.0004	2	V	-0.0025	Sec. phase=0.5
V1061 Cyg	52095.6909	0.0002	1	V	-0.0037	
	52102.73118	0.00015	1	V	-0.0034	
	52109.77080	0.00014	1	V	-0.0038	
	52149.6636	0.0004	1	V	-0.0041	
LV Her	52066.6993	0.0008	1	V	-0.0003	
FL Lyr	52051.74277	0.00017	2	V	+0.00112	Sec. phase=0.5
CF Tau	52178.7796	0.0005	2	V	+0.0013	Sec. phase=0.5
BP Vul	52031.90450	0.00015	1	V	-0.00140	
	52064.89086	0.00009	1	V	-0.00098	
	52096.86757	0.00015	2	V	-0.00042	Sec. E=52098.80834
	52098.80834	0.00016	2	V	0.00000	
	52099.8166	0.0002	1	V	-0.0015	
	52101.75702	0.00010	1	V	-0.00145	
	52164.7794	0.0003	2	V	-0.00099	
	52165.78900	0.00012	1	V	-0.0008	

**Remarks:**

A sample of the observations has been published by Lacy, Hood & Straughn (2001).

## References:

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- Torres, G., Lacy, C.H.S., Guilbault, P.R., Diethelm, R., Baldwin, M.E. & Lubcke, G.C., 2001, *IBVS*, No. 5201