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THE GEOS RR Lyr SURVEY

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

(GEOS Circular RR 35)

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We present here the ninth list of light maxima of RR Lyrae stars from the GEOS RR Lyr Survey (Le Borgne et al. 2007), a GEOS program (`http://www.upv.es/geos/`, Boninsegna et al., 2002) of observations of RR Lyr stars using the automatic telescopes TAROT (`http://tarot.obs-hp.fr`, Boër et al., 2001, Bringer et al., 1999). The present list contains 328 maxima observed mainly between January and June 2008 (Table 1).
A description of the present list may be found in the former lists (for example Le Borgne et al. 2008). The data are also available in the GEOS RR Lyr web database (`http://dbRR.ast.obs-mip.fr`). The $O-C$'s are computed with the GCVS elements (Kholopov et al., 1985) when available. Otherwise, the reference of the elements, if exists, is given as a footnote of Table 1.

References:

Agerer, F., Moschner, W., 1996, *IBVS*, **4391**

Baldwin, M.E., Samolyk, G., 2003, *AAVSO RR Lyrae Monographs*, **1**

Boër, M., Atteia, J. L., Bringer, M., Gendre, B., Klotz, A., Malina, R., de Freitas Pacheco, J. A., Pedersen, H., 2001, *A&A*, **378**, 76

Boninsegna, R., 1990, *JAAVSO*, **19**, 126

Boninsegna, R., Vandenbroere, J., Le Borgne, J. F., The Geos Team, 2002, *ASP Conf. Ser.*, **259**, 166, IAU Colloq. 185

Bringer, M., Boër, M., Peignot, C., Fontan, G., Merce, C., 1999, *A&AS*, **138**, 581

Kholopov, P. N., et al., 1985, *General Catalogue of Variable Stars*, Moscow: Nauka Publishing House, 1988, 4th ed., edited by Kholopov, P. N.; and 2006 web edition (`http://www.sai.msu.su/groups/cluster/gcvs/`).

Le Borgne, J. F., Klotz, A., Boër, 2008, *IBVS*, **5823**

Le Borgne, J. F., Paschke, A., Vandenbroere, J., Poretti, E., Klotz, A., Boër, M., Damerdji, Y., Martignoni, M., Acerbi, F., 2007, *A&A*, **476**, 307

Williams, D.B., 1993, *JAAVSO*, **22**, 116

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.
CI And	54472.309±0.002	0.102	38690.	C	AL CMi	54479.695±0.003	0.448	32483.	LS
WY Ant	54523.648±0.003	0.212	24164.	LS	RV Cap	54617.842±0.004	0.003	46309.	LS
TY Aps	54519.750±0.005	0.039	29487.	LS	BI Cen	54471.797±0.006	0.032	39237.	LS
TY Aps	54626.609±0.004	0.037	29700.	LS	BI Cen	54519.844±0.002	0.041	39343.	LS
XZ Aps	54525.723±0.003	-0.282	43938.	LS	BI Cen	54526.637±0.002	0.036	39358.	LS
V341 Aql	54624.856±0.003	0.032	23232.	LS	BI Cen	54608.667±0.002	0.040	39539.	LS
S Ara	54641.706±0.003	-0.322	29852.	LS	V499 Cen	54589.654±0.003	0.030	25831.	LS
S Ara	54642.607±0.003	-0.325	29854.	LS	V499 Cen	54615.715±0.002	0.031	25881.	LS
MS Ara	54590.659±0.003	0.377	50676.	LS	V499 Cen	54624.576±0.003	0.031	25898.	LS
MS Ara	54641.582±0.002	0.379	50773.	LS	S Com	54527.411±0.002	-0.100	23650.	C
TZ Aur	54474.387±0.002	0.011	88267.	C	S Com	54541.491±0.003	-0.098	23674.	C
TZ Aur	54478.304±0.002	0.012	88277.	C	S Com	54581.379±0.004	-0.098	23742.	C
TZ Aur	54548.417±0.006	0.015	88456.	C	S Com	54605.427±0.003	-0.101	23783.	C
TZ Aur	54557.424±0.003	0.013	88479.	C	ST Com	54503.505±0.005	-0.025	18832.	C
BH Aur	54474.518±0.003	0.000	25703.	C	ST Com	54512.487±0.005	-0.027	18847.	C
RS Boo	54499.643±0.002	0.001	33734.	C	ST Com	54551.417±0.005	-0.027	18912.	C
RS Boo	54539.645±0.003	0.005	33840.	C	ST Com	54582.565±0.004	-0.024	18964.	C
RS Boo	54569.453±0.002	0.003	33919.	C	V413 CrA	54590.819±0.008	0.052	22212.	LS
RS Boo	54600.397±0.003	0.005	34001.	C	V413 CrA	54623.814±0.004	0.044	22268.	LS
RS Boo	54609.454±0.002	0.006	34025.	C	TV CrB	54539.544±0.002	0.026	39207.	C
RS Boo	54629.450±0.003	0.003	34078.	C	TV CrB	54542.466±0.003	0.025	39212.	C
RS Boo	54632.467±0.002	0.001	34086.	C	TV CrB	54635.419±0.002	0.025	39371.	C
ST Boo	53165.502±0.010	0.099	54611.	C	TV CrB	54642.432±0.003	0.022	39383.	C
ST Boo	54504.649±0.002	0.077	56763.	C	W Crt	54526.646±0.002	-0.022	36121.	LS
ST Boo	54519.594±0.003	0.087	56787.	C	W Crt	54592.568±0.002	-0.022	36281.	LS
TW Boo	54521.514±0.002	-0.053	51910.	C	W Crt	54606.578±0.004	-0.021	36315.	LS
TW Boo	54544.405±0.004	-0.050	51953.	C	X Crt	54588.546±0.004	0.068	17453.	LS
TW Boo	54578.465±0.005	-0.055	52017.	C	UY Cyg	54638.425±0.002	0.058	57436.	C
UY Boo	54503.707±0.005	0.782	19463.	C	XZ Cyg [2]	54578.509±0.003	-0.004	12876.	C
UY Boo	54554.495±0.005	0.805	19541.	C	XZ Cyg [2]	54635.436±0.002	-0.002	12998.	C
UY Boo	54582.499±0.004	0.823	19584.	C	XZ Cyg [2]	54641.501±0.002	-0.003	13011.	C
CM Boo	54540.503±0.002	-0.103	30602.	C	XZ Cyg [2]	54642.432±0.002	-0.005	13013.	C
AH Cam	54472.522±0.002	-0.429	42696.	C	V939 Cyg [3]	54642.448±0.005	0.019	12525.	LS
AH Cam	54473.258±0.002	-0.429	42698.	C	RW Dra	54538.615±0.002	0.175	34230.	C
AH Cam	54475.499±0.003	-0.401	42704.	C	RW Dra	54546.565±0.005	0.153	34248.	C
AH Cam	54499.464±0.002	-0.404	42769.	C	RW Dra	54571.410±0.002	0.194	34304.	C
TT Cnc	54551.334±0.002	0.105	25924.	C	RW Dra	54586.436±0.003	0.161	34338.	C
AN Cnc	54475.478±0.006	0.138	29540.	C	RW Dra	54598.426±0.003	0.192	34365.	C
AS Cnc	54474.498±0.002	0.352	24734.	C	SU Dra	54512.406±0.003	0.051	16066.	C
EZ Cnc [1]	54472.639±0.002	-0.032	13410.	C	SU Dra	54518.356±0.004	0.058	16075.	C
W CVn	54520.542±0.006	-0.132	60023.	C	SU Dra	54527.597±0.004	0.053	16089.	C
W CVn	54540.407±0.004	-0.131	60059.	C	SU Dra	54539.483±0.003	0.051	16107.	C
W CVn	54542.613±0.005	-0.132	60063.	C	SU Dra	54551.371±0.002	0.052	16125.	C
W CVn	54572.407±0.003	-0.133	60117.	C	SU Dra	54584.392±0.003	0.052	16175.	C
W CVn	54573.510±0.003	-0.133	60119.	C	SW Dra	54502.495±0.003	0.062	49639.	C
Z CVn	54553.427±0.003	0.359	23893.	C	SW Dra	54518.439±0.002	0.055	49667.	C
Z CVn	54570.425±0.005	0.357	23919.	C	SW Dra	54519.581±0.002	0.058	49669.	C
RU CVn	54502.537±0.003	0.212	34922.	C	SW Dra	54547.493±0.003	0.056	49718.	C
RZ CVn	54550.528±0.004	-0.160	25038.	C	XZ Dra	54584.500±0.003	-0.111	26561.	C
RZ CVn	54570.376±0.002	-0.171	25073.	C	BC Dra	54538.662±0.006	0.083	17038.	C
SS CVn	54521.613±0.005	0.157	31135.	C	BC Dra	54539.387±0.005	0.089	17039.	C
SS CVn	54568.515±0.005	0.164	31233.	C	BC Dra	54572.485±0.009	0.086	17085.	C
SS CVn	54570.424±0.002	0.158	31237.	C	BC Dra	54587.598±0.005	0.088	17106.	C
SS CVn	54572.336±0.002	0.156	31241.	C	BC Dra	54639.407±0.005	0.087	17178.	C
UZ CVn	54538.509±0.004	0.246	40286.	C	BC Dra	54644.442±0.005	0.085	17185.	C
AA CMi	54504.342±0.003	0.058	37638.	C	BD Dra	54517.536±0.005	0.722	21632.	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.
BD Dra	54537.525±0.005	0.683	21666.	C	ST Leo	54541.565±0.002	-0.021	55689.	C
BD Dra	54540.494±0.003	0.707	21671.	C	ST Leo	54586.496±0.002	-0.020	55783.	C
BD Dra	54570.551±0.004	0.722	21722.	C	SZ Leo	54473.595±0.002	0.429	16863.	C
BD Dra	54573.498±0.002	0.724	21727.	C	SZ Leo	54523.784±0.002	0.416	16957.	LS
BD Dra	54576.440±0.004	0.721	21732.	C	AX Leo	54472.606±0.005	-0.031	40213.	C
BD Dra	54609.381±0.005	0.675	21788.	C	AX Leo	54512.575±0.005	-0.038	40268.	C
BK Dra	54630.468±0.002	-0.156	49161.	C	AX Leo	54550.375±0.005	-0.033	40320.	C
BK Dra	54646.453±0.002	-0.157	49188.	C	AX Leo	54558.362±0.003	-0.041	40331.	C
BT Dra	54510.580±0.005	-0.009	40389.	C	V LMi	54548.406±0.003	0.035	64381.	C
BT Dra	54569.440±0.002	-0.017	40489.	C	V LMi	54579.405±0.002	0.031	64438.	C
BT Dra	54573.560±0.004	-0.017	40496.	C	U Lep	54471.656±0.003	0.044	22562.	LS
RR Gem	54503.434±0.002	-0.382	33089.	C	VY Lib	54593.784±0.002	-0.031	25189.	LS
SZ Gem	54502.403±0.003	-0.055	54493.	C	TT Lyn	54499.672±0.005	-0.035	29875.	C
SZ Gem	54521.446±0.002	-0.055	54531.	C	TT Lyn	54528.347±0.004	-0.037	29923.	C
SZ Gem	54527.458±0.002	-0.057	54543.	C	TT Lyn	54547.466±0.003	-0.036	29955.	C
GI Gem	54499.514±0.002	0.069	55746.	C	TT Lyn	54550.452±0.003	-0.037	29960.	C
GI Gem	54529.410±0.002	0.069	55815.	C	TW Lyn	54502.626±0.003	0.054	19674.	C
VX Her	54555.579±0.004	-0.417	72041.	C	TW Lyn	54520.453±0.002	0.052	19711.	C
VX Her	54556.490±0.005	-0.417	72043.	C	TW Lyn	54547.443±0.004	0.058	19767.	C
VX Her	54638.453±0.002	-0.421	72223.	C	RZ Lyr	54579.494±0.002	-0.014	26203.	C
VZ Her	54542.543±0.002	0.065	40319.	C	RZ Lyr	54582.564±0.004	-0.011	26209.	C
VZ Her	54576.450±0.002	0.067	40396.	C	RZ Lyr	54600.459±0.002	-0.010	26244.	C
VZ Her	54579.532±0.002	0.066	40403.	C	RZ Lyr	54644.439±0.002	0.003	26330.	C
VZ Her	54598.466±0.003	0.066	40446.	C	AW Lyr	54584.514±0.005	0.010	58806.	C
VZ Her	54613.437±0.002	0.066	40480.	C	CN Lyr	54608.417±0.004	0.021	24605.	C
VZ Her	54646.461±0.003	0.065	40555.	C	CN Lyr	54638.445±0.007	0.018	24678.	C
AR Her	54541.512±0.003	-1.235	27846.	C	CN Lyr	54645.441±0.003	0.021	24695.	C
AR Her	54644.427±0.003	-1.256	28065.	C	IO Lyr	54586.579±0.004	-0.032	25935.	C
BD Her	54642.454±0.003	0.065	46453.	C	IO Lyr	54600.433±0.003	-0.029	25959.	C
DL Her	54586.503±0.004	0.041	27683.	C	IO Lyr	54608.508±0.005	-0.033	25973.	C
V542 Her	54555.546±0.006	0.128	24715.	C	IO Lyr	54630.440±0.003	-0.032	26011.	C
V593 Her	54638.463±0.005	-0.114	29935.	C	IO Lyr	54645.444±0.002	-0.033	26037.	C
V650 Her	54638.469±0.003	0.025	29283.	C	MW Lyr	53909.422±0.002	0.132	44911.	C
SV Hya	54626.563±0.003	0.102	31989.	LS	MW Lyr	53911.401±0.002	0.122	44916.	C
SZ Hya	54503.485±0.003	-0.192	25732.	C	MW Lyr	53922.512±0.002	0.093	44944.	C
UU Hya	54473.645±0.002	0.026	28623.	C	MW Lyr	53926.512±0.002	0.115	44954.	C
UU Hya	54507.690±0.002	0.019	28688.	LS	MW Lyr	53932.480±0.005	0.115	44969.	C
WZ Hya	54509.700±0.002	-0.001	27677.	LS	MW Lyr	53936.440±0.003	0.096	44979.	C
BI Hya	54512.663±0.002	0.227	50547.	LS	MW Lyr	53942.421±0.002	0.110	44994.	C
DD Hya	54472.574±0.003	-0.154	25464.	C	MW Lyr	53944.410±0.002	0.109	44999.	C
DD Hya	54501.683±0.002	-0.148	25522.	LS	MW Lyr	53985.356±0.005	0.077	45102.	C
DD Hya	54506.695±0.002	-0.154	25532.	LS	V340 Lyr	54582.612±0.005	-0.030	42221.	C
IK Hya	54506.744±0.005	-0.016	24685.	LS	RV Oct	54588.691±0.004	0.128	69108.	LS
IK Hya	54618.562±0.005	0.002	24857.	LS	RV Oct	54608.678±0.002	0.124	69143.	LS
GO Hya	54499.756±0.005	-0.077	45331.	LS	RV Oct	54627.530±0.003	0.128	69176.	LS
GO Hya	54521.393±0.005	-0.079	45365.	C	SS Oct	54627.831±0.003	-0.046	42789.	LS
V Ind	54616.776±0.004	0.347	30230.	LS	SS Oct	54642.750±0.002	-0.051	42813.	LS
V Ind	54626.850±0.003	0.350	30251.	LS	UV Oct	54588.783±0.005	-0.145	37338.	LS
RR Leo	54576.370±0.002	0.089	24936.	C	UV Oct	54589.869±0.003	-0.145	37340.	LS
RX Leo	54529.487±0.007	0.091	27889.	C	UV Oct	54627.859±0.003	-0.138	37410.	LS
SS Leo	54501.779±0.004	-0.052	20309.	LS	UV Oct	54630.571±0.004	-0.139	37415.	LS
SS Leo	54523.695±0.003	-0.058	20344.	LS	V445 Oph	54586.776±0.003	0.028	68115.	LS
SS Leo	54554.388±0.003	-0.056	20393.	C	V445 Oph	54594.711±0.003	0.022	68135.	LS
SS Leo	54569.419±0.002	-0.057	20417.	C	V445 Oph	54611.787±0.004	0.026	68178.	LS
SS Leo	54579.441±0.003	-0.057	20433.	C	V445 Oph	54641.558±0.002	0.021	68253.	LS
ST Leo	54474.654±0.005	-0.014	55549.	C	V445 Oph	54643.542±0.003	0.020	68258.	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.
V452 Oph	54643.438±0.002	0.007	32281.	C	RV UMa	54558.520±0.002	0.113	20260.	C
V455 Oph	54613.442±0.004	-0.254	28156.	C	RV UMa	54573.499±0.002	0.114	20292.	C
V455 Oph	54642.483±0.003	-0.263	28220.	C	RV UMa	54640.433±0.002	0.116	20435.	C
WY Pav	54585.794±0.006	0.065	47092.	LS	TU UMa	54539.510±0.002	-0.029	20995.	C
WY Pav	54595.798±0.003	0.063	47109.	LS	TU UMa	54553.456±0.003	-0.025	21020.	C
WY Pav	54598.744±0.005	0.066	47114.	LS	TU UMa	54558.472±0.002	-0.028	21029.	C
WY Pav	54624.646±0.005	0.070	47158.	LS	AB UMa	54473.493±0.016	0.125	30431.	C
WY Pav	54641.710±0.003	0.066	47187.	LS	AB UMa	54512.464±0.011	0.124	30496.	C
BN Pav	54594.864±0.003	-0.057	46297.	LS	AB UMa	54548.428±0.011	0.113	30556.	C
BN Pav	54598.834±0.002	-0.058	46304.	LS	AB UMa	54578.413±0.006	0.119	30606.	C
BN Pav	54640.801±0.002	-0.061	46378.	LS	AB UMa	54581.401±0.004	0.109	30611.	C
XX Pup	54478.790±0.003	0.467	24566.	LS	EX UMa	54473.364±0.006	0.031	10059.	C
XX Pup	54503.616±0.003	0.468	24614.	LS	EX UMa	54518.413±0.005	0.025	10142.	C
BB Pup	54472.778±0.002	0.112	32592.	LS	EX UMa	54557.502±0.004	0.030	10214.	C
BB Pup	54476.624±0.002	0.114	32600.	LS	AF Vel	54599.595±0.003	0.300	24966.	LS
HH Pup	54480.610±0.003	0.011	40897.	LS	FS Vel	54597.606±0.002	-0.143	31609.	LS
HH Pup	54514.607±0.003	0.013	40984.	LS	FS Vel	54606.648±0.004	-0.140	31628.	LS
HH Pup	54521.638±0.003	0.010	41002.	LS	ST Vir	54554.586±0.002	0.012	33635.	C
HH Pup	54523.592±0.002	0.011	41007.	LS	ST Vir	54571.426±0.002	0.008	33676.	C
V440 Sgr	54605.828±0.004	0.094	27428.	LS	ST Vir	54582.523±0.002	0.013	33703.	C
V440 Sgr	54625.876±0.003	0.088	27470.	LS	ST Vir	54588.687±0.002	0.014	33718.	LS
V675 Sgr	54588.865±0.005	0.071	40794.	LS	ST Vir	54595.666±0.002	0.009	33735.	LS
V675 Sgr	54597.854±0.005	0.068	40808.	LS	ST Vir	54609.640±0.002	0.015	33769.	LS
V675 Sgr	54599.788±0.005	0.075	40811.	LS	ST Vir	54625.652±0.003	0.005	33808.	LS
V675 Sgr	54626.759±0.003	0.070	40853.	LS	UU Vir	54512.794±0.003	-0.007	26735.	LS
V675 Sgr	54642.817±0.003	0.071	40878.	LS	UU Vir	54529.439±0.002	-0.007	26770.	C
V1645 Sgr	54599.788±0.002	-0.024	36838.	LS	UU Vir	54557.503±0.003	-0.005	26829.	C
V1645 Sgr	54625.773±0.003	-0.022	36885.	LS	UU Vir	54568.442±0.004	-0.005	26852.	C
V494 Sco	54595.725±0.005	-0.187	31520.	LS	UU Vir	54595.554±0.005	-0.003	26909.	LS
V494 Sco	54618.793±0.004	-0.195	31574.	LS	UV Vir	54499.549±0.005	0.023	24710.	C
V494 Sco	54621.790±0.003	-0.189	31581.	LS	UV Vir	54507.748±0.003	0.003	24724.	LS
V690 Sco	54586.854±0.002	-0.018	25981.	LS	UV Vir	54527.717±0.005	0.011	24758.	LS
V690 Sco	54587.840±0.003	-0.016	25983.	LS	UV Vir	54586.432±0.003	0.018	24858.	C
V690 Sco	54589.809±0.003	-0.016	25987.	LS	UV Vir	54597.582±0.003	0.013	24877.	LS
V690 Sco	54617.865±0.002	-0.019	26044.	LS	UV Vir	54617.537±0.005	0.007	24911.	LS
VY Ser	54555.550±0.005	0.049	32671.	C	AF Vir	54585.704±0.003	-0.120	29461.	LS
VY Ser	54592.689±0.009	0.055	32723.	LS	AF Vir	54609.403±0.003	-0.126	29510.	C
VY Ser	54612.678±0.015	0.050	32751.	LS	AF Vir	54616.659±0.003	-0.126	29525.	LS
AN Ser	54637.511±0.003	0.001	76481.	C	AF Vir	54617.625±0.003	-0.128	29527.	LS
AT Ser	54640.711±0.003	0.039	17202.	LS	AS Vir	54585.614±0.002	0.133	27882.	LS
AV Ser	54572.597±0.003	0.137	53797.	C	AS Vir	54611.607±0.003	0.115	27929.	LS
AV Ser	54587.717±0.005	0.142	53828.	LS	AT Vir	54538.479±0.003	-0.273	28263.	C
AV Ser	54602.822±0.002	0.133	53859.	LS	AT Vir	54567.397±0.004	-0.274	28318.	C
RU Sex [4]	54510.711±0.009	0.047	33961.	LS	AT Vir	54611.558±0.004	-0.280	28402.	LS
RU Sex [4]	54522.623±0.005	0.051	33995.	LS	AV Vir	54512.577±0.009	0.023	19854.	C
RV Sex	54498.707±0.005	0.056	49379.	LS	AV Vir	54541.478±0.006	0.020	19898.	C
RW TrA	54588.884±0.003	-0.170	35022.	LS	AV Vir	54568.415±0.008	0.023	19939.	C
RW TrA	54620.681±0.005	-0.167	35107.	LS	AV Vir	54594.689±0.005	0.021	19979.	LS
RW TrA	54628.534±0.002	-0.169	35128.	LS	AV Vir	54625.564±0.003	0.021	20026.	LS
RV UMa	54504.693±0.005	0.113	20145.	C	BB Vir	54569.465±0.002	0.260	31746.	C
RV UMa	54542.608±0.006	0.115	20226.	C	BB Vir	54598.673±0.003	0.260	31808.	LS
RV UMa	54553.373±0.004	0.115	20249.	C	BN Vul	54641.439±0.002	0.068	15335.	C

* C = Calern, LS = La Silla
1 Boninsegna (1990)
2 Baldwin, M.E., Samolyk, G. (2003)
3 Agerer, F., Moschner, W. (1996)
4 Williams, D.B. (1993)