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TIMES OF MINIMA OF 116 ECLIPSING BINARY SYSTEMS (2010-2015)

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Observatory and telescope:

0.305m Riccardi-Honders with SBIG-ST10XME (AA30)
0.25m Newtonian with SBIG-ST10XME (BHO25)
0.20m Schmidt-Cassegrain with SBIG-ST7ME (Hau20)
0.20m refractor with SBIG-STL6303e (HMB20)
0.28m Schmidt-Cassegrain with SBIG-ST10XME (HMB28)
0.30m Schmidt-Cassegrain with SBIG-ST9XE (HMB30)
0.40m Newtonian with SBIG-STL11000 (HMB40)
0.40m Hypergraph with SBIG-STL11000 (HMB40H)
0.13m refractor with SBIG-STL6303E or ST10XME (Hum13)
0.18m refractor with SBIG-ST10XME (Hum18)
0.40m Newtonian with SBIG-ST10XME (Hum40)
0.41m Schmidt-Cassegrain with SBIG-ST10XME (Hum41)
0.15m refractor with SBIG-ST7XME (JVV15)
0.30m Schmidt-Cassegrain with SBIG-ST7XME (Kle30)
0.11m refractor with SBIG-ST10XME, Roque de los Muchachos, La Palma (LPa11)
0.25m Newtonian with SBIG-ST10XME (MVL25)
0.26m Schmidt-Cassegrain with SBIG-ST10XME (Pan26)

Detector:

SBIG-ST7XME, Peltier, KAF-402, 9 μ , 765 \times 510 pixels²
SBIG-ST9XE, Peltier, KAF-261E, 20 μ , 512 \times 512 pixels²
SBIG-ST10XME, Peltier, KAF-3200ME, 6.8 μ , 2184 \times 1472 pixels²
SBIG-STL6303E, Peltier, KAF-6303E, 9 μ , 3072 \times 2048 pixels²
SBIG-STL11000, Peltier, KAI-11000, 9 μ , 4008 \times 2672 pixels²

Method of data reduction:

The CCD frames were reduced in a standard way with AIP4WIN, Mira-AP7¹ and MaximDL4 respectively used by Kle30, BHO/Hum and all other observers.

Method of minimum determination:

The times of minima were usually computed using a technique of parabolic fitting, in some cases complemented by other methods from the software package *Minima* (e.g. Kle30) (cf. <http://members.shaw.ca/bob.nelson/software1.htm>). Ephemerides were obtained from The Kepler Eclipsing Binary Catalog, 3rd version (Kirk et al. 2016), the O–C Gateway: database of times of minima (E) and maxima (Paschke & Brát, <http://var2.astro.cz/ocgate/>), and Bob Nelson’s Database of Eclipsing Binary O–C Files (<http://www.aavso.org/bob-nelsons-o-c-files>).

Times of minima:

Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
XZ And	55850.3240	0.0005	1	C	Hau20
DS And	55838.4291	0.0003	1	V	MVL25
V725 And	56614.3815	0.0002	1	C	AA30
HP Aur	55813.5645	0.0001	1	V	Kle30
HP Aur	55855.5380	0.0001	2	V	Kle30
IU Aur	55600.3501	0.0001	2	V	Kle30
IU Aur	55601.2544	0.0003	1	V	Kle30
UW Boo	55247.9238	0.0002	1	V	HMB30
WW Cam	55244.4980	0.0003	1	V	HMB20
AL Cam	55244.2953	0.0001	1	V	HMB40H
AS Cam	55470.4065	0.0001	2	V	Pan26
AS Cam	55496.3201	0.0006	1	V	Pan26
OO Cam	55930.4304	0.0002	1	V	Kle30
V422 Cam	55587.3501	0.0001	1	V	Pan26
RZ Cas	55609.4230	0.0002	1	C	Hau20
TW Cas	55590.3123	0.0001	1	C	Hau20
AB Cas	55452.4646	0.0002	1	C	Hau20
CV Cas	55204.4082	0.002	1	C	HMB28
CW Cas	56194.3178	0.0002	1	C	AA30
CW Cas	56194.4788	0.0003	2	C	AA30
DN Cas	55834.3265	0.0007	1	V	MVL25
HT Cas	57307.3752	0.0001	1	C	Hum41

¹Mira-AP7 is distributed by Mirametrics Inc.

Times of minima:					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
IT Cas	55507.2707	0.0001	2	V	Pan26
IT Cas	55536.2959	0.0001	1	V	Pan26
IT Cas	55571.3665	0.0002	1	V	MVL25
IV Cas	55211.3024	0.0013	1	V	HMB40
IV Cas	55233.2701	0.0012	1	V	HMB40
IV Cas	55240.2588	0.0018	1	V	HMB40
IV Cas	55832.3729	0.0003	1	V	MVL25
IV Cas	55837.3660	0.0003	1	V	MVL25
IV Cas	55848.3496	0.0001	1	C	Hau20
IV Cas	55851.3449	0.0002	1	V	MVL25
IV Cas	55858.3346	0.0005	1	V	MVL25
MU Cas	55554.3620	0.0003	1	V	Pan26
NU Cas	56179.3757	0.0009	1	C	AA30
OX Cas	55390.4748	0.0001	2	V	Kle30
PV Cas	55428.4499	0.0003	1	V	JVW15
PV Cas	55605.2476	0.0001	1	B	Pan26
PV Cas	55836.3090	0.0001	1	V	MVL25
V471 Cas	56173.3973	0.0005	2	C	AA30
V473 Cas	56175.3776	0.0006	1	C	AA30
V523 Cas	54437.3404	0.0001	2	C	AA30
V821 Cas	55588.2921	0.0001	1	V	Pan26
V1031 Cas	56195.3611	0.0004	1	C	AA30
V1107 Cas	56168.2899	0.0003	1	C	AA30
V1107 Cas	56168.4262	0.0003	2	C	AA30
V1107 Cas	56168.5639	0.0001	1	C	AA30
V1115 Cas	56173.2878	0.0004	2	C	AA30
V1115 Cas	56173.4485	0.0003	1	C	AA30
V1138 Cas	56175.4294	0.0006	1	C	AA30
V1139 Cas	56180.3563	0.0006	1	C	AA30
V1139 Cas	56180.5075	0.0006	2	C	AA30
VZ Cep	55543.4080	0.0001	1	V	MVL25
DV Cep	55673.3714	0.0003	1	V	JVW15
V357 Cep	55499.2885	0.0001	1	C	Pan26
V357 Cep	55501.2505	0.0010	2	C	Pan26
V357 Cep	55836.4169	0.0026	2	V	MVL25
V881 Cep	55198.3532	0.0041	1	C	HMB28
V898 Cep	55820.5807	0.0001	1	V	Kle30
V919 Cep	55480.3045	0.0002	2	C	Hau20
V922 Cep	55771.4493	0.0001	1	V	Kle30
V944 Cep	55506.4540	0.0001	1	V	Pan26
V957 Cep	55813.3955	0.0001	2	V	Kle30
V957 Cep	56499.5103	0.0001	1	V	Kle30
AV CrB	56427.3585	0.0005	1	C	AA30
AV CrB	56427.5124	0.0002	2	C	AA30
BR Cyg	55479.4200	0.0003	1	C	Hau20
BR Cyg	56461.5186	0.0001	1	V	Kle30
DO Cyg	56469.3841	0.0001	1	V	Kle30

Times of minima:					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
PV Cyg	55481.3990	0.0004	1	C	MVL25
V442 Cyg	55415.3294	0.0002	1	V	Kle30
V442 Cyg	55817.3620	0.0001	2	V	Kle30
V469 Cyg	56928.3450	0.0002	1	C	Hum40
V526 Cyg	57131.5937	0.0005	1	C	Hum41
V700 Cyg	56165.2958	0.0002	2	C	AA30
V700 Cyg	56165.4423	0.0004	1	C	AA30
V961 Cyg	55320.4697	0.0001	1	V	Pan26
V961 Cyg	55325.5643	0.0001	2	V	Pan26
V961 Cyg	55482.4753	0.0004	2	V	MVL25
V961 Cyg	56503.4109	0.0002	2	V	Kle30
V1136 Cyg	55343.4472	0.0002	1	V	Pan26
V1136 Cyg	55762.4438	0.0001	1	V	Kle30
V1191 Cyg	56176.3082	0.0002	1	C	AA30
V1191 Cyg	56176.4643	0.0002	2	C	AA30
V1193 Cyg	56510.4298	0.0002	2	C	AA30
TZ Dra	55528.2845	0.0002	1	V	JVW15
OO Dra	56794.5101	0.0003	1	V	Hum40
OO Dra	57131.3534	0.0003	1	V	Hum41
AS Eri	56972.5482	0.0002	1	V	LPa11
U Gem	55264.3466	0.0003	1	C	Hum40
V410 Gem	55581.3279	0.0002	1	V	Kle30
TU Her	56917.3919	0.0003	1	V	Hum40
CT Her	55304.4451	0.0002	1	C	Hum18
CT Her	57135.4897	0.0001	1	C	Hum41
RX Her	55493.2605	0.0001	1	B	Pan26
HS Her	55741.5177	0.0003	1	B	Kle30
V1360 Her	56539.3721	0.0001	2	V	Kle30
AU Lac	55415.5200	0.0003	2	V	Kle30
AU Lac	55505.3300	0.0001	1	V	Pan26
AU Lac	57180.4315	0.0001	1	C	Hum41
CO Lac	55456.5114	0.0001	2	V	Kle30
CO Lac	55531.3040	0.0001	1	V	Pan26
IU Lac	56192.2793	0.0002	1	C	AA30
MZ Lac	55770.5241	0.0001	1	V	Kle30
V441 Lac	56192.4044	0.0002	1	C	AA30
Y Leo	55571.5926	0.0002	1	C	Hau20
UU Leo	55625.5713	0.0002	1	V	MVL25
VZ Leo	55265.3424	0.0002	1	V	Hum40
WY Leo	57121.3829	0.0005	1	V	Hum41
XY Leo	55301.3205	0.0001	1	V	Pan26
UW LMi	55581.4406	0.0004	1	V	Pan26
UU Lyn	54883.6615	0.0003	1	B,V	HMB20
UU Lyn	54887.6440	0.0004	2	B	HMB20
UU Lyn	54889.7503	0.0003	1	B,V	HMB20
UU Lyn	54890.6878	0.0003	1	B,V	HMB20
UZ Lyr	55858.3642	0.0004	1	C	Hau20

Times of minima:					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
FL Lyr	55482.3340	0.0003	2	V	MVL25
FL Lyr	56461.4138	0.0001	1	V	Kle30
V400 Lyr	56516.3527	0.0003	1	C	AA30
V400 Lyr	56516.4832	0.0001	2	C	AA30
V401 Lyr	56516.4128	0.0005	1	C	AA30
V507 Lyr	56529.3122	0.0004	2	C	AA30
V507 Lyr	56551.3291	0.0003	2	C	AA30
V574 Lyr	56524.3104	0.0002	2	C	AA30
V574 Lyr	56524.4480	0.0002	1	C	AA30
V579 Lyr	56506.4361	0.0003	2	C	AA30
V580 Lyr	56517.3282	0.0003	2	C	AA30
V580 Lyr	56517.4724	0.0005	1	C	AA30
V582 Lyr	56501.3337	0.0004	1	C	AA30
V582 Lyr	56501.4629	0.0004	2	C	AA30
V591 Lyr	56519.3118	0.0003	2	C	AA30
V591 Lyr	56519.4628	0.0001	1	C	AA30
V591 Lyr	56544.3955	0.0003	1	C	AA30
V591 Lyr	56546.3467	0.0005	2	C	AA30
V596 Lyr	56528.3138	0.0002	1	C	AA30
V596 Lyr	56528.4627	0.0003	2	C	AA30
FT Ori	55603.3236	0.0002	2	B	Pan26
FT Ori	55604.3271	0.0001	1	B	Pan26
V392 Ori	57296.6310	0.0001	1	V	Hum40
BX Peg	56196.2987	0.0002	2	C	AA30
BX Peg	56196.4381	0.0001	1	C	AA30
IP Peg	55396.5083	0.0001	1	C	Hum40
KW Peg	56196.4516	0.0003	2	C	AA30
V498 Peg	56518.4281	0.0004	1	C	AA30
AG Per	55590.4845	0.0006	1	V	MVL25
IU Per	55850.3223	0.0003	1	V	JVW15
IU Per	56928.4590	0.0001	1	V	Hum40
IU Per	57257.5591	0.0001	1	V	Hum41
IU Per	57276.4135	0.0001	1	V	Hum40
IU Per	57293.5539	0.0002	1	V	Hum41
IU Per	57294.4091	0.0001	1	V	Hum40
DL Sge	55462.3525	0.0002	1	V	MVL25
AO Ser	57127.5074	0.0001	1	C	Hum41
AO Ser	57134.5425	0.0001	1	V	Hum41
AO Ser	57135.4217	0.0001	1	V	Hum41
AO Ser	57178.5103	0.0001	1	C	Hum41
SV Tau	55204.3500	0.0025	1	V	HMB35
RS Tri	55817.5165	0.0001	1	V	Kle30
VV UMa	55223.4579	0.0001	1	V	Hum18
VV UMa	55244.4217	0.0008	2	V	BHO25
VV UMa	55263.3257	0.0001	1	V	Hum18
VV UMa	57094.4948	0.0002	1	V	Hum13
VV UMa	57127.4877	0.0007	1	V	Hum13

Times of minima:					
Star name	Time of min. HJD 2400000+	Error	Type	Filter	Rem.
VV UMa	57134.3618	0.0001	1	V	Hum41
XZ UMa	55247.7165	0.0015	1	V	HMB30
BS UMa	56355.4466	0.0012	1	V	Hum40
BS UMa	56356.3205	0.0005	2	V	Hum40
BS UMa	56356.4943	0.0009	1	V	Hum40
BS UMa	56745.4952	0.0011	1	B	Hum40
BS UMa	56746.3702	0.0002	2	V	Hum40
BS UMa	56746.5444	0.0002	1	V	Hum40
BS UMa	57089.4174	0.0004	1	V	Hum40
BS UMa	57094.4871	0.0003	2	V	Hum40
BS UMa	57133.4566	0.0004	1	V	Hum40
BS UMa	57135.3795	0.0002	1	C	Hum40
DN UMa	56730.3778	0.0008	2	B	Hum13
RU UMi	57128.3626	0.0001	1	V	Hum41
RU UMi	57131.5125	0.0001	1	V	Hum41
AG Vir	55308.3487	0.0001	2	V,Ic	Pan26
AG Vir	55309.3097	0.0003	1	V,Ic	Pan26
DR Vul	56159.3471	0.0003	2	C	AA30
KN Vul	56162.2992	0.0001	1	C	AA30
KN Vul	56162.4768	0.0002	2	C	AA30
GSC 4237 636	56464.4081	0.0004	2	C	AA30
GSC 4237 636	56465.3964	0.0004	2	C	AA30
GSC 4237 636	56468.3614	0.0004	2	C	AA30
GSC 4237 636	56468.5252	0.0005	1	C	AA30
GSC 4237 636	56585.3091	0.0004	2	C	AA30
GSC 4237 636	56592.2274	0.0003	2	C	AA30
GSC 2049 1164	56440.3349	0.0006	1	C	AA30
GSC 2049 1164	56444.5386	0.0002	1	C	AA30
GSC 2996 0677	56361.4618	0.0004	2	C	AA30
GSC 2996 0677	56375.3574	0.0007	1	C	AA30
GSC 2996 0677	56388.3489	0.0004	1	C	AA30
HIP 7666	55446.5057	0.0002	1	B,V	Kle30
KIC 5310387	57181.4443	0.0003	1	C	Hum41
KIC 5376552	57178.4443	0.0002	1	C	Hum40
NSVS 777749	55601.2420	0.0001	1	V	Pan26
NSVS 777749	55601.4436	0.0002	2	V	Pan26
NSVS 828322	55962.3406	0.0007	1		MVL25
NSVS 3842733	56587.3275	0.0004	1	C	AA30

Explanation of the remarks in the table:

Observers: AA = Ayiomamitis, A.; BHO/Hum/LPa = Van Cauteren, P.; HMB = Hamsch, J.; Hau = Hautecler, H.; JWV = Van Wassenhove, J.; Kle = Kleidis, S.; MVL = Vanleenhove, M.; Pan = Panagiotopoulos, K.

Remarks:

We used the filters B and V following the specifications from Bessell (1995). Occasionally, the filter Ic (Cousins) was also used.

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