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MINIMA OF ECLIPSING BINARIES IN THE ASAS-2 DATABASE

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The following table contains the times of 163 normal CCD minima of 37 eclipsing binaries obtained from the ASAS-2 database (Pojmanski 1997, 2002). Observations of named eclipsing variables (GCVS, NSV, BV catalogues) from the ASAS database were divided into separate sets. The beginning and end of those terms (given in units of JD-2450000) are described in the table as ‘Beg’ and ‘End’. Folded light curves were constructed for each term based on the ASAS orbital period. The orbital period of V514 Mon was determined based on the O-C diagram (Kreiner et al., 2001).

The times of minima given in HJD were calculated using the Kwee and van Woerden (1956) method. Some minima were determined by Kordylewski’s tracing paper graphic method (Szafraniec, 1948). These are marked as ‘TP’. The orbital phase of some secondary minima are shifted from 0.5, such systems are marked by ‘E’ in the remarks column. The number of individual points used for minimum determination is also given in the table, in the column labeled ‘No’.

Based the results obtained, new ephemerides were calculated and added to an up-to-date database (Kreiner, 2004). The database can be accessed at the following web page: <http://www.as.ap.krakow.pl/ephem>.

References:

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- Kwee K.K., van Woerden, H., 1956, *BAN*, **12**, 327
- Pojmanski, G., 1997, *Acta Astron.*, **47**, 467
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Star	Period	Typ	Beg	End	No	HJD	Error	Remarks
DD Aqr	0.721005	pri	1069	1149	63	2451091.8558	0.0004	
		sec	1046	1158	74	2451092.2159	0.0005	
		pri	1290	1375	41	2451342.0452	0.0004	
		sec	1291	1374	64	2451342.4037	0.0009	
		pri	1394	1521	81	2451446.5920	0.0002	
		sec	1395	1520	136	2451446.9506	0.0004	
HS Aqr	0.710199	pri	1069	1133	23	2451091.6813	0.0004	
		sec	1046	1137	37	2451091.3267	0.0005	
		pri	1257	1321	26	2451299.7666	0.0003	
		pri	1331	1491	39	2451353.7407	0.0003	
		sec	1327	1374	42	2451353.3861	0.0004	
		pri	1395	1486	60	2451431.8616	0.0005	
V1269 Aql	2.00165	sec	1394	1502	56	2451431.5113	0.0004	
		pri	1069	1475	214	2451337.5742	0.0005	
SV Cen	1.657486	sec	1046	1488	284	2451338.5722	0.0002	
		sec	0558	0823	10	2450576.8738	0.0061	
BF Cen	3.6934	pri	1109	1401	16	2451232.4796	0.0041	
		sec	1143	1397	16	2451231.6587	0.0021	
		sec	1526	1549	7	2451541.6431	0.0058	
		pri	0547	0562	15	2450558.7950	0.0014	
KT Cen	4.130546	sec	0549	0582	30	2450556.9475	0.0031	
		pri	1112	1367	29	2451238.3685	0.0010	
		sec	1114	1395	35	2451236.5238	0.0011	
		pri	1518	1555	12	2451533.8332	0.0011	
IV Cen	19.131001	sec	1520	1561	13	2451531.9907	0.0065	
		pri	1159	1332	13	2451217.408	0.018	:
		sec	1130	1284	12	2451226.930	0.023	
		pri	1484	1562	23	2451523.630	0.013	
LT Cen	1.625932	pri	0547	0568	11	2450560.138	0.011	E
		sec	0549	0582	12	2450557.7984	0.0052	
		pri	1113	1369	17	2451225.1743	0.0061	
		sec	1127	1375	23	2451222.7991	0.0045	
MN Cen	3.489266	pri	1534	1535	11	2451534.964	0.019	:TP
		sec	0546	0582	34	2450559.6416	0.0012	
		pri	0550	0568	22	2450560.4556	0.0014	
		sec	1136	1364	28	2451237.6480	0.0005	
MO Cen	9.656892	pri	1114	1329	24	2451238.4601	0.0011	
		sec	1484	1562	17	2451533.5619	0.0022	
		pri	1488	1553	11	2451534.3717	0.0013	
		sec	0549	0563	36	2450560.2024	0.0013	
MP Cen	2.992891	sec	0551	0582	26	2450561.9560	0.0026	
		pri	1114	1397	31	2451237.1029	0.0021	
		sec	1116	1399	33	2451235.353	0.016	TP
		pri	0551	0562	22	2450562.200	0.023	
MQ Cen	3.687641	sec	0547	0567	37	2450557.4239	0.0061	
		pri	1112	1373	35	2451238.1702	0.0091	
		sec	1116	1397	41	2451233.4894	0.0048	:
		pri	1479	1556	19	2451537.544	0.027	:
MP Cen	2.992891	sec	1475	1562	40	2451532.7503	0.0074	:
		pri	0549	0582	33	2450558.5587	0.0014	
		pri	0549	0582	38	2450560.5199	0.0040	
		sec	0547	0565	20	2450558.6677	0.0030	
MQ Cen	3.687641	pri	1120	1397	45	2451238.9100	0.0017	
		sec	1111	1399	37	2451237.0697	0.0063	
		pri	1520	1561	11	2451533.8650	0.0052	
		sec	1518	1555	12	2451532.0305	0.0041	

Star	Period	Typ	Beg	End	No	HJD	Error	Remarks
MR Cen	3.913546	sec	0552	0583	36	2450560.0662	0.0031	
		pri	1113	1395	38	2451227.3391	0.0033	
		sec	1119	1401	41	2451229.3004	0.0040	
		pri	1469	1555	11	2451528.7009	0.0050	
		sec	1475	1553	17	2451530.647	0.016	
V343 Cen	0.587651	pri	0547	0583	46	2450560.7784	0.0012	
		sec	0549	0583	59	2450561.0698	0.0017	
		pri	1114	1403	54	2451237.1714	0.0006	
		sec	1118	1395	77	2451237.4745	0.0011	
		pri	1492	1562	23	2451535.1126	0.0025	
		sec	1497	1560	13	2451535.4116	0.0013	
V346 Cen	6.322368	sec	0547	0560	12	2450560.744	0.011	
		pri	0552	0583	11	2450558.7060	0.0054	:
		sec	1116	1395	19	2451230.8552	0.0047	:
		pri	1114	1399	30	2451235.1575	0.0023	:
		sec	1521	1553	7	2451528.016	0.022	:
		pri	1506	1544	8	2451532.341	0.029	:
V384 Cen	12.6320	pri	1118	1346	18	2451232.3713	0.0071	
V440 Cen	2.676421	pri	0552	0568	16	2450558.1732	0.0039	:
		sec	0548	0583	13	2450559.7030	0.0057	:
V916 Cen	1.463279	pri	0549	0568	28	2450559.7535	0.0012	
		sec	0551	0582	23	2450560.4589	0.0030	
		pri	1112	1367	39	2451237.2133	0.0022	
		sec	1117	1397	39	2451237.9453	0.0014	
		pri	1488	1560	19	2451534.2477	0.0061	
		sec	1518	1562	26	2451534.968	0.011	
BV1420 (Cen)	2.52473	pri	0552	0582	15	2450560.1595	0.0027	
		sec	0551	0566	8	2450559.0120	0.0016	
		pri	1145	1375	25	2451256.9820	0.0038	
		sec	1144	1341	17	2451255.8653	0.0013	
NSV 5335 (Cen)	1.25092	pri	0551	0567	13	2450731.6839	0.0062	
		sec	0549	0583	16	2450731.0278	0.0075	
VZ Cru	1.125872	pri	0552	0563	11	2450561.5214	0.0010	
		sec	0550	0583	13	2450560.9565	0.0005	
		pri	1136	1402	21	2451261.7777	0.0011	
		sec	1132	1335	21	2451261.2127	0.0022	
RW Dor	0.285465	pri	0546	0582	16	2450559.9437	0.0004	
		sec	0548	0583	16	2450560.0865	0.0003	
		pri	1026	1208	49	2451158.5603	0.0002	
		sec	1070	1246	39	2451158.7027	0.0002	
		pri	1354	1561	72	2451505.6820	0.0002	
		sec	1355	1562	69	2451505.8252	0.0002	
TY Men	0.461666	pri	1156	1320	203	2451215.1809	0.0002	
		sec	1155	1335	217	2451214.9535	0.0001	
		pri	1368	1430	49	2451403.5411	0.0002	
		sec	1365	1427	29	2451403.3141	0.0005	
		pri	1440	1562	243	2451493.1040	0.0001	
		sec	1438	1562	252	2451492.8764	0.0001	
BV1526 (Men)	2.3446345	pri	0547	1438	11	2451112.7429	0.0021	
		pri	1492	1560	15	2451523.0544	0.0016	
		pri	1462	1551	8	2451504.6710	0.0040	
CF Mon	2.610422	pri	1081	1251	32	2451165.3090	0.0022	E
		sec	1085	1247	30	2451166.6760	0.0032	:
DD Mon	0.568018	pri	1065	1283	109	2451174.4179	0.0002	
		sec	1079	1302	98	2451174.1343	0.0001	
		pri	1440	1560	48	2451503.8698	0.0003	
		sec	1430	1558	62	2451503.5849	0.0004	

Star	Period	Typ	Beg	End	No	HJD	Error	Remarks
KR Mon	1.150966	pri	1069	1333	97	2451189.6176	0.0002	E
		sec	1080	1314	81	2451189.0395	0.0004	
		pri	1442	1562	35	2451511.8826	0.0010	
		sec	1439	1560	35	2451511.3048	0.0020	
V450 Mon	2.597009	pri	1045	1149	54	2451116.1809	0.0018	E?
		sec	1075	1156	73	2451114.8896	0.0011	
		pri	1157	1313	92	2451201.8825	0.0013	
		sec	1158	1304	86	2451200.5893	0.0012	
		pri	1440	1549	45	2451503.1348	0.0017	
		sec	1423	1561	69	2451501.8426	0.0013	
V514 Mon	0.55737224	pri	1074	1170	130	2451128.9232	0.0002	
		sec	1065	1169	141	2451128.6425	0.0008	
		pri	1174	1305	140	2451214.1997	0.0002	
		sec	1175	1299	155	2451213.9266	0.0004	
		pri	1415	1561	137	2451501.8111	0.0004	
		sec	1417	1558	111	2451501.5305	0.0004	
V681 Mon	5.757346	pri	1170	1320	50	2451205.3811	0.0021	
		sec	1116	1328	164	2451202.4820	0.0016	
		pri	1458	1556	15	2451510.5261	0.0031	
		sec	1438	1558	80	2451507.631	0.012	
TV Mus	0.445664	pri	0550	0568	25	2450564.0647	0.0010	
		sec	0547	0582	22	2450563.8453	0.0009	
		pri	1193	1364	33	2451267.7720	0.0007	
		sec	1196	1366	26	2451267.5496	0.0006	
		pri	1512	1562	15	2451543.6358	0.0019	
		sec	1519	1562	14	2451543.4180	0.0023	
V502 Oph	0.453391	pri	1221	1290	76	2451267.1421	0.0003	
		sec	1228	1288	69	2451266.9174	0.0002	
		pri	1294	1348	75	2451320.6436	0.0004	
		sec	1296	1348	82	2451320.4155	0.0002	
		pri	1359	1448	40	2451389.1042	0.0002	
		sec	1361	1451	32	2451388.8781	0.0005	
WY Sgr	4.670016	pri	1025	1450	22	2451170.2943	0.0019	
		sec	0560	1476	45	2451172.6393	0.0026	
V792 Sgr	3.931536	pri	1229	1363	27	2451296.3500	0.0055	
		sec	1227	1353	23	2451298.3011	0.0066	
		pri	1394	1476	12	2451430.003	0.023	
		sec	1396	1471	13	2451431.961	0.014	
V1071 Sgr	1.356116	pri	0559	0582	6	2450567.793	0.013	:
		pri	1230	1480	20	2451343.4885	0.0018	
		sec	1266	1482	15	2451344.1669	0.0016	
FW Vel	2.383640	pri	1463	1492	50	2451483.1185	0.0021	
		sec	1469	1493	49	2451484.3128	0.0012	
		pri	1499	1518	70	2451506.9526	0.0007	
		sec	1498	1517	103	2451508.1432	0.0007	
		pri	1518	1542	20	2451530.7852	0.0028	
		pri	1549	1561	9	2451552.2390	0.0019	
V356 Vel	1.767397	sec	1548	1562	17	2451553.4338	0.0024	
		pri	1508	1554	42	2451517.5744	0.0008	
		sec	1500	1560	65	2451518.4583	0.0012	