

Stéphane Ferrand<sup>1</sup> and Jacqueline Vandenbroere<sup>1</sup><sup>1</sup>Groupe Européen d'Observations Stellaires**LIST OF VISUAL MAXIMA OF RR LYRAE STARS****ABSTRACT**

122 instants of maximum light have been determined for 55 RR Lyrae variable stars (41 RRab and 14 RRc) from visual estimates. They are listed with the O-C relative to the most probable cycle number.

**RESUME**

122 instants de maxima de 55 étoiles variables du type RR Lyrae (41 RRab et 14 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**

122 massimi di 55 stelle variabili del tipo RR Lyrae (41 RRab e 14 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 più probabile.

**RESUMEN**

122 instantes de máximos de 55 estrellas variables del tipo RR Lyrae (41 RRab y 14 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 October 2014 (JD 2456940) to June 2015 (JD 2457200). The observers are : Michel Dumont (DMT), Stéphane Ferrand (FND) and Jacqueline Vandenbroere (VBR).

<u>OBS.</u>	<u>METHOD</u>	<u>N. MAX</u>	<u>SITE</u>	<u>INSTRUMENTS</u>
DMT	vis	12	Bailleau l'Evêque, France	R100 mm - binoculars
FND	vis	34	Saint-Piat, France	N406 - N305 mm
VBR	vis	76	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 :**

<u>RRab</u>	<u>OBS.</u>	<u>MODE</u>	<u>HJD</u>	<u>ACC.</u>	<u>E (RR53)</u>	<u>O-C (RR53)</u>	<u>NOTES</u>
GX Aqr	VBR	vis	56540.579	0.01	23352	+0.037	
V518 Aql	VBR	vis	56932.328	0.01	38239	-0.022	
V672 Aql	VBR	vis	56932.350	0.01	27623	-0.099	
CI Ari	VBR	vis	57088.307	0.01	9215	-0.043	eph. GCVS
V653 Aur	VBR	vis	57094.356	0.01	9601	+0.059	idem
RS Boo	DMT	vis	57127.461	0.006	56646	+0.042	+0.020 with quadratic eph.
RS Boo	DMT	vis	57164.416	0.007	56744	+0.018	-0.004 idem
RS Boo	DMT	vis	57190.445	0.01	56813	+0.011	-0.012 idem
RS Boo	DMT	vis	57193.452	0.01	56821	-0.001	-0.023 idem
RS Boo	DMT	vis	57213.469	0.009	56874	+0.017	-0.006 idem
VX Boo	FND	vis	57190.525	0.01	7583	+0.020	eph. GCVS
VX Boo	FND	vis	57193.479	0.01	7588	+0.018	idem
CS Boo	VBR	vis	54943.510	0.015	16512	+0.006	
CS Boo	VBR	vis	56389.523	0.01	19125	+0.029	
CS Boo	VBR	vis	57187.483	0.01	20567	+0.011	
IM Boo	VBR	vis	57132.421	0.01	9272	+0.022	eph. GCVS
IM Boo	VBR	vis	57180.457	0.01	9350	+0.029	idem
KR Boo	FND	vis	57135.506	0.01	8398	+0.029	idem
KR Boo	FND	vis	57152.417	0.01	8431	+0.040	idem

<u>RRab</u>	<u>OBS.</u>	<u>MODE</u>	<u>HJD</u>	<u>ACC.</u>	<u>E (RR53)</u>	<u>O-C (RR53)</u>	<u>NOTES</u>
KU Boo	VBR	vis	56810.470	0.01	9187	-0.013	eph. GCVS
KU Boo	VBR	vis	56814.463	0.01	9194	-0.015	idem
KU Boo	VBR	vis	57190.520	0.01	9853	-0.023	idem
MZ Boo	VBR	vis	57135.538	0.01	11602	+0.082	idem
MZ Boo	VBR	vis	57136.538	0.01	11604	+0.081	idem
NN Boo	VBR	vis	56856.403	0.01	15705	-0.015	idem
NN Boo	VBR	vis	57181.523	0.01	16626	+0.001	idem
RZ Cam	VBR	vis	57044.336	0.01	40347	+0.004	
RZ Cam	VBR	vis	57081.334	0.01	40424	+0.007	
BU Cam	VBR	vis	57133.389	0.01	67066	+0.002	eph. GCVS
BU Cam	VBR	vis	57181.512	0.01	67175	-0.005	idem
NSVS 7413280	FND	vis	56710.414	0.006	2476	+0.001	Palaversa et al., 2013
Cnc							
SW CVn	VBR	vis	57098.504	0.01	44562	+0.134	+0.020 with quadratic eph.
SW CVn	VBR	vis	57133.379	0.01	44641	+0.118	+0.003 idem
TY CVn	VBR	vis	57180.466	0.01	38552	+0.017	
BN CVn	VBR	vis	57184.479	0.01	18010	+0.074	
EU CVn	VBR	vis	57134.433	0.015	10405	+0.052	eph. GCVS
EU CVn	VBR	vis	57148.471	0.01	10430	+0.026	idem
EU CVn	VBR	vis	57184.479	0.01	10494	+0.029	idem
BK Cas	FND	vis	56950.397	0.006	47744	+0.105	idem
BK Cas	FND	vis	56952.342	0.006	47749	+0.098	idem
V1109 Cas	VBR	vis	56926.483	0.01	12638	+0.068	idem
V Com	VBR	vis	57104.557	0.01	39601	+0.031	-0.015 with quadratic eph.
SZ CrB	VBR	vis	57165.500	0.01	24631	+0.070	+0.015 idem
SZ CrB	VBR	vis	57183.454	0.01	24671	+0.079	+0.024 idem
WX CrB	VBR	vis	56130.403	0.015	17230	-0.068	
WX CrB	VBR	vis	56490.464	0.01	17980	-0.107	
WX CrB	VBR	vis	56540.342	0.01	18084	-0.163	
WX CrB	VBR	vis	57187.480	0.01	19432	-0.245	
V759 Cyg	VBR	vis	57187.544	0.01	60833	+0.131	
WY Dra	VBR	vis	57181.565	0.01	37393	+0.029	
GP Leo	FND	vis	57133.475	0.02	5039	+0.103	eph. GCVS
GP Leo	FND	vis	57135.496	0.02	5042	+0.086	idem
GP Leo	FND	vis	57148.418	0.01	5061	+0.101	idem
GP Leo	FND	vis	57152.466	0.006	5067	+0.073	idem
RR Lyr	DMT	vis	56913.429	0.01	37404	-0.107	
RR Lyr	DMT	vis	56922.476	0.008	37420	-0.130	
RR Lyr	DMT	vis	56926.439	0.007	37427	-0.135	
RR Lyr	DMT	vis	57138.442	0.007	37801	-0.129	
RR Lyr	DMT	vis	57155.462	0.004	37831	-0.114	
RR Lyr	DMT	vis	57181.498	0.017	37877	-0.152	
RR Lyr	DMT	vis	57210.414	0.008	37928	-0.144	
EY Lyn	VBR	vis	57020.403	0.01	9477	+0.076	eph. GCVS
EY Lyn	VBR	vis	57066.450	0.01	9557	+0.096	idem
AL Peg	VBR	vis	56536.400	0.015	20766	-0.030	
AL Peg	VBR	vis	56541.483	0.015	20776	-0.067	
AL Peg	VBR	vis	56928.370	0.015	21456	-0.069	
AL Peg	VBR	vis	56986.370	0.015	21558	-0.102	
CY Peg	VBR	vis	56427.556	0.01	4262	+0.018	
FQ Psc	VBR	vis	56536.592	0.01	5821	+0.013	eph. GCVS
FQ Psc	VBR	vis	56986.385	0.01	6639	-0.004	idem
GQ Psc	VBR	vis	56541.490	0.01	11841	+0.025	idem
GQ Psc	VBR	vis	56986.435	0.01	13314	+0.018	idem
V344 Ser	VBR	vis	55706.435	0.01	9335	-0.024	idem
V344 Ser	VBR	vis	56064.552	0.015	10105	-0.033	idem
V344 Ser	VBR	vis	56451.500	0.01	10936	-0.048	idem
V450 Ser	VBR	vis	57185.517	0.01	4233	-0.020	idem
V450 Ser	VBR	vis	57190.452	0.01	4241	-0.023	idem
AX UMa	VBR	vis	57132.483	0.01	18895	+0.025	
BD UMa	VBR	vis	53055.551	0.015	18741	-0.125	eph. GCVS
BD UMa	VBR	vis	57148.390	0.01	24750	-0.298	idem
QU UMa	VBR	vis	56781.375	0.01	8305	-0.099	idem
QU UMa	VBR	vis	57065.337	0.01	8755	-0.101	idem

<u>RRab</u>	<u>OBS.</u>	<u>MODE</u>	<u>HJD</u>	<u>ACC.</u>	<u>E (RR53)</u>	<u>O-C (RR53)</u>	<u>NOTES</u>
QU UMa	VBR	vis	57089.296	0.01	8793	-0.121	eph. GCVS
QU UMa	VBR	vis	57094.358	0.01	8801	-0.107	idem
V336 UMa	VBR	vis	56741.480	0.015	8348	-0.125	idem
V336 UMa	VBR	vis	56764.357	0.01	8385	-0.149	idem
V336 UMa	VBR	vis	57066.294	0.01	8873	-0.259	idem
AF UMi	FND	vis	57140.495	0.015	8480	+0.157	idem
<u>RRc</u>	<u>OBS.</u>	<u>MODE</u>	<u>HJD</u>	<u>ACC.</u>	<u>E (RR53)</u>	<u>O-C (RR53)</u>	<u>NOTES</u>
V793 Aql	VBR	vis	56149.454	0.015	9527	-0.015	
V793 Aql	VBR	vis	56559.315	0.015	10557	-0.012	
CD Ari	VBR	vis	56986.488	0.015	2939	-0.061	
CD Ari	VBR	vis	57060.336	0.015	3164	-0.081	
XZ CVn	VBR	vis	57136.501	0.015	36140	-0.069	
XZ CVn	VBR	vis	57181.437	0.015	36277	-0.086	
RZ Cep	FND	vis	57017.260	0.007	74818	+0.107	
RZ Cep	FND	vis	57019.397	0.007	74825	+0.084	
RZ Cep	FND	vis	57062.296	0.01	74964	+0.078	
RZ Cep	FND	vis	57065.377	0.01	74974	+0.073	max I
RZ Cep	FND	vis	57065.441	0.01	74974	+0.137	max II
RZ Cep	FND	vis	57135.490	0.01	75201	+0.119	max I
RZ Cep	FND	vis	57135.507	0.01	75201	+0.136	max II
RZ Cep	FND	vis	57160.487	0.01	75282	+0.114	
RZ Cep	FND	vis	57164.498	0.01	75295	+0.112	
RZ Cep	FND	vis	57190.450	0.01	75379	+0.136	
RZ Cep	FND	vis	57193.495	0.015	75389	+0.095	
RZ Cep	FND	vis	57214.472	0.01	75457	+0.083	max I
RZ Cep	FND	vis	57214.506	0.01	75457	+0.117	max II
RZ Cep	FND	vis	57215.431	0.015	75460	+0.116	
V795 Cep	FND	vis	56407.494	0.03	13605	+0.177	
U Com	VBR	vis	57104.418	0.015	76610	+0.002	+0.016 with quadratic eph.
U Com	VBR	vis	57178.479	0.01	76863	+0.001	+0.015 with quadratic eph.
VZ Dra	VBR	vis	57183.447	0.015	31641	-0.059	
V397 Gem	FND	vis	56662.522	0.008	13997	-0.016	
BX Leo	FND	vis	57148.383	0.015	27303	-0.122	normal
DH Peg	FND	vis	56974.422	0.01	47399	+0.011	
RU Psc	FND	vis	57008.357	0.02	43632	-0.238	normal
SX UMa	FND	vis	56704.540	0.006	69554	+0.025	max I
SX UMa	FND	vis	56704.595	0.008	69554	+0.080	max II
BH UMa	VBR	vis	56758.372	0.015	10604	+0.210	eph. GCVS
BH UMa	VBR	vis	57081.492	0.015	11529	+0.181	idem
BH UMa	VBR	vis	57131.470	0.015	11672	+0.202	idem
QW UMa	FND	vis	56667.534	0.01	16864	+0.143	idem

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