

GEOS  
RR 15

GEOS CIRCULAR ON RR TYPE VARIABLES

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GEOS  
Promenade Vénèzia, 3  
F 78000 VERSAILLES

LIST OF VISUAL AND PHOTOGRAPHIC MAXIMA OF RR LYRAE STARS

ABSTRACT

184 instants of maximum light have been determined for 50 RR Lyr variable stars from visual and photographic estimates. They are listed with the O-C relative to the most probable cycle number.

RESUME

184 instants de maxima de 50 étoiles variables du type RR Lyr ont été déterminés à partir d'estimations visuelles et photographiques. Ils sont repris dans une liste avec l'O-C relatif au numéro de cycle le plus vraisemblable.

RIASSUNTO

184 massimi di 50 stelle variabili del tipo RR Lyr sono stati determinati sulla base di stime visuali e misure fotografiche. Questi instanti di massimo sono raccolti in una lista con l'O-C relativo al numero di ciclo più probabile.

RESUMEN

184 instantes de máximos de 50 estrallas variables del tipo RR Lyr han sido determinados a partir de estimaciones visuales y fotográficas. Aparecen listados con los O-C relativos al número de ciclo más probable.

OBSERVATIONS

Most of the observations cover a time interval from 1995 (JD 2449800) to 1997 (JD 2450720) and were selected from lists issued by GEOS as Notes Circulaires. Some of the moments have also been published by J. Aubaud in AFOEV bulletins.

The observers are Jacques Aubaud (AUB), Mino Benucci (BEN), Davide Dalmazio (DDL), Andrea Manna (MAA), Carlo Pampaloni (PMP), Jacqueline Vandenbroere (VBR) and Jean-Paul Verrot (VRR).

The instants of maximum were determined from direct visual estimates of the variable stars (vis) or from visual estimates of photographic exposures (phot).

The O-C's were calculated from the GCVS 85 ephemeris whenever possible. They appear in notes when new or better ephemerides were used and after correction by non linear relations.

The cycle numbers were chosen using the most probable solution extending the GEOS RR 14 list. No complete bibliography research was made for some of the stars, but I point out the Smith et al. (1994) paper on AH Cam.

LIST

<u>STARS</u>	<u>OBS.</u>	<u>MODE</u>	<u>JD HEL</u>	<u>E (GC 85)</u>	<u>O-C (GC 85)</u>	<u>NOTES</u>
SW And	DDL	vis	50312.432	72760	- 0.613	+ 0.038 (O-C with nonlinear term of GCVS 85 notes)
SW And	DDL	vis	50316.408	72769	- 0.617	+ 0.034 idem
SW And	DDL	vis	50336.314	72814	- 0.614	+ 0.038 idem
SW And	DDL	vis	50343.395	72830	- 0.609	+ 0.043 idem
SW And	DDL	vis	50378.333	72909	- 0.611	+ 0.042 idem
SW And	DDL	vis	50401.336	72961	- 0.607	+ 0.047 idem
SW And	DDL	vis	50421.222	73006	- 0.623	+ 0.032 idem
SW And	DDL	vis	50436.269	73040	- 0.614	+ 0.042 idem
OV And	VBR	vis	50050.304	6983	+ 0.086	
AA Aql	VBR	vis	50275.601	71667	+ 0.024	
AA Aql	MAA	vis	50332.399	71824	+ 0.022	
V 341 Aql	AUB	phot	49928.428	15107	+ 0.021	

STARS	OBS.	MODE	JD HEL	E (GC 85)	O-C (GC 85)	NOTES
X Ari	AUB	phot	50050.508	19146	+0.162	
TZ Aur	VRR	vis	50461.287	78021	+0.010	
TZ Aur	VRR	vis	50479.303	78067	+0.008	
TZ Aur	VRR	vis	50481.272	78072	+0.019	
TZ Aur	VRR	vis	50488.316	78090	+0.013	
TZ Aur	VRR	vis	50490.273	78095	+0.011	
TZ Aur	VRR	vis	50506.330	78136	+0.010	
TZ Aur	VRR	vis	50508.298	78141	+0.020	
TZ Aur	VRR	vis	50513.381	78154	+0.011	
TZ Aur	VRR	vis	50515.350	78159	+0.022	
TZ Aur	VRR	vis	50517.297	78164	+0.010	
RS Boo	AUB	phot	50250.428	22473	-0.000	
ST Boo	VBR	vis	49799.513	49202	+0.080	
ST Boo	VBR	vis	50153.568	49771	+0.052	
ST Boo	VBR	vis	50173.489	49803	+0.060	
ST Boo	VBR	vis	50517.648	50356	+0.092	
ST Boo	VBR	vis	50570.552	50441	+0.102	
CM Boo	VBR	vis	50170.442	23427	-0.015	
DG Boo	VBR	vis	50546.606	3130		- 0.034 (O-C with ephemeris IBVS 4198) = NSV 7020
DG Boo	VBR	vis	50637.381	3328		- 0.032 idem
DG Boo	VBR	vis	50641.499	3337		- 0.041 idem
AH Cam	VRR	vis	50483.287	31876	+0.045	
AH Cam	VRR	vis	50486.316	31884	+0.124	
AH Cam	VRR	vis	50489.307	31892	+0.165	
AH Cam	VRR	vis	50517.320	31968	+0.154	
AH Cam	VBR	vis	50717.571	32511	+0.183	
RW Cnc	VRR	vis	50510.316	20018	+0.172	
RW Cnc	VRR	vis	50516.313	20029	+0.150	
SS Cnc	VBR	vis	50049.696	73423	+0.055	
TT Cnc	VRR	vis	50165.403	18140	+0.063	
TT Cnc	VBR	vis	50464.587	18671	+0.056	
TT Cnc	VBR	vis	50485.417	18708	+0.039	
TT Cnc	VRR	vis	50489.343	18715	+0.020	
TT Cnc	VRR	vis	50507.428	18747	+0.075	
TT Cnc	VRR	vis	50511.361	18754	+0.064	
AQ Cnc	VBR	vis	50097.552	31168	-0.039	
AQ Cnc	VBR	vis	50152.385	31268	-0.059	
W CVn	AUB	phot	50170.499	52139	-0.105	- 0.005 (O-C with nonlinear term of the GCVS 85 notes)
UZ CVn	VRR	vis	50186.374	34049	+0.184	
UZ CVn	VRR	vis	50193.357	34059	+0.189	
UZ CVn	VRR	vis	50507.368	34509	+0.197	
UZ CVn	VRR	vis	50514.343	34519	+0.195	
UZ CVn	VRR	vis	50516.429	34522	+0.187	
UZ CVn	VBR	vis	50546.435	34565	+0.189	
AA CMi	VBR	vis	50050.677	28288	+0.015	
AA CMi	VBR	vis	50465.564	29159	+0.024	
RZ Cep	AUB	phot	49943.466	23675	-0.032	
TV CrB	VBR	vis	50200.517	31785	+0.008	
UY Cyg	AUB	phot	50342.408	49774	+0.161	
XZ Cyg	AUB	phot	49906.477	12390	-0.376	
XZ Cyg	AUB	phot	50332.465	13303	-0.485	
XZ Cyg	AUB	phot	50333.386	13305	-0.498	
DM Cyg	VBR	vis	50275.558	18323	+0.058	
DM Cyg	VBR	vis	50280.576	18335	+0.037	
DM Cyg	VBR	vis	50283.512	18342	+0.034	
DM Cyg	AUB	phot	50286.444	18349	+0.027	
DX Del	VBR	vis	50280.574	23091	+0.041	
DX Del	VRR	vis	50396.360	23336	+0.036	
RW Dra	AUB	phot	50287.426	24632	+0.103	
XZ Dra	AUB	phot	49893.481	16716	-0.017	

STARS	OBS.	MODE	JD HEL	E (GC 85)	O-C (GC 85)	NOTES
XZ Dra	AUB	phot	49903.494	16737	-0.010	
XZ Dra	AUB	phot	49945.417	16825	-0.019	
XZ Dra	AUB	phot	50247.520	17459	-0.015	
XZ Dra	AUB	phot	50331.383	17635	-0.016	
BK Dra	AUB	phot	49923.435	41211	-0.141	-0.004 (O-C with eph. NC 648)
BK Dra	VBR	vis	50200.524	41679	-0.146	-0.006 idem
BK Dra	AUB	phot	50251.463	41765	-0.126	+0.014 idem
BK Dra	AUB	phot	50296.450	41841	-0.137	-0.013 idem
RR Gem	VBR	vis	50095.499	21994	-0.156	
RR Gem	VBR	vis	50097.472	21999	-0.169	
VX Her	AUB	phot	49895.425	61807	-0.286	-0.001 (O-C with nonlinear term of the GCVS 85 notes)
VX Her	AUB	phot	50282.486	62657	-0.291	+0.001 idem
VZ Her	AUB	phot	50248.459	30567	+0.058	
AG Her	VBR	vis	50276.581	34821	-0.004	
GY Her	VBR	vis	50628.543	27157	+0.106	+0.005 (O-C with eph. Astr. J., 102, 5, 1766, 1991)
GY Her	VBR	vis	50636.401	27172	+0.099	-0.000 idem
GO Hya	VBR	vis	50097.575	38414	-0.023	
RR Leo	VBR	vis	50049.654	14930	+0.020	
RR Leo	VBR	vis	50097.609	15036	+0.021	
RX Leo	VRR	vis	50487.444	21703	+0.056	
RX Leo	VRR	vis	50508.350	21735	+0.053	
RX Leo	VRR	vis	50510.333	21738	+0.076	
ST Leo	VBR	vis	48748.406	43569	-0.010	
ST Leo	VBR	vis	50170.405	46544	-0.014	
AX Leo	VRR	vis	50508.478	34759	-0.039	
AX Leo	VRR	vis	50511.386	34763	-0.039	
AX Leo	VRR	vis	50519.388	34774	-0.032	
X LMi	VRR	vis	50168.379	16028	+0.102	
X LMi	VBR	vis	50170.421	16031	+0.092	
X LMi	VRR	vis	50192.327	16063	+0.100	
X LMi	VRR	vis	50220.383	16104	+0.098	
X LMi	VRR	vis	50480.421	16484	+0.095	
X LMi	VRR	vis	50487.262	16494	+0.099	
RR Lyr	DDL	vis	49843.430	12208	-0.311	+0.102 (O-C GCVS 74)
RR Lyr	DDL	vis	49877.422	12268	-0.331	+0.085 idem
RR Lyr	DDL	vis	49885.379	12282	-0.310	+0.106 idem
RR Lyr	DDL	vis	49889.342	12289	-0.315	+0.101 idem
RR Lyr	DDL	vis	49894.430	12298	-0.329	+0.088 idem
RR Lyr	DDL	vis	49903.484	12314	-0.345	+0.072 idem
RR Lyr	DDL	vis	49915.396	12335	-0.337	+0.081 idem
RR Lyr	DDL	vis	49919.393	12342	-0.308	+0.110 idem
RR Lyr	DDL	vis	49923.349	12349	-0.320	+0.098 idem
RR Lyr	DDL	vis	49936.353	12372	-0.354	+0.065 idem
RR Lyr	DDL	vis	49940.324	12379	-0.351	+0.068 idem
RR Lyr	DDL	vis	49945.423	12388	-0.354	+0.066 idem
RR Lyr	DDL	vis	49949.380	12395	-0.365	+0.055 idem
RR Lyr	DDL	vis	49953.360	12402	-0.353	+0.067 idem
RR Lyr	DDL	vis	50224.349	12880	-0.327	+0.112 idem
RR Lyr	DDL	vis	50233.408	12896	-0.338	+0.101 idem
RR Lyr	PMP	vis	50250.402	12926	-0.350	+0.090 idem
RR Lyr	DDL	vis	50271.393	12963	-0.333	+0.109 idem
RR Lyr	PMP	vis	50276.465	12972	-0.363	+0.079 idem
RR Lyr	DDL	vis	50288.349	12993	-0.383	+0.060 idem
RR Lyr	DDL	vis	50301.412	13016	-0.358	+0.086 idem
RR Lyr	DDL	vis	50305.381	13023	-0.357	+0.087 idem
RR Lyr	PMP	vis	50305.387	13023	-0.351	+0.093 idem
RR Lyr	DDL	vis	50309.384	13030	-0.322	+0.122 idem
RR Lyr	DDL	vis	50318.431	13046	-0.345	+0.100 idem
RR Lyr	DDL	vis	50322.383	13053	-0.361	+0.084 idem
RR Lyr	DDL	vis	50326.345	13060	-0.367	+0.078 idem

STARS	OBS.	MODE	JD HEL	E (GC 85)	O-C (GC 85)	NOTES
RR Lyr	DDL	vis	50330.321	13067	- 0.359	+0.086 (O-C GCVS 74)
RR Lyr	DDL	vis	50343.353	13090	- 0.365	+0.081 idem
RR Lyr	PMP	vis	50360.368	13120	- 0.356	+0.091 idem
RR Lyr	DDL	vis	50377.353	13150	- 0.377	+0.072 idem
RR Lyr	DDL	vis	50381.333	13157	- 0.365	+0.084 idem
RZ Lyr	AUB	phot	49919.541	17088	+0.007	
RZ Lyr	AUB	phot	49958.412	17164	+0.023	
RZ Lyr	VBR	vis	50153.665	17546	- 0.018	
RZ Lyr	VBR	vis	50278.413	17790	- 0.014	
RZ Lyr	VBR	vis	50281.470	17796	- 0.024	
RZ Lyr	AUB	phot	50303.478	17839	+0.001	
NR Lyr	VBR	vis	50362.407	20942	- 0.025	
NR Lyr	VBR	vis	50636.581	21344	- 0.027	
AV Peg	AUB	phot	49932.502	15734	+0.030	
AV Peg	VRR	vis	50312.350	16707	+0.044	
AV Peg	VRR	vis	50328.366	16748	+0.055	
AV Peg	VRR	vis	50333.432	16761	+0.046	
AV Peg	VRR	vis	50337.349	16771	+0.059	
AV Peg	VRR	vis	50340.462	16779	+0.049	
AV Peg	DDL	vis	50344.377	16789	+0.060	
AV Peg	VRR	vis	50360.366	16830	+0.044	
AV Peg	DDL	vis	50378.324	16876	+0.045	
AV Peg	VRR	vis	50394.326	16917	+0.042	
AV Peg	VRR	vis	50396.259	16922	+0.022	
BH Peg	VBR	vis	49981.339	16562	- 0.067	
BH Peg	VBR	vis	50013.414	16612	- 0.042	
BH Peg	VBR	vis	50015.312	16615	- 0.067	
BH Peg	VBR	vis	50300.567	17060	- 0.054	
BH Peg	VRR	vis	50331.347	17108	- 0.041	
BH Peg	VRR	vis	50340.340	17122	- 0.022	
BH Peg	VRR	vis	50356.303	17147	- 0.084	
BH Peg	VRR	vis	50374.313	17175	- 0.021	
BH Peg	VRR	vis	50388.381	17197	- 0.056	
BH Peg	VRR	vis	50390.297	17200	- 0.062	
CG Peg	BEN	vis	48954.306	21090	- 0.035	
CG Peg	VBR	vis	50042.278	23419	- 0.027	
CG Peg	VBR	vis	50050.215	23436	- 0.031	
CG Peg	VBR	vis	50273.521	23914	- 0.018	
CG Peg	VBR	vis	50281.463	23931	- 0.017	
DH Peg	AUB	phot	49922.577	21365	+0.026	
TU Per	VBR	vis	49309.539	17357	- 0.050	
TU Per	VBR	vis	49961.539	18431	- 0.049	
TU Per	VBR	vis	49964.581	18436	- 0.042	
TU Per	VBR	vis	50718.572	19678	- 0.038	
AN Ser	VBR	vis	50225.494	68030	+0.012	
DF Ser	VBR	vis	50517.597	47537	+0.076	
SS Tau	VBR	vis	50012.529	29680	- 0.085	
SS Tau	VRR	vis	50421.275	30787	- 0.080	
SS Tau	VRR	vis	50461.241	30893	- 0.064	
SS Tau	VBR	vis	50717.582	31586	- 0.064	
EX UMa	VBR	vis	50097.574	1998		+0.007 (O-C with eph. GEOS Circular RR 13) = NSV 4219
EX UMa	VBR	vis	50114.406	2029		+0.011 idem

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