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LIST OF VISUAL MAXIMA OF RR LYRAE STARS

ABSTRACT

165 instants of maximum light have been determined for 57 RR Lyrae variable stars (47 RRab and 10 RRc) from visual estimates. They are listed with the O-C relative to the most probable cycle number.

RESUME

165 instants de maxima de 57 étoiles variables du type RR Lyrae (47 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

165 massimi di 57 stelle variabili del tipo RR Lyrae (47 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

165 instantes de máximos de 57 estrellas variables del tipo RR Lyrae (47 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 September 2012 (JD 2455800) to August 2013 (JD 2456250). Other observations were issued from previous unpublished data, from 1983 to 1985 (JD 2445610 to 2446330). Among them are observations made using the N60cm at Pic du Midi. The observers are : Guy Boistel (BTL), Michel Dumont (DMT), Stéphane Ferrand (FND), Alain Grycan (GRY), Edmond Nezry (NZY), Philippe Rousselot (RST) and Jacqueline Vandenbroere (VBR).

OBS.	METHOD	N. MAX.	SITE	INSTRUMENTS
BTL	vis	3	Pic-du-Midi, France	N600 mm
DMT	vis	13	Bailleau-l'Evêque, France	R80 mm - binoculars
FND	vis	58	St-Piat / Pic-du-Midi, France	N203-305-600 mm
GRY	vis	3	Pic-du-Midi, France	N600 mm
NZY	vis	6	Pic-du-Midi, France	N600 mm
RST	vis	2	Besançon, France	N400 mm
VBR	vis	80	Heure, Belgium	N350 mm

The times were determined by the observers from their visual estimates (vis). The O-C are appearing in notes when new or better ephemerides were used and after correction by a non linear relation. The goal of the visual survey is to detect systematic trends in the O-C values with respect to current ephemerides, in order to check possible period variations (Le Borgne et al. 2007).
The O-C's curves published in Le Borgne et al. (2007) were examined to avoid any unlikelihood and the O-C relative to linear and non linear ephemerides of this paper were systematically noted LB 2007.

LIST

RRab	OBS.	MODE	HJD	ACC	E (GCVS)	O-C (GCVS)	NOTES
V548 And	VBR	vis	56222,328	0.01	9481	-0,324	
TU Ari	FND	vis	45614,630	0.004	-12412	+0,077	-0,044 (with Drake 2013)
RS Boo	DMT	vis	56418,417	0.014	20984	-0.002	-0,016 (with quadratic elements of LB 2007)
RS Boo	DMT	vis	56438,424	0.007	21037	+0.006	-0,008 idem
RS Boo	DMT	vis	56458,426	0.013	21090	+0.009	-0,005 idem
RS Boo	DMT	vis	56473,495	0.005	21130	-0.015	-0,030 idem
RS Boo	DMT	vis	56481,423	0.007	21151	-0,011	-0,026 idem
RS Boo	DMT	vis	56487,467	0.009	21167	-0.005	-0,019 idem
SS Cnc	VBR	vis	56337,431	0.01	90540	+0,067	+0,014 idem
UZ CVn	VBR	vis	56341,588	0.015	42870	+0,254	
CD Del	VBR	vis	56480,493	0.01	51781	-0,009	
CD Del	VBR	vis	56489,484	0.01	51799	-0,010	
DS Del	VBR	vis	56505,581	0.01	64311	+0,000	
DS Del	VBR	vis	56506,519	0.01	64313	-0,014	
WY Dra	VBR	vis	56223,350	0.01	29916	+0,073	
WY Dra	VBR	vis	56492,492	0.01	30373	+0,069	
WY Dra	VBR	vis	56535,496	0.01	30446	+0,080	
IS Dra	VBR	vis	56356,631	0.015	10944	+0,032	eph. Garcia-Melendo, 1998
IS Dra	VBR	vis	56397,417	0.01	11025	+0,014	idem
AG Her	VBR	vis	56222,268	0.015	43976	-0,000	
AG Her	VBR	vis	56418,399	0.01	44278	-0,002	
CW Her	VBR	vis	56490,460	0.01	31689	+0,220	
CW Her	VBR	vis	56495,448	0.01	31697	+0,218	
V448 Her	VBR	vis	56451,551	0.01	30724	+0,169	
V448 Her	VBR	vis	56487,494	0.01	30779	+0,168	
V461 Her	VBR	vis	56440,473	0.015	38366	+0,006	eph. Haussler, 2003
V461 Her	VBR	vis	56480,494	0.015	38444	+0,012	idem
V552 Her	VBR	vis	56440,467	0.01	13478	-0,275	
V552 Her	VBR	vis	56482,490	0.01	13589	-0,270	
V1013 Her	VBR	vis	56458,462	0.01	7915	+0,007	
V1013 Her	VBR	vis	56487,469	0.01	7960	+0,001	
V1124 Her	VBR	vis	56190,339	0.01	13802	-0,065	eph Wils et al., 2006
V1124 Her	VBR	vis	56458,476	0.01	14557	-0,051	idem
SW Leo	VBR	vis	56015,394	0.01	52089	-0,075	
SW Leo	VBR	vis	56384,438	0.01	52755	-0,096	
AA Leo	VBR	vis	56356,544	0.015	27996	-0,076	-0.005 (with eph. LB 2007)
AS Leo	VBR	vis	56384,536	0.01	57025	+0,109	
AS Leo	VBR	vis	56389,429	0.01	57034	+0,097	
DM Leo	VBR	vis	56356,353	0.01	6847	-0,069	eph Maintz, 2013
HV Leo	VBR	vis	56341,509	0.015	5944	+0,047	
HV Leo	VBR	vis	56356,340	0.01	5969	+0,036	
Y Lyr	VBR	vis	56235,289	0.01	81988	+0,005	
Y Lyr	VBR	vis	56384,568	0.015	82285	-0,017	
Y Lyr	VBR	vis	56458,474	0.01	82432	-0,007	
RR Lyr	FND	vis	56124,465	0.017	23288	-0,171	
RR Lyr	FND	vis	56132,410	0.010	23302	-0,162	
RR Lyr	FND	vis	56133,540	0.006	23304	-0,166	
RR Lyr	FND	vis	56158,444	0.015	23348	-0,204	
RR Lyr	FND	vis	56175,477	0.006	23378	-0,177	

RR Lyr	DMT	vis	56446,420	0.01	23857	-0,197	
RR Lyr	DMT	vis	56459,436	0.014	23880	-0,219	
RR Lyr	DMT	vis	56480,432	0.008	23017	-0,197	
RR Lyr	DMT	vis	56485,493	0.011	23926	-0,237	
RR Lyr	DMT	vis	56535,406	0.004	24013	-0,209	
RR Lyr	DMT	vis	56539,398	0.004	24020	-0,185	
WW Lyr	VBR	vis	56450,545	0.015	41552	+0,129	
WW Lyr	VBR	vis	56451,557	0.01	41554	+0,110	
WW Lyr	VBR	vis	56481,480	0.01	41612	+0,118	
AQ Lyr	VBR	vis	56232,264	0.015	57504	+0,049	
AQ Lyr	VBR	vis	56257,244	0.01	57574	+0,029	
AQ Lyr	VBR	vis	56440,429	0.01	58087	+0,000	
DD Lyr	VBR	vis	56482,511	0.01	77253	+0,254	
DD Lyr	VBR	vis	56485,493	0.01	77261	+0,255	
LX Lyr	VBR	vis	56384,591	0.01	36843	+0,000	+0.031 (with eph. LB 2007)
LX Lyr	VBR	vis	56407,509	0.01	36885	+0,008	idem
NQ Lyr	VBR	vis	56228,393	0.01	65289	-0,001	
NQ Lyr	VBR	vis	56480,552	0.01	65718	-0,003	
NR Lyr	VBR	vis	56492,472	0.01	29930	-0,039	
NR Lyr	VBR	vis	56494,528	0.01	29933	-0,029	
AX Oph	VBR	vis	56483,463	0.01	66462	-0,018	
AX Oph	VBR	vis	56489,557	0.01	66475	-0,011	
V816 Oph	VBR	vis	56397,551	0.01	52657	-0,129	
V864 Oph	VBR	vis	56485,509	0.01	10029	+0,048	eph. Wils et al., 2006
V864 Oph	VBR	vis	56487,551	0.01	10033	+0,051	idem
V2645 Oph	VBR	vis	56489,474	0.015	7586	-0,011	eph. Haussler, 2007
V2645 Oph	VBR	vis	56492,476	0.01	7591	-0.000	idem
CM Ori	VBR	vis	56337,348	0.01	47321	+0.010	
AO Peg	VBR	vis	56262,301	0.01	56187	+0.039	+0.000 (with eph. LB 2007)
BF Peg	VBR	vis	56248,256	0.015	26798	-0.094	-0.118 idem
FP Peg	GRY	vis	45614,447	0.01	18394	-0.164	-0.104 (with eph. Drake et al., 2013)
FP Peg	FND	vis	45614,455	0.01	18394	-0.155	-0.095 idem
FP Peg	NZY	vis	45614,457	0.01	18394	-0.153	-0.093 idem
FP Peg	FND	vis	46329,553	0.01	19957	-0.206	-0.078 idem
FW Peg	FND	vis	45612,393	0.01	13980	-0,003	
FW Peg	FND	vis	56540,459	0,013	32180	+0,055	
GG Peg	NZY	vis	45610,356	0.015	16019	-0,075	
GG Peg	BTL	vis	45611,365	0.01	16021	-0,079	
GG Peg	NZY	vis	45611,371	0.01	16021	-0,073	
GG Peg	BTL	vis	45612,368	0.01	16023	-0,089	
GG Peg	FND	vis	45612,368	0.01	16023	-0,089	
GG Peg	NZY	vis	45612,378	0.01	16023	-0,079	
GG Peg	GRY	vis	45613,368	0.01	16025	-0,102	
GG Peg	FND	vis	45613,379	0.01	16025	-0,091	
GG Peg	BTL	vis	45613,379	0.01	16025	-0,091	
GG Peg	NZY	vis	45613,391	0.01	16025	-0,079	
GG Peg	FND	vis	45614,377	0.01	16027	-0,106	
GG Peg	GRY	vis	45614,380	0.01	16027	-0,103	
GG Peg	NZY	vis	45614,397	0.008	16027	-0,086	
IX Peg	FND	vis	56540,459	0,01	4706	-0,013	eph. Drake et al., 2013
IY Peg	FND	vis	56188,556	0.008	20833	-0,008	
IY Peg	FND	vis	56222,394	0,01	20895	-0,005	
IY Peg	FND	vis	56233,303	0,013	20915	-0,010	
IY Peg	VBR	vis	56510,525	0,01	21423	-0,017	

IY Peg	FND	vis	56515,439	0,006	21432	-0,015	
IY Peg	FND	vis	56539,438	0,006	21476	-0,028	
HX Psc	VBR	vis	56509,508	0,01	4855	+0,017	
HX Psc	VBR	vis	56510,573	0,01	4857	+0,009	
AW Ser	VBR	vis	56101,469	0,01	46487	-0,001	
TU Uma	DMT	vis	56439,448	0,01	24402	-0,034	
YY UMi	VBR	vis	56494,445	0,01	8556	-0,014	
YY UMi	VBR	vis	56498,454	0,015	8563	+0,008	
YY UMi	VBR	vis	56506,415	0,01	8577	-0,006	
AF UMI	FND	vis	56287,630	0,008	7246	+0,134	
AF UMI	FND	vis	56308,342	0,008	7276	+0,113	
AF UMI	FND	vis	56326,342	0,017	7302	+0,144	
AF UMI	FND	vis	56341,540	0,005	7324	+0,137	
AF UMI	FND	vis	56355,383	0,008	7344	+0,158	
AF UMI	FND	vis	56431,404	0,01	7454	+0,156	
AF UMI	FND	vis	56446,626	0,014	7476	+0,173	
AF UMI	FND	vis	56451,453	0,01	7483	+0,162	
AF UMI	FND	vis	56480,469	0,008	7525	+0,151	
AF UMI	FND	vis	56491,522	0,008	7541	+0,146	
AF UMI	FND	vis	56509,499	0,006	7567	+0,154	
AF UMI	FND	vis	56518,481	0,008	7580	+0,151	
AF UMI	FND	vis	56527,463	0,01	7593	+0,149	
FU Vir	VBR	vis	54944,388	0,015	26130	-0,044	
FU Vir	VBR	vis	55625,477	0,015	27316	-0,146	
FU Vir	VBR	vis	56344,539	0,01	28568	-0,182	

RRc	**OBS**	**MODE**	**HJD**	**ACC**	**E (GCVS)**	**O-C (GCVS)**	**NOTES**
AE Boo	RST	vis	45790,577	0,015	-22455	+0,050	
AE Boo	RST	vis	45812,547	0,02	-22385	-0,023	
AE Boo	FND	vis	45813,508	0,02	-22382	-0,006	
AE Boo	FND	vis	45815,417	0,01	-22376	+0,013	
AE Boo	FND	vis	45819,506	0,02	-22363	+0,009	
AE Boo	FND	vis	45820,439	0,01	-22360	-0,003	
AE Boo	FND	vis	45821,411	0,02	-22357	+0,024	
AE Boo	FND	vis	45843,469	0,015	-22287	+0,040	
AE Boo	FND	vis	45844,424	0,02	-22284	+0,050	
AE Boo	FND	vis	46089,736	0,01	-21505	+0,058	
AE Boo	FND	vis	46108,607	0,01	-21445	+0,036	
AE Boo	FND	vis	46112,69	0,015	-21432	+0,025	
AE Boo	FND	vis	46120,558	0,01	-21407	+0,020	
AE Boo	FND	vis	56060,507	0,01	10159	-0,031	
AE Boo	FND	vis	56071,525	0,01	10194	-0,035	
VZ Dra	VBR	vis	56178,331	0,015	39925	-0,222	
TV Lyn	VBR	vis	56273,439	0,015	63671	+0,015	
TV Lyn	VBR	vis	56355,487	0,01	64012	+0,010	
TV Lyn	VBR	vis	56356,454	0,015	64016	+0,005	
V462 Lyr	VBR	vis	56480,457	0,015	44401	-0,002	
GM Ori	FND	vis	56329,302	0,02	71998	-0,219	
VZ Peg	VBR	vis	56506,525	0,015	59348	-0,117	normal max
VZ Peg	VBR	vis	56509,591	0,01	59358	-0,116	
DH Peg	FND	vis	45910,519	0,015	5663	-0,007	
DH Peg	FND	vis	45930,457	0,015	5741	+0,001	
DH Peg	FND	vis	45943,485	0,01	5792	-0,002	
DH Peg	FND	vis	45962,401	0,015	5866	+0,006	

DH Peg	FND	vis	56133,540	0,02	45673	+0,043	
DH Peg	FND	vis	56481,550	0,015	47035	+0,047	
DH Peg	FND	vis	56482,587	0,015	47039	+0,063	
DH Peg	FND	vis	56491,553	0,015	47074	+0,085	
DH Peg	FND	vis	56515,495	0,012	47168	+0,009	
RU Psc	FND	vis	46292,230	0,04	5866	+0,006	
YZ Tau	FND	vis	56291,421	0,017	89027	+0,013	
YZ Tau	FND	vis	56310,314	0,008	89073	-0,022	
V507 Vul	VBR	vis	56518,563	0,02	5610	+0,087	
V507 Vul	VBR	vis	56519,566	0,02	5613	+0,082	

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