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THE GEOS RR Lyr SURVEY

Seventh list of maxima of RR Lyr stars observed by the automated telescopes TAROT

(GEOS Circular RR 31)

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We present here the seventh list of light maxima of RR Lyrae stars from the GEOS RR Lyr Survey, a GEOS program (<http://www.upv.es/geos/>) (Boninsegna et al., 2002) of automated observations of RR Lyr stars started in January 2004.

We are using the 25-cm automatic telescopes TAROT (<http://tarot.obs-hp.fr>) (Boër et al., 2001, Bringer et al., 1999). One of the telescopes is located in the northern hemisphere in Calern Observatory (Observatoire de la Côte d'Azur, Nice University, France). A second identical telescope in the southern hemisphere, located in ESO La Silla Observatory, Chile, is in operation since 2006 September. Images are obtained by 2048×2048 Marconi 42-40 thin back illuminated CCDs. Field of view of both telescopes is $1.86^\circ \times 1.86^\circ$. Data reduction, from bias subtraction and flatfielding to photometry using SExtractor (Bertin & Arnouts, 1996), is performed automatically. The aim of this legacy project for the study of period variations of RR Lyr stars is to monitor maxima of light of these stars in order to feed the GEOS RR Lyr web database (<http://dbRR.ast.obs-mip.fr>).

The present list contains 974 maxima observed with no filter between January and June 2007 (Table 1). The maxima are determined by fitting a polynomial function on the data points. The uncertainties on individual maxima are estimated from the data sampling of each maximum. The nominal sampling (two consecutive 30-s exposures taken every 10 minutes on a time baseline of 2 hours centered around the predicted maximum time) may be altered by local events (weather or telescope operation). This results uncertainties from 0.002 to 0.010 day. For a well observed star, the mean uncertainty on maxima is about 0.003 day (4.3 minutes). The $O - C$'s are computed with the GCVS elements (Kholopov et al., 1985) and are displayed in Table 1 in column ' $O - C$ '. The column ' E ' contains the cycle number. Note that this cycle number takes into account the shifts induced by the elements when the period of the elements is very different from the actual one, the absolute value of $O - C$ becoming greater than 1 period. When no elements are available in the GCVS, the reference of the elements, if exists, is given as a footnote of Table 1. The fifth column in Table 1 gives the abbreviation of the name of the observatory where the star was observed.

Table 1: maxima of RR Lyrae stars

Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.	Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.
XX And	54106.347±0.002	0.224	20780.	C	SW Aqr	54277.826±0.002	-0.001	63532.	LS
CI And	54103.429±0.002	0.093	37929.	C	TZ Aqr	54021.585±0.002	0.013	28839.	LS
CI And	54106.338±0.002	0.094	37935.	C	AA Aqr	54028.578±0.002	-0.113	54657.	LS
CI And	54107.307±0.005	0.093	37937.	C	BN Aqr	54016.589±0.002	0.540	34374.	LS
WY Ant	54114.714±0.005	0.202	23452.	LS	BN Aqr	54023.634±0.002	0.540	34389.	LS
WY Ant	54125.628±0.005	0.203	23471.	LS	BR Aqr	54026.682±0.002	-0.152	34014.	LS
WY Ant	54129.647±0.004	0.202	23478.	LS	CP Aqr	54277.806±0.002	-0.109	35376.	LS
WY Ant	54140.561±0.003	0.204	23497.	LS	FX Aqr	54016.647±0.003	0.120	14932.	LS
WY Ant	54156.641±0.002	0.202	23525.	LS	HH Aqr	54016.697±0.002			LS
WY Ant	54160.661±0.002	0.202	23532.	LS	HH Aqr	54031.627±0.002			LS
WY Ant	54171.577±0.005	0.206	23551.	LS	AA Aql	54278.782±0.002	0.033	82732.	LS
WY Ant	54206.611±0.005	0.206	23612.	LS	V341 Aql	54268.795±0.002	0.031	22616.	LS
TY Aps	54185.619±0.002	0.036	28821.	LS	S Ara	54231.903±0.004	0.184	28944.	LS
TY Aps	54192.643±0.005	0.036	28835.	LS	IN Ara	54221.806±0.004	0.128	42715.	LS
TY Aps	54193.647±0.004	0.037	28837.	LS	IN Ara	54233.794±0.002	0.118	42734.	LS
TY Aps	54199.672±0.002	0.041	28849.	LS	IN Ara	54276.729±0.004	0.111	42802.	LS
TY Aps	54227.773±0.003	0.047	28905.	LS	MS Ara	54213.719±0.002	-0.168	49959.	LS
VX Aps	54177.786±0.005	-0.021	41146.	LS	MS Ara	54234.722±0.002	-0.163	49999.	LS
VX Aps	54179.727±0.002	-0.019	41150.	LS	X Ari	54105.334±0.002	0.323	25373.	C
VX Aps	54205.903±0.002	-0.010	41204.	LS	X Ari	54107.285±0.005	0.320	25376.	C
VX Aps	54281.499±0.002	-0.008	41360.	LS	TZ Aur	54108.562±0.002	0.010	87333.	C
XZ Aps	54155.747±0.003	-0.175	43308.	LS	TZ Aur	54192.385±0.002	0.015	87547.	C
XZ Aps	54162.795±0.002	-0.176	43320.	LS	TZ Aur	54194.338±0.002	0.010	87552.	C
XZ Aps	54165.732±0.005	-0.176	43325.	LS	RS Boo	54113.628±0.002	0.003	32711.	C
XZ Aps	54168.666±0.002	-0.179	43330.	LS	RS Boo	54136.647±0.002	0.005	32772.	C
XZ Aps	54178.649±0.002	-0.183	43347.	LS	RS Boo	54147.585±0.002	0.000	32801.	C
XZ Aps	54185.697±0.002	-0.184	43359.	LS	RS Boo	54164.566±0.005	0.001	32846.	C
XZ Aps	54205.665±0.002	-0.189	43393.	LS	RS Boo	54189.470±0.002	0.000	32912.	C
XZ Aps	54225.632±0.002	-0.194	43427.	LS	RS Boo	54217.390±0.002	-0.003	32986.	C
XZ Aps	54272.618±0.005	-0.203	43507.	LS	RS Boo	54240.408±0.004	-0.003	33047.	C
XZ Aps	54282.595±0.002	-0.212	43524.	LS	RS Boo	54266.440±0.003	-0.007	33116.	C
YZ Aps	54218.790±0.005	0.002	35602.	LS	ST Boo	54135.617±0.005	0.063	56170.	C
YZ Aps	54222.716±0.005	0.016	35610.	LS	ST Boo	54145.574±0.007	0.063	56186.	C
BS Aps	54180.672±0.010	0.021	28771.	LS	ST Boo	54160.515±0.005	0.069	56210.	C
BS Aps	54191.750±0.005	0.030	28790.	LS	ST Boo	54168.608±0.005	0.073	56223.	C
BS Aps	54222.613±0.005	0.018	28843.	LS	ST Boo	54198.481±0.003	0.076	56271.	C
BS Aps	54275.642±0.002	0.034	28934.	LS	ST Boo	54208.438±0.003	0.076	56287.	C
BS Aps	54282.620±0.003	0.021	28946.	LS	ST Boo	54211.550±0.002	0.077	56292.	C
CK Aps	54191.890±0.003	-0.205	28070.	LS	ST Boo	54229.600±0.002	0.080	56321.	C
CK Aps	54193.764±0.010	-0.201	28073.	LS	TW Boo	54158.506±0.002	-0.051	51228.	C
CK Aps	54196.870±0.005	-0.213	28078.	LS	TW Boo	54173.408±0.003	-0.053	51256.	C
CK Aps	54218.712±0.002	-0.193	28113.	LS	TW Boo	54181.395±0.003	-0.050	51271.	C
CK Aps	54223.696±0.003	-0.197	28121.	LS	TW Boo	54189.378±0.002	-0.051	51286.	C
CK Aps	54278.580±0.002	-0.181	28209.	LS	TW Boo	54205.348±0.003	-0.049	51316.	C
DD Aps	54230.710±0.006	0.101	27006.	LS	TW Boo	54214.395±0.005	-0.051	51333.	C
DD Aps	54267.646±0.005	0.089	27063.	LS	TW Boo	54215.461±0.003	-0.049	51335.	C
DD Aps	54282.567±0.002	0.102	27086.	LS	TW Boo	54239.413±0.005	-0.049	51380.	C
EL Aps	54196.840±0.008	-0.164	45205.	LS	TW Boo	54256.443±0.002	-0.052	51412.	C
EL Aps	54207.847±0.002	-0.171	45224.	LS	TW Boo	54272.411±0.003	-0.052	51442.	C
EL Aps	54224.667±0.005	-0.163	45253.	LS	TW Boo	54274.540±0.003	-0.052	51446.	C
EL Aps	54235.675±0.010	-0.170	45272.	LS	UY Boo	54198.421±0.003	0.088	18995.	C
EL Aps	54278.573±0.002	-0.172	45346.	LS	XX Boo	54164.603±0.005	0.016	42652.	C
EL Aps	54282.624±0.002	-0.179	45353.	LS	XX Boo	54188.443±0.010	0.018	42693.	C
EX Aps	54185.885±0.002	0.015	55643.	LS	XX Boo	54199.486±0.002	0.015	42712.	C
EX Aps	54210.889±0.004	0.013	55696.	LS	XX Boo	54207.629±0.003	0.018	42726.	C
EX Aps	54218.909±0.002	0.013	55713.	LS	XX Boo	54231.467±0.005	0.019	42767.	C
EX Aps	54235.894±0.002	0.013	55749.	LS	CM Boo	54119.632±0.002	-0.100	29911.	C
LU Aps	54215.915±0.010	0.201	22410.	LS	CM Boo	54127.552±0.004	-0.098	29924.	C

Table 1 (cont.): maxima of RR Lyrae stars

Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.	Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.
CM Boo	54130.598±0.005	-0.097	29929.	C	RZ CVn	54142.549±0.002	-0.170	24319.	C
CM Boo	54152.528±0.005	-0.094	29965.	C	RZ CVn	54158.436±0.002	-0.171	24347.	C
CM Boo	54155.573±0.002	-0.095	29970.	C	RZ CVn	54168.647±0.003	-0.173	24365.	C
CM Boo	54172.625±0.002	-0.097	29998.	C	RZ CVn	54171.483±0.002	-0.174	24370.	C
CM Boo	54197.598±0.003	-0.096	30039.	C	RZ CVn	54187.377±0.005	-0.168	24398.	C
CM Boo	54205.514±0.002	-0.098	30052.	C	RZ CVn	54196.450±0.002	-0.173	24414.	C
CM Boo	54213.432±0.004	-0.098	30065.	C	RZ CVn	54213.478±0.004	-0.167	24444.	C
CM Boo	54216.477±0.005	-0.099	30070.	C	RZ CVn	54238.438±0.003	-0.174	24488.	C
CM Boo	54227.443±0.002	-0.096	30088.	C	RZ CVn	54242.413±0.004	-0.170	24495.	C
CM Boo	54238.405±0.003	-0.097	30106.	C	RZ CVn	54259.431±0.005	-0.175	24525.	C
U Cae	54102.740±0.004	-0.100	47138.	LS	SS CVn	54119.633±0.005	0.134	30295.	C
U Cae	54108.617±0.002	-0.100	47152.	LS	SS CVn	54120.584±0.005	0.128	30297.	C
U Cae	54121.635±0.002	-0.095	47183.	LS	SS CVn	54130.622±0.005	0.117	30318.	C
U Cae	54126.667±0.002	-0.101	47195.	LS	SS CVn	54133.497±0.004	0.121	30324.	C
V Cae	54121.692±0.004	0.107	34687.	LS	SS CVn	54141.668±0.010	0.157	30341.	C
V Cae	54129.686±0.002	0.110	34701.	LS	SS CVn	54168.474±0.002	0.166	30397.	C
AH Cam	54105.279±0.003	-0.412	41700.	C	SS CVn	54189.524±0.003	0.161	30441.	C
AH Cam	54106.394±0.002	-0.403	41703.	C	SS CVn	54199.567±0.004	0.155	30462.	C
AH Cam	54107.513±0.005	-0.390	41706.	C	SS CVn	54214.378±0.004	0.132	30493.	C
AH Cam	54108.261±0.003	-0.380	41708.	C	SS CVn	54248.389±0.003	0.168	30564.	C
AH Cam	54109.371±0.005	-0.376	41711.	C	SS CVn	54268.484±0.004	0.165	30606.	C
AH Cam	54111.570±0.002	-0.389	41717.	C	UZ CVn	54113.553±0.005	0.240	39677.	C
AH Cam	54119.321±0.002	-0.382	41738.	C	UZ CVn	54120.529±0.002	0.238	39687.	C
AH Cam	54134.419±0.002	-0.402	41779.	C	UZ CVn	54127.511±0.002	0.243	39697.	C
TT Cnc	54112.399±0.003	0.097	25145.	C	UZ CVn	54129.603±0.005	0.241	39700.	C
TT Cnc	54143.380±0.002	0.088	25200.	C	UZ CVn	54148.444±0.005	0.242	39727.	C
TT Cnc	54183.396±0.005	0.099	25271.	C	UZ CVn	54155.419±0.002	0.239	39737.	C
W CVn	54121.624±0.002	-0.128	59300.	C	UZ CVn	54157.518±0.004	0.245	39740.	C
W CVn	54147.554±0.005	-0.131	59347.	C	UZ CVn	54159.611±0.003	0.245	39743.	C
W CVn	54152.526±0.003	-0.125	59356.	C	UZ CVn	54229.389±0.004	0.244	39843.	C
W CVn	54157.486±0.004	-0.131	59365.	C	AA CMi	54108.512±0.002	0.053	36807.	C
W CVn	54162.455±0.004	-0.128	59374.	C	AA CMi	54113.752±0.002	0.053	36818.	LS
W CVn	54188.387±0.003	-0.128	59421.	C	AA CMi	54115.657±0.005	0.053	36822.	LS
W CVn	54199.423±0.002	-0.128	59441.	C	AA CMi	54121.374±0.002	0.054	36834.	C
W CVn	54215.420±0.005	-0.132	59470.	C	AA CMi	54124.707±0.003	0.053	36841.	LS
W CVn	54236.389±0.004	-0.129	59508.	C	AA CMi	54135.663±0.002	0.053	36864.	LS
W CVn	54242.456±0.002	-0.132	59519.	C	AA CMi	54136.616±0.001	0.054	36866.	LS
Z CVn	54095.686±0.007	0.291	23193.	C	AA CMi	54139.473±0.002	0.053	36872.	C
Z CVn	54103.536±0.005	0.295	23205.	C	AA CMi	54142.335±0.005	0.057	36878.	C
Z CVn	54114.648±0.003	0.292	23222.	C	AA CMi	54145.667±0.001	0.054	36885.	LS
Z CVn	54120.535±0.004	0.295	23231.	C	AA CMi	54149.474±0.002	0.051	36893.	C
Z CVn	54139.490±0.003	0.289	23260.	C	AL CMi	54109.752±0.004	0.441	31811.	LS
Z CVn	54143.416±0.003	0.292	23266.	C	AL CMi	54114.706±0.003	0.440	31820.	LS
Z CVn	54194.424±0.005	0.302	23344.	C	AL CMi	54124.620±0.005	0.445	31838.	LS
Z CVn	54198.338±0.005	0.293	23350.	C	AL CMi	54141.683±0.002	0.442	31869.	LS
Z CVn	54211.421±0.002	0.300	23370.	C	AL CMi	54146.639±0.003	0.444	31878.	LS
RU CVn	54108.705±0.005	0.004	34235.	C	AL CMi	54151.594±0.001	0.444	31887.	LS
RU CVn	54127.625±0.002	0.006	34268.	C	RV Cap	54275.761±0.003	-0.002	45545.	LS
RU CVn	54135.651±0.004	0.007	34282.	C	TX Car	54125.624±0.005	0.123	49172.	LS
RU CVn	54181.513±0.002	0.009	34362.	C	TX Car	54134.645±0.002	0.127	49187.	LS
RU CVn	54196.417±0.002	0.008	34388.	C	TX Car	54137.654±0.002	0.130	49192.	LS
RU CVn	54200.432±0.004	0.011	34395.	C	TX Car	54140.659±0.002	0.129	49197.	LS
RU CVn	54235.400±0.002	0.010	34456.	C	TX Car	54146.670±0.003	0.129	49207.	LS
RU CVn	54243.424±0.002	0.009	34470.	C	TX Car	54152.674±0.002	0.121	49217.	LS
RU CVn	54259.473±0.003	0.007	34498.	C	TX Car	54161.694±0.002	0.124	49232.	LS
RZ CVn	54113.613±0.002	-0.168	24268.	C	TX Car	54164.704±0.002	0.129	49237.	LS
RZ CVn	54121.557±0.002	-0.168	24282.	C	TX Car	54167.707±0.004	0.126	49242.	LS
RZ CVn	54130.628±0.003	-0.175	24298.	C	TX Car	54179.724±0.002	0.120	49262.	LS

Table 1 (cont.): maxima of RR Lyrae stars

Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.	Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.
TX Car	54185.744±0.003	0.129	49272.	LS	V671 Cen	54199.794±0.010	-0.017	45240.	LS
TX Car	54191.752±0.002	0.126	49282.	LS	V671 Cen	54213.818±0.004	0.002	45272.	LS
TX Car	54196.561±0.002	0.126	49290.	LS	V671 Cen	54228.625±0.003	-0.072	45306.	LS
TX Car	54199.566±0.002	0.125	49295.	LS	V671 Cen	54235.633±0.004	-0.067	45322.	LS
TX Car	54217.599±0.003	0.124	49325.	LS	RX Cet	54054.649±0.002	0.187	24279.	LS
TX Car	54220.601±0.002	0.120	49330.	LS	UU Cet	54018.576±0.005	-0.128	21136.	LS
TX Car	54223.610±0.003	0.123	49335.	LS	UU Cet	54024.635±0.003	-0.130	21146.	LS
TX Car	54226.613±0.005	0.121	49340.	LS	RT Col	54112.630±0.004	-0.251	49075.	LS
TX Car	54232.631±0.003	0.127	49350.	LS	RT Col	54120.678±0.002	-0.252	49090.	LS
EE Car	54103.703±0.004	0.009	43539.	LS	RT Col	54127.655±0.002	-0.251	49103.	LS
EE Car	54118.635±0.003	0.009	43561.	LS	RW Col	54113.616±0.001	0.054	49704.	LS
EE Car	54120.661±0.002	-0.001	43564.	LS	RW Col	54131.623±0.002	0.067	49738.	LS
EE Car	54126.774±0.004	0.004	43573.	LS	RW Col	54137.628±0.003	0.251	49749.	LS
EE Car	54128.811±0.005	0.004	43576.	LS	RX Col	54108.805±0.004	0.105	42583.	LS
EE Car	54135.601±0.005	0.007	43586.	LS	RY Col	54109.727±0.004	-0.143	41347.	LS
EE Car	54139.673±0.002	0.007	43592.	LS	RY Col	54110.690±0.010	-0.137	41349.	LS
EE Car	54160.715±0.002	0.009	43623.	LS	RY Col	54121.696±0.002	-0.145	41372.	LS
EE Car	54162.751±0.002	0.009	43626.	LS	S Com	54105.656±0.002	-0.096	22931.	C
EE Car	54164.786±0.007	0.008	43629.	LS	S Com	54118.562±0.003	-0.095	22953.	C
EE Car	54166.822±0.005	0.008	43632.	LS	S Com	54131.469±0.005	-0.093	22975.	C
EE Car	54168.857±0.002	0.007	43635.	LS	S Com	54141.437±0.004	-0.097	22992.	C
EE Car	54192.615±0.005	0.010	43670.	LS	S Com	54145.541±0.003	-0.100	22999.	C
EE Car	54207.542±0.006	0.006	43692.	LS	S Com	54148.479±0.005	-0.094	23004.	C
EE Car	54209.586±0.005	0.014	43695.	LS	S Com	54168.420±0.002	-0.098	23038.	C
IU Car	54110.650±0.010	0.244	16842.	LS	S Com	54209.480±0.002	-0.099	23108.	C
IU Car	54121.708±0.002	0.245	16857.	LS	ST Com	54128.572±0.005	-0.029	18206.	C
IU Car	54124.652±0.002	0.241	16861.	LS	ST Com	54134.568±0.005	-0.022	18216.	C
IU Car	54132.766±0.004	0.246	16872.	LS	ST Com	54155.529±0.004	-0.024	18251.	C
IU Car	54152.667±0.001	0.244	16899.	LS	ST Com	54206.434±0.002	-0.028	18336.	C
IU Car	54158.566±0.002	0.246	16907.	LS	ST Com	54212.425±0.002	-0.026	18346.	C
IU Car	54163.728±0.003	0.248	16914.	LS	ST Com	54230.393±0.005	-0.026	18376.	C
IU Car	54166.674±0.005	0.245	16918.	LS	ST Com	54236.381±0.004	-0.027	18386.	C
IU Car	54172.574±0.001	0.248	16926.	LS	WW CrA	54217.827±0.002	-0.039	40986.	LS
IU Car	54200.586±0.005	0.248	16964.	LS	WW CrA	54231.806±0.002	-0.047	41011.	LS
BI Cen	54103.820±0.003	0.039	38425.	LS	WW CrA	54272.664±0.005	-0.031	41084.	LS
BI Cen	54136.883±0.002	0.020	38498.	LS	V413 CrA	54237.797±0.008	0.044	21613.	LS
BI Cen	54141.868±0.004	0.020	38509.	LS	V592 CrA	54233.740±0.002	0.192	39131.	LS
BI Cen	54161.815±0.002	0.027	38553.	LS	TV CrB	54156.625±0.005	0.030	38552.	C
BI Cen	54163.627±0.001	0.026	38557.	LS	TV CrB	54159.546±0.003	0.028	38557.	C
BI Cen	54168.619±0.002	0.033	38568.	LS	TV CrB	54163.631±0.003	0.020	38564.	C
BI Cen	54173.608±0.002	0.037	38579.	LS	TV CrB	54231.449±0.002	0.023	38680.	C
BI Cen	54178.593±0.002	0.037	38590.	LS	TV CrB	54248.408±0.004	0.028	38709.	C
BI Cen	54188.567±0.005	0.041	38612.	LS	W Crt	54125.759±0.005	-0.019	35148.	LS
BI Cen	54193.548±0.002	0.037	38623.	LS	W Crt	54130.700±0.002	-0.022	35160.	LS
BI Cen	54216.643±0.002	0.020	38674.	LS	W Crt	54132.761±0.002	-0.021	35165.	LS
BI Cen	54217.553±0.002	0.023	38676.	LS	W Crt	54144.709±0.002	-0.021	35194.	LS
BI Cen	54280.560±0.003	0.038	38815.	LS	W Crt	54153.773±0.002	-0.022	35216.	LS
V499 Cen	54149.747±0.004	0.025	24987.	LS	W Crt	54156.658±0.002	-0.021	35223.	LS
V499 Cen	54161.737±0.002	0.027	25010.	LS	W Crt	54181.789±0.003	-0.023	35284.	LS
V499 Cen	54163.822±0.002	0.027	25014.	LS	W Crt	54196.624±0.002	-0.020	35320.	LS
V499 Cen	54172.684±0.002	0.028	25031.	LS	X Crt	54132.725±0.003	0.070	16831.	LS
V499 Cen	54184.671±0.003	0.028	25054.	LS	X Crt	54143.713±0.004	0.065	16846.	LS
V499 Cen	54207.604±0.005	0.027	25098.	LS	X Crt	54151.778±0.002	0.069	16857.	LS
V499 Cen	54218.550±0.002	0.028	25119.	LS	X Crt	54173.747±0.004	0.053	16887.	LS
V499 Cen	54268.585±0.003	0.027	25215.	LS	X Crt	54198.676±0.005	0.066	16921.	LS
V671 Cen	54174.867±0.002	0.003	45183.	LS	X Crt	54209.672±0.005	0.069	16936.	LS
V671 Cen	54178.759±0.002	-0.044	45192.	LS	SW Cru	54107.815±0.003	0.064	85659.	LS
V671 Cen	54189.672±0.005	-0.072	45217.	LS	SW Cru	54135.670±0.003	0.057	85744.	LS

Table 1 (cont.): maxima of RR Lyrae stars

Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.	Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.
SW Cru	54181.570±0.010	0.068	85884.	LS	BC Dra	54215.571±0.010	0.082	16589.	C
SW Cru	54183.860±0.005	0.064	85891.	LS	BC Dra	54218.444±0.005	0.076	16593.	C
SW Cru	54196.649±0.010	0.069	85930.	LS	BC Dra	54236.439±0.010	0.082	16618.	C
SW Cru	54219.589±0.004	0.065	86000.	LS	BC Dra	54272.423±0.004	0.087	16668.	C
SW Cru	54220.570±0.010	0.062	86003.	LS	BC Dra	54277.459±0.004	0.086	16675.	C
SW Cru	54221.552±0.005	0.061	86006.	LS	BD Dra	54107.569±0.005	0.735	20936.	C
SW Cru	54223.525±0.010	0.067	86012.	LS	BD Dra	54114.655±0.003	0.753	20948.	C
SW Cru	54224.506±0.005	0.065	86015.	LS	BD Dra	54120.535±0.005	0.742	20958.	C
SW Cru	54225.489±0.005	0.065	86018.	LS	BD Dra	54127.570±0.002	0.709	20970.	C
SW Cru	54227.780±0.004	0.061	86025.	LS	BD Dra	54133.494±0.002	0.742	20980.	C
SW Cru	54278.589±0.005	0.064	86180.	LS	BD Dra	54189.449±0.004	0.737	21075.	C
SW Cru	54281.537±0.004	0.062	86189.	LS	BD Dra	54192.393±0.005	0.736	21080.	C
SW Cru	54282.524±0.005	0.066	86192.	LS	BD Dra	54193.555±0.003	0.720	21082.	C
UY Cyg	54269.475±0.003	0.052	56778.	C	BD Dra	54219.474±0.005	0.720	21126.	C
UY Cyg	54274.523±0.003	0.054	56787.	C	BK Dra	54273.444±0.002	-0.154	48558.	C
UY Cyg	54278.445±0.005	0.051	56794.	C	BT Dra	54148.547±0.005	-0.008	39774.	C
V939 Cyg ¹	54235.542±0.002	0.024	11475.	C	BT Dra	54164.440±0.002	-0.009	39801.	C
RT Dor	54103.707±0.002	-0.043	48332.	LS	BT Dra	54207.409±0.003	-0.013	39874.	C
RT Dor	54114.813±0.005	-0.042	48355.	LS	BT Dra	54217.415±0.002	-0.015	39891.	C
VW Dor	54103.671±0.002	-0.082	27557.	LS	BT Dra	54230.370±0.002	-0.010	39913.	C
VW Dor	54111.663±0.002	-0.078	27571.	LS	BT Dra	54237.442±0.005	-0.002	39925.	C
VW Dor	54115.656±0.002	-0.080	27578.	LS	BT Dra	54240.379±0.005	-0.009	39930.	C
VW Dor	54127.640±0.002	-0.078	27599.	LS	BT Dra	54267.455±0.002	-0.012	39976.	C
VW Dor	54132.774±0.002	-0.080	27608.	LS	RR Gem	54108.526±0.002	-0.363	32095.	C
VW Dor	54139.622±0.004	-0.079	27620.	LS	RR Gem	54113.297±0.003	-0.359	32107.	C
VW Dor	54159.590±0.002	-0.083	27655.	LS	RR Gem	54136.338±0.002	-0.362	32165.	C
VW Dor	54163.586±0.001	-0.081	27662.	LS	SZ Gem	54109.514±0.002	-0.053	53709.	C
VW Dor	54167.583±0.002	-0.078	27669.	LS	GI Gem	54136.440±0.002	0.071	54908.	C
VW Dor	54183.556±0.002	-0.082	27697.	LS	GI Gem	54149.437±0.004	0.070	54938.	C
VW Dor	54191.546±0.001	-0.081	27711.	LS	RW Gru	54275.826±0.002	-0.136	36190.	LS
VW Dor	54199.542±0.003	-0.073	27725.	LS	TW Her	54194.550±0.002	-0.010	81705.	C
RW Dra	54193.606±0.003	0.198	33451.	C	TW Her	54218.526±0.002	-0.011	81765.	C
RW Dra	54209.509±0.004	0.156	33487.	C	TW Her	54266.477±0.003	-0.012	81885.	C
RW Dra	54217.486±0.002	0.161	33505.	C	TW Her	54268.474±0.005	-0.013	81890.	C
RW Dra	54268.449±0.005	0.188	33620.	C	TW Her	54274.469±0.002	-0.012	81905.	C
SU Dra	54109.545±0.002	0.047	15456.	C	TW Her	54276.466±0.002	-0.013	81910.	C
SU Dra	54111.524±0.005	0.044	15459.	C	VX Her	54172.621±0.002	-0.406	71200.	C
SU Dra	54131.343±0.002	0.051	15489.	C	VX Her	54188.561±0.002	-0.405	71235.	C
SU Dra	54135.304±0.003	0.049	15495.	C	VX Her	54219.524±0.005	-0.407	71303.	C
SU Dra	54164.362±0.002	0.049	15539.	C	VX Her	54261.415±0.004	-0.410	71395.	C
SU Dra	54168.325±0.003	0.049	15545.	C	VX Her	54271.432±0.002	-0.411	71417.	C
SU Dra	54228.423±0.003	0.049	15636.	C	VX Her	54276.444±0.004	-0.408	71428.	C
SW Dra	54129.358±0.002	0.059	48984.	C	VZ Her	54210.531±0.002	0.060	39565.	C
SW Dra	54134.488±0.006	0.062	48993.	C	VZ Her	54240.476±0.003	0.063	39633.	C
SW Dra	54137.330±0.002	0.055	48998.	C	VZ Her	54266.455±0.002	0.062	39692.	C
SW Dra	54141.323±0.005	0.060	49005.	C	VZ Her	54277.465±0.005	0.064	39717.	C
SW Dra	54162.399±0.005	0.059	49042.	C	VZ Her	54281.428±0.003	0.064	39726.	C
SW Dra	54187.461±0.003	0.055	49086.	C	AG Her	54219.362±0.010	-0.013	40892.	C
SW Dra	54207.401±0.004	0.057	49121.	C	AR Her	54164.577±0.002	0.203	27041.	C
SW Dra	54211.389±0.002	0.057	49128.	C	AR Her	54188.549±0.003	0.203	27092.	C
SW Dra	54215.382±0.003	0.062	49135.	C	AR Her	54196.546±0.003	0.210	27109.	C
XZ Dra	54219.500±0.005	-0.114	25795.	C	DL Her	54218.494±0.005	0.024	27061.	C
XZ Dra	54221.407±0.004	-0.113	25799.	C	DL Her	54241.587±0.005	0.044	27100.	C
BC Dra	54102.601±0.006	0.085	16432.	C	SV Hya	54151.859±0.003	0.113	30997.	LS
BC Dra	54112.675±0.010	0.085	16446.	C	SV Hya	54174.593±0.001	-0.123	31045.	LS
BC Dra	54133.535±0.006	0.077	16475.	C	SV Hya	54213.591±0.004	0.113	31126.	LS
BC Dra	54164.482±0.005	0.083	16518.	C	SV Hya	54234.637±0.003	0.103	31170.	LS
BC Dra	54213.408±0.005	0.077	16586.	C	SZ Hya	54103.807±0.002	-0.164	24988.	LS

Table 1 (cont.): maxima of RR Lyrae stars

Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.	Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.
SZ Hya	54114.498±0.005	-0.217	25008.	C	FX Hya	54226.573±0.002	0.024	47883.	LS
SZ Hya	54121.536±0.002	-0.164	25021.	C	FX Hya	54241.599±0.003	0.025	47919.	LS
SZ Hya	54123.685±0.002	-0.164	25025.	LS	FY Hya	54152.760±0.002	0.007	20519.	LS
SZ Hya	54128.519±0.002	-0.165	25034.	C	FY Hya	54173.772±0.004	0.010	20552.	LS
SZ Hya	54130.668±0.002	-0.165	25038.	LS	FY Hya	54215.787±0.002	0.006	20618.	LS
SZ Hya	54138.699±0.005	-0.192	25053.	LS	FY Hya	54226.614±0.005	0.010	20635.	LS
SZ Hya	54142.434±0.005	-0.218	25060.	C	GO Hya	54102.622±0.008	-0.074	44707.	C
SZ Hya	54149.472±0.003	-0.164	25073.	C	GO Hya	54111.525±0.007	-0.081	44721.	C
SZ Hya	54151.619±0.001	-0.166	25077.	LS	GO Hya	54114.718±0.005	-0.070	44726.	LS
SZ Hya	54166.617±0.004	-0.211	25105.	LS	GO Hya	54121.707±0.004	-0.082	44737.	LS
SZ Hya	54180.625±0.002	-0.171	25131.	LS	GO Hya	54142.717±0.004	-0.074	44770.	LS
SZ Hya	54194.557±0.006	-0.207	25157.	LS	GO Hya	54155.441±0.002	-0.079	44790.	C
UU Hya	54113.749±0.002	0.027	27936.	LS	GO Hya	54165.629±0.005	-0.074	44806.	LS
UU Hya	54123.713±0.002	0.038	27955.	LS	GO Hya	54172.628±0.003	-0.076	44817.	LS
UU Hya	54144.651±0.002	0.021	27995.	LS	GO Hya	54179.635±0.005	-0.070	44828.	LS
UU Hya	54166.671±0.004	0.039	28037.	LS	GS Hya	54161.682±0.002	-0.085	23663.	LS
UU Hya	54176.604±0.002	0.018	28056.	LS	GS Hya	54172.649±0.004	-0.104	23684.	LS
UU Hya	54197.578±0.003	0.037	28096.	LS	GS Hya	54228.605±0.003	-0.125	23791.	LS
WZ Hya	54118.771±0.004	-0.011	26950.	LS	GS Hya	54272.530±0.005	-0.144	23875.	LS
WZ Hya	54125.771±0.005	-0.002	26963.	LS	TW Hyi	54103.701±0.002	0.009	21674.	LS
WZ Hya	54131.689±0.003	0.002	26974.	LS	TW Hyi	54120.585±0.002	0.008	21699.	LS
WZ Hya	54140.828±0.004	-0.001	26991.	LS	TW Hyi	54126.659±0.002	0.004	21708.	LS
WZ Hya	54145.662±0.001	-0.006	27000.	LS	TW Hyi	54143.548±0.004	0.008	21733.	LS
WZ Hya	54152.649±0.002	-0.009	27013.	LS	V Ind	54275.782±0.005	-0.137	29520.	LS
WZ Hya	54159.639±0.004	-0.010	27026.	LS	RR Leo	54103.608±0.002	0.078	23891.	C
WZ Hya	54167.708±0.005	-0.006	27041.	LS	RR Leo	54119.445±0.005	0.081	23926.	C
WZ Hya	54180.617±0.002	-0.002	27065.	LS	RR Leo	54124.419±0.002	0.079	23937.	C
WZ Hya	54194.598±0.002	-0.002	27091.	LS	RR Leo	54129.395±0.002	0.078	23948.	C
WZ Hya	54208.577±0.002	-0.004	27117.	LS	RR Leo	54175.541±0.002	0.080	24050.	C
WZ Hya	54209.652±0.005	-0.004	27119.	LS	RR Leo	54209.471±0.003	0.081	24125.	C
WZ Hya	54222.562±0.005	0.001	27143.	LS	RX Leo	54112.607±0.005	0.088	27251.	C
XX Hya	54123.716±0.002	0.090	28146.	LS	RX Leo	54120.453±0.005	0.093	27263.	C
XX Hya	54179.565±0.001	0.085	28256.	LS	RX Leo	54205.388±0.004	0.085	27393.	C
BI Hya	54144.656±0.002	0.219	49848.	LS	SS Leo	54141.636±0.003	-0.047	19734.	C
BI Hya	54173.612±0.002	0.219	49903.	LS	SS Leo	54198.626±0.002	-0.055	19825.	LS
BI Hya	54183.615±0.002	0.219	49922.	LS	SS Leo	54200.503±0.005	-0.057	19828.	C
BI Hya	54223.625±0.002	0.218	49998.	LS	SS Leo	54208.655±0.002	-0.047	19841.	LS
DD Hya	54127.364±0.005	-0.142	24776.	C	SS Leo	54212.412±0.003	-0.048	19847.	C
DD Hya	54128.362±0.003	-0.148	24778.	C	SS Leo	54213.660±0.002	-0.053	19849.	LS
DG Hya	54113.849±0.002	0.075	39764.	LS	ST Leo	54141.493±0.002	-0.020	54852.	C
DG Hya	54126.674±0.002	0.000	39794.	LS	ST Leo	54159.656±0.003	-0.020	54890.	C
DG Hya	54138.735±0.002	0.022	39822.	LS	SW Leo	54130.743±0.002	-0.055	48688.	LS
DG Hya	54141.754±0.002	0.031	39829.	LS	SW Leo	54145.702±0.002	-0.058	48715.	LS
DH Hya	54111.789±0.002	0.062	46903.	LS	SW Leo	54150.690±0.002	-0.057	48724.	LS
DH Hya	54115.696±0.002	0.057	46911.	LS	SW Leo	54155.674±0.002	-0.060	48733.	LS
DH Hya	54138.681±0.002	0.060	46958.	LS	SW Leo	54200.561±0.002	-0.060	48814.	LS
DH Hya	54157.754±0.005	0.062	46997.	LS	SW Leo	54205.550±0.003	-0.058	48823.	LS
DH Hya	54183.671±0.003	0.062	47050.	LS	SZ Leo	54140.868±0.004	-0.112	16241.	LS
IK Hya	54188.759±0.010	-0.151	24196.	LS	SZ Leo	54147.813±0.005	-0.110	16254.	LS
IK Hya	54235.549±0.005	-0.161	24268.	LS	SZ Leo	54148.874±0.005	-0.117	16256.	LS
IV Hya	54123.732±0.002	0.124	20809.	LS	SZ Leo	54168.636±0.005	-0.115	16293.	LS
IV Hya	54129.585±0.005	0.029	20820.	LS	SZ Leo	54176.627±0.004	-0.135	16308.	LS
IV Hya	54156.727±0.007	0.134	20870.	LS	SZ Leo	54183.580±0.003	-0.125	16321.	LS
FX Hya	54144.774±0.002	0.026	47687.	LS	SZ Leo	54199.595±0.002	-0.131	16351.	LS
FX Hya	54149.782±0.002	0.026	47699.	LS	SZ Leo	54222.529±0.005	-0.162	16394.	LS
FX Hya	54162.723±0.004	0.029	47730.	LS	TV Leo	54142.718±0.002	0.106	25416.	LS
FX Hya	54190.682±0.005	0.025	47797.	LS	TV Leo	54148.775±0.002	0.108	25425.	LS
FX Hya	54200.698±0.002	0.025	47821.	LS	TV Leo	54183.764±0.002	0.108	25477.	LS

Table 1 (cont.): maxima of RR Lyrae stars

Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.	Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.
TV Leo	54198.566±0.003	0.108	25499.	LS	TW Lyn	54201.465±0.005	0.056	19049.	C
WW Leo	54113.796±0.004	0.035	31901.	LS	RZ Lyr	54214.470±0.005	-0.011	25489.	C
WW Leo	54130.675±0.004	0.034	31929.	LS	RZ Lyr	54235.436±0.002	-0.006	25530.	C
WW Leo	54139.718±0.005	0.035	31944.	LS	RZ Lyr	54256.408±0.003	0.005	25571.	C
WW Leo	54148.762±0.005	0.036	31959.	LS	RZ Lyr	54279.416±0.005	0.007	25616.	C
WW Leo	54156.595±0.003	0.032	31972.	LS	CN Lyr	54234.473±0.004	0.024	23696.	C
WW Leo	54168.659±0.002	0.039	31992.	LS	CN Lyr	54241.459±0.005	0.016	23713.	C
WW Leo	54171.667±0.002	0.033	31997.	LS	CN Lyr	54246.401±0.004	0.022	23725.	C
AA Leo	54141.518±0.002	-0.076	24296.	C	CN Lyr	54269.436±0.005	0.019	23781.	C
AX Leo	54102.635±0.004	-0.047	39704.	C	IO Lyr	54212.604±0.003	-0.031	25287.	C
AX Leo	54129.548±0.003	-0.027	39741.	C	IO Lyr	54234.537±0.005	-0.029	25325.	C
AX Leo	54142.620±0.010	-0.037	39759.	C	IO Lyr	54256.467±0.004	-0.030	25363.	C
AX Leo	54145.527±0.003	-0.038	39763.	C	IO Lyr	54267.430±0.003	-0.032	25382.	C
AX Leo	54180.417±0.005	-0.036	39811.	C	IO Lyr	54271.472±0.002	-0.030	25389.	C
AX Leo	54196.409±0.005	-0.034	39833.	C	IO Lyr	54275.512±0.003	-0.030	25396.	C
AX Leo	54201.498±0.005	-0.033	39840.	C	V340 Lyr	54235.433±0.004	-0.042	41627.	C
AX Leo	54209.490±0.005	-0.036	39851.	C	XZ Mic	54018.653±0.002	0.063	25334.	LS
V LMi	54103.477±0.004	0.032	63563.	C	XZ Mic	54268.834±0.002	0.035	25891.	LS
V LMi	54111.636±0.002	0.032	63578.	C	XZ Mic	54273.770±0.005	0.029	25902.	LS
V LMi	54127.408±0.002	0.030	63607.	C	XZ Mic	54277.816±0.002	0.033	25911.	LS
V LMi	54170.375±0.002	0.028	63686.	C	DV Mon	54107.674±0.001	0.072	69815.	LS
V LMi	54176.362±0.002	0.032	63697.	C	DV Mon	54138.679±0.004	0.072	69890.	LS
V LMi	54201.381±0.002	0.030	63743.	C	DV Mon	54145.708±0.002	0.074	69907.	LS
V LMi	54207.367±0.005	0.033	63754.	C	TX Mus	54134.648±0.004	0.100	63129.	LS
Y LMi	54134.701±0.005	-0.199	35424.	C	TX Mus	54157.832±0.002	0.096	63178.	LS
Y LMi	54141.514±0.002	-0.204	35437.	C	TX Mus	54165.876±0.002	0.095	63195.	LS
Y LMi	54170.360±0.001	-0.204	35492.	C	TX Mus	54167.768±0.002	0.094	63199.	LS
Y LMi	54172.459±0.002	-0.203	35496.	C	TX Mus	54189.540±0.003	0.098	63245.	LS
Y LMi	54173.508±0.002	-0.203	35498.	C	TX Mus	54192.848±0.002	0.093	63252.	LS
Y LMi	54181.375±0.002	-0.203	35513.	C	TX Mus	54211.781±0.004	0.097	63292.	LS
U Lep	54107.652±0.001	0.044	21936.	LS	TX Mus	54220.770±0.002	0.095	63311.	LS
U Lep	54114.623±0.002	0.037	21948.	LS	TX Mus	54225.509±0.005	0.101	63321.	LS
TV Lib	54176.775±0.001	-0.004	126693.	LS	EM Mus	54137.685±0.002	-0.149	33387.	LS
TV Lib	54200.772±0.002	-0.003	126782.	LS	EM Mus	54151.704±0.003	-0.148	33417.	LS
TV Lib	54233.666±0.003	-0.004	126904.	LS	EM Mus	54165.725±0.002	-0.146	33447.	LS
TV Lib	54267.638±0.002	-0.004	127030.	LS	EM Mus	54189.555±0.001	-0.149	33498.	LS
UX Lib	54184.814±0.002	0.001	57972.	LS	EM Mus	54193.760±0.002	-0.149	33507.	LS
UX Lib	54200.756±0.002	-0.001	58005.	LS	EM Mus	54221.798±0.002	-0.149	33567.	LS
UX Lib	54212.836±0.002	0.000	58030.	LS	EM Mus	54225.537±0.002	-0.148	33575.	LS
UX Lib	54217.667±0.002	-0.001	58040.	LS	EM Mus	54281.608±0.002	-0.153	33695.	LS
VY Lib	54184.789±0.002	-0.027	24423.	LS	VY Nor	54193.751±0.005	-0.163	76361.	LS
VY Lib	54191.729±0.002	-0.028	24436.	LS	VY Nor	54208.743±0.005	-0.183	76401.	LS
VY Lib	54230.705±0.005	-0.030	24509.	LS	VY Nor	54220.763±0.005	-0.173	76433.	LS
VY Lib	54237.647±0.003	-0.029	24522.	LS	VY Nor	54232.785±0.006	-0.161	76465.	LS
VY Lib	54268.612±0.005	-0.033	24580.	LS	VY Nor	54267.688±0.010	-0.161	76558.	LS
XX Lib	54175.811±0.010	-0.002	37542.	LS	Y Oct	54191.765±0.005	-0.195	39920.	LS
XX Lib	54182.804±0.005	0.007	37552.	LS	Y Oct	54222.796±0.002	-0.202	39968.	LS
AZ Lib	54212.849±0.002	0.169	40266.	LS	Y Oct	54224.747±0.005	-0.191	39971.	LS
TT Lyn	54109.549±0.002	-0.034	29222.	C	Y Oct	54233.788±0.002	-0.203	39985.	LS
TT Lyn	54114.330±0.003	-0.032	29230.	C	Y Oct	54281.637±0.004	-0.204	40059.	LS
TT Lyn	54128.665±0.005	-0.036	29254.	C	RS Oct	54280.850±0.003	0.114	39194.	LS
TT Lyn	54148.381±0.002	-0.035	29287.	C	RV Oct	54135.750±0.003	0.119	68315.	LS
TT Lyn	54173.475±0.002	-0.033	29329.	C	RV Oct	54139.750±0.005	0.121	68322.	LS
TT Lyn	54194.384±0.004	-0.034	29364.	C	RV Oct	54147.748±0.004	0.122	68336.	LS
TW Lyn	54108.463±0.002	0.053	18856.	C	RV Oct	54163.735±0.005	0.117	68364.	LS
TW Lyn	54136.413±0.002	0.055	18914.	C	RV Oct	54166.595±0.005	0.121	68369.	LS
TW Lyn	54137.373±0.003	0.051	18916.	C	RV Oct	54174.593±0.001	0.123	68383.	LS
TW Lyn	54172.550±0.002	0.052	18989.	C	RV Oct	54178.589±0.002	0.121	68390.	LS

Table 1 (cont.): maxima of RR Lyrae stars

Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.	Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.
RV Oct	54186.586±0.002	0.121	68404.	LS	U Pic	54108.745±0.004	0.054	28254.	LS
RV Oct	54192.874±0.002	0.127	68415.	LS	U Pic	54112.708±0.004	0.053	28263.	LS
RV Oct	54194.584±0.003	0.123	68418.	LS	U Pic	54120.637±0.001	0.056	28281.	LS
RV Oct	54220.856±0.003	0.122	68464.	LS	U Pic	54124.599±0.002	0.054	28290.	LS
RV Oct	54222.571±0.002	0.123	68467.	LS	U Pic	54131.647±0.002	0.056	28306.	LS
RV Oct	54224.857±0.002	0.124	68471.	LS	XX Pup	54112.615±0.002	0.456	23858.	LS
RV Oct	54226.572±0.005	0.126	68474.	LS	XX Pup	54127.616±0.002	0.458	23887.	LS
RV Oct	54238.563±0.005	0.123	68495.	LS	XX Pup	54141.579±0.003	0.458	23914.	LS
RV Oct	54278.545±0.002	0.123	68565.	LS	XX Pup	54157.610±0.001	0.456	23945.	LS
RV Oct	54282.543±0.002	0.123	68572.	LS	XX Pup	54171.574±0.002	0.456	23972.	LS
SS Oct	54275.860±0.002	-0.064	42223.	LS	BB Pup	54164.748±0.004	0.111	31951.	LS
SS Oct	54280.837±0.005	-0.062	42231.	LS	BB Pup	54192.620±0.002	0.111	32009.	LS
SS Oct	54282.702±0.002	-0.062	42234.	LS	HH Pup	54108.619±0.002	0.010	39945.	LS
UV Oct	54179.686±0.005	-0.103	36584.	LS	HH Pup	54115.653±0.002	0.011	39963.	LS
UV Oct	54192.705±0.003	-0.107	36608.	LS	HH Pup	54120.733±0.001	0.011	39976.	LS
UV Oct	54200.850±0.003	-0.101	36623.	LS	HH Pup	54135.581±0.002	0.011	40014.	LS
UV Oct	54223.636±0.010	-0.106	36665.	LS	HH Pup	54140.660±0.002	0.010	40027.	LS
UV Oct	54224.725±0.010	-0.102	36667.	LS	HH Pup	54160.590±0.001	0.012	40078.	LS
UV Oct	54235.579±0.003	-0.100	36687.	LS	HH Pup	54167.622±0.002	0.011	40096.	LS
UV Oct	54281.686±0.003	-0.117	36772.	LS	HH Pup	54174.656±0.001	0.011	40114.	LS
UW Oct	54281.671±0.003	-0.004	44870.	LS	HK Pup	54108.712±0.002	-0.238	23835.	LS
AR Oct	54280.893±0.005	-0.042	44308.	LS	HK Pup	54136.614±0.005	-0.238	23873.	LS
ST Oph	54213.813±0.002	-0.023	57260.	LS	HK Pup	54147.631±0.005	-0.234	23888.	LS
ST Oph	54218.768±0.002	-0.022	57271.	LS	X Ret	54150.639±0.002	0.207	29903.	LS
ST Oph	54241.740±0.007	-0.018	57322.	LS	V675 Sgr	54209.909±0.005	0.066	40204.	LS
V445 Oph	54237.786±0.002	0.021	67236.	LS	V675 Sgr	54218.901±0.005	0.066	40218.	LS
V455 Oph	54244.420±0.005	-0.247	27343.	C	V675 Sgr	54231.740±0.002	0.059	40238.	LS
V455 Oph	54268.480±0.004	-0.244	27396.	C	V675 Sgr	54238.826±0.010	0.080	40249.	LS
V455 Oph	54278.466±0.002	-0.244	27418.	C	V756 Sgr	54207.883±0.005	0.093	47280.	LS
V816 Oph	54215.821±0.002	-0.099	46926.	LS	V756 Sgr	54237.762±0.005	0.106	47337.	LS
V816 Oph	54220.770±0.002	-0.099	46939.	LS	V756 Sgr	54268.667±0.005	0.096	47396.	LS
TX Pav	54184.806±0.002	-0.165	58761.	LS	V1025 Sgr	54275.775±0.003	-0.016	46399.	LS
TX Pav	54189.867±0.002	-0.163	58772.	LS	V1130 Sgr	54223.868±0.002	0.041	47290.	LS
TX Pav	54206.885±0.005	-0.160	58809.	LS	V1130 Sgr	54272.722±0.003	0.042	47376.	LS
TY Pav	54221.792±0.005	0.285	17862.	LS	V1130 Sgr	54277.833±0.002	0.040	47385.	LS
TY Pav	54231.737±0.005	0.285	17876.	LS	V494 Sco	54231.687±0.004	-0.137	30668.	LS
TY Pav	54241.679±0.005	0.281	17890.	LS	V494 Sco	54234.677±0.004	-0.139	30675.	LS
WY Pav	54213.820±0.003	0.073	46460.	LS	V494 Sco	54275.695±0.002	-0.144	30771.	LS
BH Pav	54223.795±0.003	0.220	54886.	LS	V690 Sco	54205.848±0.004	-0.018	25207.	LS
BN Pav	54231.907±0.002	-0.024	45657.	LS	V765 Sco	54189.760±0.002	0.136	52589.	LS
BN Pav	54234.743±0.002	-0.024	45662.	LS	V765 Sco	54201.820±0.002	0.141	52615.	LS
BN Pav	54267.637±0.003	-0.026	45720.	LS	RU Scl	54017.600±0.002	-0.105	46408.	LS
BP Pav	54230.731±0.002	0.020	48188.	LS	RU Scl	54046.712±0.002	-0.100	46467.	LS
BP Pav	54276.591±0.002	0.201	48273.	LS	AE Scl	54025.665±0.002	0.190	23283.	LS
DN Pav	54028.657±0.002	0.095	27421.	LS	AE Scl	54031.720±0.002	0.194	23294.	LS
DN Pav	54052.548±0.001	0.096	27472.	LS	AE Scl	54036.674±0.005	0.197	23303.	LS
DN Pav	54217.910±0.003	0.098	27825.	LS	AE Scl	54047.680±0.003	0.201	23323.	LS
DN Pav	54232.900±0.003	0.097	27857.	LS	AE Scl	54052.628±0.001	0.198	23332.	LS
HV Pav	54013.635±0.004	0.176	30722.	LS	AE Scl	54063.631±0.003	0.199	23352.	LS
HV Pav	54268.887±0.004	-0.257	31178.	LS	VY Ser	54182.787±0.005	0.043	32149.	LS
HV Pav	54272.813±0.005	-0.256	31185.	LS	VY Ser	54213.499±0.002	0.049	32192.	C
HV Pav	54277.863±0.004	-0.252	31194.	LS	VY Ser	54217.781±0.005	0.047	32198.	LS
AR Per	54105.278±0.002	0.052	63138.	C	VY Ser	54218.492±0.003	0.043	32199.	C
AR Per	54106.556±0.002	0.054	63141.	C	VY Ser	54228.496±0.005	0.050	32213.	C
AR Per	54109.534±0.003	0.053	63148.	C	VY Ser	54233.493±0.005	0.048	32220.	C
AR Per	54113.367±0.002	0.056	63157.	C	VY Ser	54270.622±0.005	0.045	32272.	LS
AR Per	54124.436±0.005	0.061	63183.	C	AN Ser	54187.488±0.005	0.004	75619.	C
AR Per	54135.494±0.002	0.054	63209.	C	AN Ser	54199.494±0.002	0.003	75642.	C

Table 1 (cont.): maxima of RR Lyrae stars

Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.	Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.
AN Ser	54233.428±0.002	0.002	75707.	C	AB UMa	54232.446±0.005	0.108	30029.	C
AN Ser	54244.394±0.002	0.004	75728.	C	AB UMa	54241.445±0.010	0.114	30044.	C
AN Ser	54269.447±0.002	-0.002	75776.	C	AB UMa	54247.434±0.005	0.107	30054.	C
AV Ser	54192.788±0.002	0.135	53018.	LS	EX UMa	54157.429±0.005	0.024	9477.	C
AV Ser	54201.553±0.002	0.124	53036.	C	EX UMa	54158.516±0.005	0.026	9479.	C
AV Ser	54218.630±0.003	0.136	53071.	C	EX UMa	54159.608±0.002	0.032	9481.	C
AV Ser	54231.789±0.002	0.131	53098.	LS	EX UMa	54176.436±0.005	0.032	9512.	C
AV Ser	54241.550±0.005	0.141	53118.	C	EX UMa	54190.549±0.005	0.032	9538.	C
AW Ser	54216.398±0.005	-0.037	43330.	C	EX UMa	54201.399±0.005	0.025	9558.	C
CS Ser	54184.769±0.002	0.001	43676.	LS	AF Vel	54141.785±0.010	-0.256	24099.	LS
CS Ser	54212.705±0.006	0.017	43729.	LS	AF Vel	54157.611±0.002	-0.252	24129.	LS
CS Ser	54241.679±0.003	0.017	43784.	LS	AF Vel	54176.613±0.004	-0.236	24165.	LS
CS Ser	54269.596±0.002	0.014	43837.	LS	AF Vel	54186.631±0.002	-0.239	24184.	LS
RU Sex ²	54124.731±0.010	0.023	32859.	LS	AF Vel	54205.606±0.002	-0.250	24220.	LS
RU Sex ²	54139.794±0.010	0.026	32902.	LS	AF Vel	54224.601±0.002	-0.242	24256.	LS
RU Sex ²	54152.412±0.003	0.036	32938.	C	AF Vel	54234.632±0.004	-0.231	24275.	LS
RU Sex ²	54156.623±0.005	0.044	32950.	LS	FS Vel	54195.586±0.005	-0.170	30764.	LS
RU Sex ²	54169.575±0.005	0.037	32987.	LS	FS Vel	54223.655±0.002	-0.169	30823.	LS
RU Sex ²	54197.598±0.005	0.042	33067.	LS	FS Vel	54224.603±0.002	-0.172	30825.	LS
RV Sex	54129.713±0.002	0.064	48646.	LS	ST Vir	54200.469±0.004	0.029	32773.	C
RV Sex	54140.780±0.002	0.056	48668.	LS	ST Vir	54207.449±0.003	0.025	32790.	C
RV Sex	54185.584±0.001	0.056	48757.	LS	ST Vir	54215.658±0.002	0.017	32810.	LS
RV Sex	54197.666±0.005	0.056	48781.	LS	ST Vir	54216.486±0.005	0.024	32812.	C
HY Tel	54223.771±0.005	-0.026	63357.	LS	ST Vir	54244.417±0.002	0.018	32880.	C
RW TrA	54177.814±0.002	-0.166	33923.	LS	UU Vir	54206.503±0.002	-0.008	26091.	C
RW TrA	54186.788±0.002	-0.169	33947.	LS	UV Vir	54119.695±0.010	0.011	24063.	C
RW TrA	54189.783±0.002	-0.166	33955.	LS	UV Vir	54129.668±0.003	0.004	24080.	C
RW TrA	54192.778±0.003	-0.164	33963.	LS	UV Vir	54143.761±0.002	0.007	24104.	LS
RW TrA	54211.850±0.002	-0.168	34014.	LS	UV Vir	54150.815±0.002	0.016	24116.	LS
W Tuc	54102.543±0.005	0.149	26819.	LS	UV Vir	54153.753±0.005	0.018	24121.	LS
W Tuc	54109.611±0.007	0.152	26830.	LS	UV Vir	54155.518±0.002	0.022	24124.	C
W Tuc	54118.606±0.005	0.156	26844.	LS	UV Vir	54159.628±0.004	0.023	24131.	C
W Tuc	54127.596±0.002	0.155	26858.	LS	UV Vir	54160.800±0.002	0.020	24133.	LS
AE Tuc	54102.653±0.002	0.080	47855.	LS	UV Vir	54182.521±0.002	0.019	24170.	C
AE Tuc	54112.601±0.002	0.083	47879.	LS	UV Vir	54186.621±0.002	0.010	24177.	LS
AE Tuc	54117.576±0.002	0.086	47891.	LS	UV Vir	54198.361±0.005	0.008	24197.	C
AE Tuc	54122.550±0.001	0.087	47903.	LS	UV Vir	54200.707±0.005	0.006	24201.	LS
AG Tuc	54102.573±0.004	0.045	23748.	LS	UV Vir	54213.632±0.004	0.015	24223.	LS
AG Tuc	54108.602±0.004	0.048	23758.	LS	UV Vir	54233.592±0.005	0.014	24257.	LS
BK Tuc	54107.582±0.002	-0.038	31574.	LS	WW Vir	54172.673±0.004	0.293	26781.	LS
RV UMa	54133.521±0.002	0.113	19352.	C	WW Vir	54198.738±0.003	0.294	26821.	LS
RV UMa	54162.533±0.005	0.105	19414.	C	XZ Vir	54227.674±0.003			LS
RV UMa	54198.581±0.003	0.113	19491.	C	XZ Vir	54230.537±0.002			LS
TU UMa	54147.479±0.002	-0.026	20292.	C	XZ Vir	54231.492±0.003			LS
TU UMa	54175.364±0.002	-0.024	20342.	C	XZ Vir	54232.444±0.003			C
TU UMa	54209.375±0.003	-0.030	20403.	C	XZ Vir	54233.394±0.005			C
TU UMa	54234.473±0.005	-0.027	20448.	C	XZ Vir	54238.651±0.010			LS
AB UMa	54103.554±0.006	0.125	29814.	C	XZ Vir	54239.603±0.004			LS
AB UMa	54112.540±0.010	0.118	29829.	C	AF Vir	54155.659±0.002	-0.103	28572.	C
AB UMa	54124.518±0.003	0.104	29849.	C	AF Vir	54180.807±0.003	-0.110	28624.	LS
AB UMa	54148.510±0.003	0.113	29889.	C	AF Vir	54198.712±0.002	-0.104	28661.	LS
AB UMa	54157.504±0.005	0.113	29904.	C	AF Vir	54208.388±0.004	-0.104	28681.	C
AB UMa	54187.482±0.010	0.113	29954.	C	AF Vir	54232.571±0.005	-0.109	28731.	C
AB UMa	54199.479±0.010	0.118	29974.	C	AS Vir	54172.775±0.002	0.148	27136.	LS
AB UMa	54205.469±0.006	0.112	29984.	C	AS Vir	54177.756±0.002	0.149	27145.	LS
AB UMa	54211.462±0.005	0.109	29994.	C	AS Vir	54182.741±0.002	0.153	27154.	LS
AB UMa	54214.462±0.005	0.112	29999.	C	AS Vir	54207.637±0.002	0.145	27199.	LS
AB UMa	54229.448±0.006	0.108	30024.	C	AS Vir	54228.669±0.003	0.147	27237.	LS

Table 1 (cont.): maxima of RR Lyrae stars

Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.	Variable	Maximum HJD 24. . .	$O - C$ (days)	E	Obs.
AS Vir	54233.653±0.005	0.150	27246.	LS	BC Vir	54233.621±0.002	0.130	60780.	LS
AT Vir	54146.773±0.005	0.262	27517.	LS	BQ Vir	54230.640±0.005	-0.058	54052.	LS
AT Vir	54155.714±0.002	-0.261	27535.	LS	BQ Vir	54237.632±0.005	-0.061	54063.	LS
AT Vir	54171.487±0.002	-0.262	27565.	C	DO Vir	54211.702±0.005	0.212	51853.	LS
AT Vir	54175.691±0.005	0.262	27572.	LS	DO Vir	54234.606±0.002	0.209	51896.	LS
AT Vir	54181.477±0.002	-0.262	27584.	C	SV Vol	54136.662±0.002	-0.127	32746.	LS
AT Vir	54184.631±0.002	-0.263	27590.	LS	SV Vol	54139.714±0.005	-0.103	32754.	LS
AT Vir	54225.643±0.003	-0.262	27668.	LS	SV Vol	54153.741±0.004	-0.080	32791.	LS
AT Vir	54234.582±0.002	-0.262	27685.	LS	SV Vol	54164.715±0.005	-0.083	32820.	LS
AV Vir	54129.599±0.005	0.023	19271.	C	SV Vol	54166.543±0.004	-0.148	32825.	LS
AV Vir	54180.834±0.003	0.019	19349.	LS	SV Vol	54167.763±0.002	-0.063	32828.	LS
AV Vir	54186.743±0.004	0.016	19358.	LS	SV Vol	54186.670±0.010	-0.081	32878.	LS
AV Vir	54198.569±0.003	0.017	19376.	C	SV Vol	54200.695±0.003	-0.061	32915.	LS
BB Vir	54172.792±0.002	-0.221	30905.	LS	SV Vol	54208.626±0.002	-0.078	32936.	LS
BB Vir	54180.802±0.002	-0.220	30922.	LS	SV Vol	54211.677±0.005	-0.055	32944.	LS
BB Vir	54198.703±0.002	-0.221	30960.	LS	SV Vol	54216.559±0.002	-0.093	32957.	LS
BB Vir	54200.587±0.004	-0.221	30964.	C	SV Vol	54222.662±0.005	-0.047	32973.	LS
BB Vir	54232.626±0.003	-0.217	31032.	LS	SV Vol	54224.492±0.005	-0.109	32978.	LS
BB Vir	54234.504±0.002	-0.223	31036.	C	SV Vol	54227.540±0.005	-0.089	32986.	LS
BC Vir	54178.859±0.002	0.126	60683.	LS	SV Vol	54233.640±0.003	-0.045	33002.	LS
BC Vir	54182.812±0.002	0.127	60690.	LS	BN Vul	54250.499±0.003	0.065	14677.	C
BC Vir	54199.748±0.002	0.128	60720.	LS	BN Vul	54275.453±0.005	0.066	14719.	C
BC Vir	54207.652±0.002	0.128	60734.	LS	BN Vul	54278.418±0.004	0.060	14724.	C

* C = Calern, LS = La Silla
1 Agerer and Moschner, 1996
2 Williams, 1993

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