GEOS RR 59

GEOS CIRCULAR ON RR TYPE VARIABLE

November 2018

GEOS
Parc de Levesville, 23
F-28300 BAILLEAU-L'ÉVÊQUE

Jacqueline Vandenbroere[1] and Stéphane Ferrand[1]
[1]Groupe Européen d'Observations Stellaires

LIST OF VISUAL MAXIMA OF RR LYRAE STARS

ABSTRACT

110 instants of maximum light have been determined for 60 RR Lyrae variable stars (50 RRab and 10 RRc) from visual estimates. They are listed with the O-C relative to the most probable cycle number.

RÉSUMÉ

110 instants de maxima de 60 étoiles variables du type RR Lyrae (50 RRab et 10 RRc) ont été déterminés à partir d'estimations visuelles. Ils sont listés avec l'O-C relatif au numéro de cycle le plus vraisemblable.

RIASSUNTO

110 massimi di 60 stelle variabili del tipo RR Lyrae (50 RRab e 10 RRc) sono stati determinati sulla base di stime visuali. Questi instanti di massimo sono raccolti in una lista con l'O-C relativo al numero di ciclo piú probabile.

RESUMEN

110 instantes de máximos de 60 estrellas variables del tipo RR Lyrae (50 RRab y 10 RRc) han sido determinados a partir de estimaciones visuales. Aparecen listados con los O-C relativos al número de ciclo más probable.

OBSERVATIONS

Most of the observations cover a time interval going from July 2016 (JD 2457600) to June 2017 (JD 2457920). The observers are: Roland Boninsegna (BNN), Michel Dumont (DMT), Stéphane Ferrand (FND) and Jacqueline Vandenbroere (VBR).

OBS.	METHOD	N. MAX	SITE	INSTRUMENTS
BNN	vis	2	Dourbes, Belgium	N400 mm
DMT	vis	5	Levesville and Crozet, France	R80 mm and binoculars
FND	vis	14	Saint-Piat, France	N305 mm and binoculars
VBR	vis	89	Heure, Belgium	N350 mm

The times were determined by the observers from their visual estimates (vis). The ephemerides used are those of GEOS RR 53 (Vandenbroere and Le Borgne, 2014) when the star is listed in it. If other ephemerides are used, it is indicated in notes where we find also the non linear O-C's.

LIST

RRab	OBS.	MODE	HJD	ACC.	E (RR53)	O-C (RR53)	NOTES
XY And	VBR	vis	57722.461	0.01	30843	-0.039	
DU And	VBR	vis	55155.481	0.01	14901	-0.008	Eph. HJD 46112.794 + 0.60685154 E
DU And	VBR	vis	57798.339	0.01	19256	+0.012	idem
SW Aqr	FND	vis	46640.535	0.008	18603	+0.002	
V1094 Aql	VBR	vis	57656.468	0.01	67655	+0.229	Eph. GCVS
TV Ari	VBR	vis	57721.393	0.01	7554	+0.003	idem
CI Ari	VBR	vis	57727.510	0.015	10619	-0.066	idem
CI Ari	VBR	vis	57759.399	0.01	10689	-0.047	idem
V575 Aur	VBR	vis	57721.467	0.005	9501	+0.031	idem
V575 Aur	VBR	vis	57726.446	0.005	9511	+0.031	idem
V575 Aur	VBR	vis	57727.442	0.005	9513	+0.031	idem
V651 Aur	VBR	vis	57462.341	0.01	10012	-0.052	idem
RS Boo	DMT	vis	57873.437	0.017	58623	+0.020	-0.006 with quad. eph.
SZ Boo	VBR	vis	57863.403	0.01	37754	-0.006	
FT Boo	VBR	vis	57847.562	0.01	14141	+0.013	Eph. Wils et al. (2006)
II Boo	BNN	vis	57867.458	0.01	5406	+0.069	idem

RRab	OBS.	MODE	HJD	ACC.	E (RR53)	O-C (RR53)	NOTES
IM Boo	VBR	vis	57840.546	0.01	10422	+0.015	
KR Boo	FND	vis	57870.449	0.006	9833	+0.059	Eph. GCVS
LS Boo	VBR	vis	57919.496	0.01	5956	-0.050	idem
NN Boo	VBR	vis	57894.517	0.01	18646	-0.045	idem
NN Boo	VBR	vis	57906.516	0.01	18680	-0.047	idem
BU Cam	VBR	vis	57774.526	0.01	68518	-0.006	Eph. Tsesevich (1980)
BU Cam	VBR	vis	57839.459	0.01	68665	+0.018	idem
SX Cnc	VBR	vis	57759.494	0.01	11021	-0.039	
SX Cnc	VBR	vis	57803.373	0.01	11107	-0.034	
AP CVn	VBR	vis	57871.428	0.01	17761	-0.017	
BN CVn	VBR	vis	57861.433	0.01	19211	+0.099	
BN CVn	VBR	vis	57879.464	0.01	19243	+0.093	
AQ Cep	VBR	vis	57645.544	0.01	18279	+0.047	
AQ Cep	VBR	vis	57772.567	0.01	18474	+0.038	
Z Com	VBR	vis	57838.585	0.01	36468	-0.016	
CU Com	VBR	vis	57132.400	0.01	45766	-0.089	Eph. GCVS
CU Com	VBR	vis	57838.512	0.01	47463	-0.083	idem
BN CrB	VBR	vis	57517.433	0.01	12069	-0.240	idem
BN CrB	VBR	vis	57906.539	0.01	12829	-0.219	idem
V894 Cyg	VBR	vis	57693.347	0.01	20975	-0.009	
V894 Cyg	VBR	vis	57918.470	0.01	21369	-0.012	
V2630 Cyg	VBR	vis	57726.302	0.01	8853	-0.293	Eph. GCVS
VZ Dra	VBR	vis	57843.442	0.01	33697	-0.095	
VZ Dra	VBR	vis	57861.408	0.01	33753	-0.106	
CW Her	VBR	vis	57873.527	0.015	25161	-0.008	
CW Her	VBR	vis	57883.492	0.01	25177	-0.025	
HO Her	VBR	vis	57839.599	0.01	2194	+0.004	Eph. Gröbel (2015)
V392 Her	VBR	vis	57840.617	0.01	29420	-0.009	
GL Hya	VBR	vis	57448.515	0.01	33606	-0.017	
V500 Hya	VBR	vis	57803.474	0.01	11556	-0.025	Eph. GCVS
V500 Hya	VBR	vis	57838.389	0.01	11639	-0.036	idem
SW Leo	VBR	vis	57803.588	0.01	28939	+0.007	
HV Leo	VBR	vis	57434.533	0.015	7785	+0.051	Eph. GCVS
HV Leo	VBR	vis	57773.557	0.01	8356	+0.067	idem
WZ Lyn	BNN	vis	57867.398	0.01	1337	+0.021	Eph. Le Borgne priv. Com.
RR Lyr	DMT	vis	57727.294	0.009	38840	-0.219	
RR Lyr	DMT	vis	57864.470	0.014	39082	-0.218	
MW Lyr	VBR	vis	57640.442	0.01	36738	+0.138	
UW Mon	VBR	vis	57838.352	0.01	26088	-0.008	
FW Peg	FND	vis	57625.480	0.013	33987	+0.081	Eph. GCVS
GV Peg	VBR	vis	57655.392	0.01	13028	+0.048	
GV Peg	VBR	vis	57693.360	0.01	13095	+0.032	
V505 Peg	VBR	vis	57667.492	0.01	5924	+0.017	Eph. GCVS
V505 Peg	VBR	vis	57722.275	0.01	6050	+0.014	idem
AN Ser	FND	vis	46536.525	0.015	20992	-0.006	
AN Ser	FND	vis	46550.634	0.01	21019	+0.007	
AN Ser	FND	vis	46558.463	0.013	21034	+0.005	
UZ UMa	VBR	vis	57749.552	0.01	33686	+0.002	
UZ UMa	VBR	vis	57759.360	0.01	33707	+0.006	
BN UMa	VBR	vis	57461.331	0.015	32470	-0.035	
BN UMa	VBR	vis	57846.447	0.01	33433	-0.030	
BN UMa	VBR	vis	57894.424	0.015	33553	-0.042	
NS UMa	VBR	vis	56407.436	0.015	3850	+0.046	
PY UMa	VBR	vis	57772.437	0.01	10969	-0.008	Eph. GCVS
PY UMa	VBR	vis	57799.415	0.01	11017	-0.011	idem
V353 UMa	VBR	vis	57829.504	0.015	8821	-0.172	idem
V353 UMa	VBR	vis	57846.572	0.01	8844	-0.169	idem
V367 UMa	VBR	vis	57838.599	0.01	10722	-0.040	idem
V367 UMa	VBR	vis	57843.460	0.01	10730	-0.041	idem
XY UMi	VBR	vis	56506.387	0.01	7932	-0.072	idem

RRab	OBS.	MODE	HJD	ACC.	E (RR53)	O-C (RR53)	NOTES
XY UMi	VBR	vis	56795.399	0.01	8375	-0.126	Eph. GCVS
XY UMi	VBR	vis	57240.373	0.015	9057	-0.171	idem
XY UMi	VBR	vis	57854.327	0.01	9998	-0.238	idem
XY UMi	VBR	vis	57861.460	0.01	10009	-0.283	idem
YY UMi	VBR	vis	57873.497	0.01	10977	-0.012	idem
YY UMi	VBR	vis	57918.492	0.01	11056	-0.017	idem

RRc	OBS.	MODE	HJD	ACC.	E (RR53)	O-C (RR53)	NOTES
V793 Aql	VBR	vis	55097.298	0.03	6883	-0.067	
V793 Aql	VBR	vis	55397.464	0.03	7637	+0.067	
V793 Aql	VBR	vis	55850.276	0.03	8775	+0.044	
V793 Aql	VBR	vis	56132.432	0.03	9484	+0.074	
V793 Aql	VBR	vis	56157.388	0.03	9547	-0.039	
V793 Aql	VBR	vis	57656.332	0.03	13314	-0.065	
CQ Boo	VBR	vis	57515.553	0.015	40978	+0.002	
CQ Boo	VBR	vis	57895.463	0.015	42326	-0.065	
EF Cnc	VBR	vis	57829.381	0.01	24112	-0.035	
EF Cnc	VBR	vis	57837.359	0.01	24139	-0.043	
VW CVn	VBR	vis	56366.477	0.015	44219	-0.076	
VW CVn	VBR	vis	57131.463	0.015	46019	-0.064	
RZ Cep	FND	vis	57693.286	0.006	77008	+0.157	max I
RZ Cep	FND	vis	57693.325	0.008	77008	+0.196	max II
RZ Cep	DMT	vis	57695.444	0.014	77015	+0.154	
RZ Cep	FND	vis	57726.346	0.005	77115	+0.190	max I
RZ Cep	FND	vis	57726.361	0.005	77115	+0.205	max II
RZ Cep	FND	vis	57915.550	0.005	77728	+0.182	max I
RZ Cep	FND	vis	57915.582	0.006	77728	+0.214	max II
DD Dra	FND	vis	57721.317	0.013			no valid eph.
BX Leo	FND	vis	57681.429	0.008			idem
V535 Mon	VBR	vis	57093.380	0.015	44493	+0.052	
V535 Mon	VBR	vis	57798.422	0.015	46611	+0.074	
DH Peg	DMT	vis	57693.420	0.005	50213	+0.002	
V1327 Tau	VBR	vis	56211.576	0.015	14115	-0.042	Eph. GCVS
V1327 Tau	VBR	vis	56712.337	0.015	15627	-0.055	idem
V1327 Tau	VBR	vis	57772.504	0.015	18828	-0.060	idem
V1327 Tau	VBR	vis	57798.318	0.015	18906	-0.079	idem

BIBLIOGRAPHY

- Gröbel R., 2015a, BAV Rundbrief 1/2015, 1
- Kholopov K. N. et al, 1985, General Catalogue of Variable Stars and supplements
- Tsesevich V.P., 1980, AC 1119, 7
- Vandenbroere J., Le Borgne J. F. and Boninsegna R., 2014, GEOS RR53
- Wils P., Lloyd C., Bernhard K., 2006, MNRAS 368, 1757