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THE GEOS RR Lyr SURVEY

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

(GEOS Circular RR 39)

LE BORGNE, J. F.[1,2]; KLOTZ, A.[3,4]; BOËR, M.[3]

[1] GEOS (Groupe Européen d'Observations Stellaires), 23 Parc de Levesville, 28300 Bailleau l'Evêque, France

[2] LATT, Université de Toulouse, CNRS, Toulouse, France

[3] Observatoire de Haute-Provence, Saint Michel l'Observatoire, France

[4] CESR, Université de Toulouse, CNRS, Toulouse, France

We present here the eleventh list of light maxima of RR Lyrae stars from the GEOS RR Lyr Survey (Le Borgne et al. 2007), a GEOS program (`http://geos.webs.upv.es/`, Boninsegna et al., 2002) of observations of RR Lyr stars using the automatic telescopes TAROT (`http://tarot.obs-hp.fr`, Klotz et al., 2009). The present list contains 685 maxima observed mainly between January and June 2009 (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:

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

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

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/`).

Klotz, A., Boër, M., Atteia, J. L., Gendre, B., 2009, AJ 137, 4100

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

Table 1: maxima of RR Lyrae stars

Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.	Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.
XX And	54833.443±0.003	0.237	21786.	C	RS Boo	54975.461±0.003	-0.006	34995.	C
CI And	54834.402±0.002	0.111	39437.	C	RS Boo	54989.422±0.002	-0.006	35032.	C
WY Ant	54859.641±0.004	0.221	24749.	LS	RS Boo	54992.442±0.002	-0.005	35040.	C
WY Ant	54879.745±0.005	0.224	24784.	LS	ST Boo	54939.633±0.002	0.080	57462.	C
WY Ant	54913.627±0.003	0.220	24843.	LS	ST Boo	54974.471±0.005	0.069	57518.	C
BK Ant	54864.635±0.010			LS	ST Boo	54979.452±0.004	0.072	57526.	C
BK Ant	54896.661±0.004			LS	ST Boo	54992.520±0.003	0.072	57547.	C
BK Ant	54912.673±0.005			LS	TW Boo	54852.583±0.002	-0.058	52532.	C
BN Ant	54904.729±0.004			LS	TW Boo	54861.633±0.002	-0.057	52549.	C
BT Ant	54853.780±0.010			LS	TW Boo	54900.494±0.004	-0.052	52622.	C
BT Ant	54861.716±0.010			LS	TW Boo	54901.554±0.002	-0.056	52624.	C
TY Aps	54914.586±0.003	0.042	30274.	LS	TW Boo	54916.455±0.002	-0.059	52652.	C
TY Aps	54915.591±0.004	0.044	30276.	LS	TW Boo	54956.376±0.001	-0.059	52727.	C
TY Aps	54919.603±0.004	0.042	30284.	LS	TW Boo	54958.506±0.002	-0.058	52731.	C
TY Aps	54923.616±0.003	0.041	30292.	LS	TW Boo	54965.426±0.004	-0.057	52744.	C
TY Aps	54929.633±0.004	0.038	30304.	LS	TW Boo	54982.458±0.003	-0.058	52776.	C
TY Aps	54986.846±0.006	0.058	30418.	LS	CM Boo	54853.568±0.002	-0.105	31116.	C
VX Aps	54904.793±0.004	0.119	42646.	LS	CM Boo	54884.628±0.002	-0.108	31167.	C
XZ Aps	54885.719±0.005	0.204	44550.	LS	CM Boo	54917.518±0.003	-0.109	31221.	C
XZ Aps	54902.748±0.002	0.198	44579.	LS	CM Boo	54928.481±0.003	-0.109	31239.	C
XZ Aps	54995.535±0.005	0.170	44737.	LS	CM Boo	54953.452±0.002	-0.110	31280.	C
BS Aps	54900.699±0.003	0.009	30007.	LS	CM Boo	54978.425±0.002	-0.110	31321.	C
BS Aps	54904.775±0.005	0.007	30014.	LS	U Cae	54848.697±0.002	-0.117	48915.	LS
BS Aps	54921.698±0.006	0.036	30043.	LS	AH Cam	54843.479±0.005	-0.418	43702.	C
BS Aps	54992.743±0.002	0.009	30165.	LS	AH Cam	54847.525±0.003	-0.429	43713.	C
EX Aps	54933.691±0.004	0.019	57228.	LS	AH Cam	54852.300±0.003	-0.447	43726.	C
EX Aps	54938.877±0.002	0.015	57239.	LS	TT Cnc	54836.423±0.002	0.088	26430.	C
EX Aps	54972.848±0.002	0.016	57311.	LS	TT Cnc	54849.382±0.005	0.088	26453.	C
EX Aps	55005.874±0.004	0.016	57381.	LS	TT Cnc	54862.346±0.004	0.093	26476.	C
SX Aqr	55000.851±0.004	-0.115	28382.	LS	TT Cnc	54875.311±0.005	0.098	26499.	C
TZ Aqr	55013.761±0.005	0.024	30576.	LS	TT Cnc	54907.434±0.002	0.105	26556.	C
BN Aqr	55004.782±0.003	0.595	36478.	LS	TT Cnc	54915.319±0.002	0.101	26570.	C
BO Aqr	55011.803±0.004	0.156	19294.	LS	W CVn	54841.664±0.004	-0.134	60605.	C
CP Aqr	55005.812±0.004	-0.115	36947.	LS	W CVn	54861.528±0.002	-0.134	60641.	C
CP Aqr	55006.737±0.003	-0.117	36949.	LS	W CVn	54877.530±0.002	-0.133	60670.	C
DN Aqr	55006.853±0.005	0.029	41943.	LS	W CVn	54898.493±0.003	-0.137	60708.	C
DN Aqr	55013.829±0.005	0.034	41954.	LS	W CVn	54915.596±0.002	-0.138	60739.	C
AA Aql	54990.782±0.002	0.037	84700.	LS	W CVn	54918.359±0.002	-0.134	60744.	C
V341 Aql	55013.868±0.002	0.036	23905.	LS	W CVn	54925.531±0.003	-0.135	60757.	C
S Ara	55006.799±0.003	-0.351	30660.	LS	W CVn	54929.394±0.005	-0.134	60764.	C
MS Ara	54950.799±0.004	0.396	51362.	LS	W CVn	54956.426±0.003	-0.138	60813.	C
MS Ara	55008.545±0.004	0.397	51472.	LS	W CVn	54973.529±0.003	-0.140	60844.	C
MS Ara	55013.792±0.005	0.394	51482.	LS	Z CVn	54836.571±0.003	0.399	24326.	C
X Ari	54844.408±0.002	0.350	26508.	C	Z CVn	54893.456±0.004	0.402	24413.	C
X Ari	54846.363±0.002	0.352	26511.	C	Z CVn	54910.464±0.005	0.410	24439.	C
X Ari	54848.316±0.003	0.351	26514.	C	RU CVn	54909.547±0.002	0.218	35632.	C
TZ Aur	54850.395±0.004	0.012	89227.	C	RU CVn	54912.414±0.002	0.218	35637.	C
TZ Aur	54875.462±0.002	0.012	89291.	C	RU CVn	54951.393±0.003	0.217	35705.	C
TZ Aur	54879.381±0.001	0.014	89301.	C	RU CVn	54963.431±0.003	0.217	35726.	C
TZ Aur	54908.365±0.002	0.014	89375.	C	RU CVn	54971.456±0.002	0.216	35740.	C
RS Boo	54845.658±0.003	-0.004	34651.	C	RU CVn	54975.468±0.002	0.216	35747.	C
RS Boo	54859.619±0.002	-0.005	34688.	C	RZ CVn	54870.547±0.003	-0.160	25602.	C
RS Boo	54884.523±0.002	-0.005	34754.	C	RZ CVn	54907.427±0.002	-0.162	25667.	C
RS Boo	54898.483±0.002	-0.007	34791.	C	RZ CVn	54962.463±0.002	-0.165	25764.	C
RS Boo	54926.408±0.003	-0.005	34865.	C	RZ CVn	54970.413±0.002	-0.159	25778.	C
RS Boo	54929.427±0.002	-0.005	34873.	C	RZ CVn	54979.496±0.003	-0.154	25794.	C

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

Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.	Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.
SS CVn	54844.615±0.002	0.157	31810.	C	ST Com	54885.618±0.002	-0.029	19470.	C
SS CVn	54845.575±0.004	0.160	31812.	C	ST Com	54917.359±0.003	-0.031	19523.	C
SS CVn	54889.577±0.010	0.138	31904.	C	ST Com	54939.521±0.005	-0.029	19560.	C
SS CVn	54890.534±0.004	0.138	31906.	C	WW CrA	54941.804±0.003	-0.023	42280.	LS
SS CVn	54902.519±0.002	0.160	31931.	C	TV CrB	54902.591±0.002	0.028	39828.	C
SS CVn	54928.362±0.002	0.163	31985.	C	TV CrB	54963.394±0.002	0.031	39932.	C
SS CVn	54959.445±0.006	0.142	32050.	C	TV CrB	54998.474±0.005	0.034	39992.	C
SS CVn	54961.358±0.005	0.141	32054.	C	W Crt	54853.787±0.003	-0.021	36915.	LS
SS CVn	54970.427±0.003	0.118	32073.	C	W Crt	54860.788±0.002	-0.024	36932.	LS
UZ CVn	54859.496±0.004	0.253	40746.	C	W Crt	54867.794±0.002	-0.022	36949.	LS
UZ CVn	54887.398±0.002	0.244	40786.	C	W Crt	54917.648±0.002	-0.022	37070.	LS
UZ CVn	54970.437±0.002	0.247	40905.	C	W Crt	54933.714±0.002	-0.024	37109.	LS
AA CMi	54834.438±0.002	0.062	38331.	C	X Crt	54908.794±0.007	0.068	17890.	LS
AA CMi	54874.450±0.002	0.063	38415.	C	X Crt	54917.587±0.006	0.067	17902.	LS
AA CMi	54875.403±0.002	0.063	38417.	C	X Crt	54950.584±0.007	0.087	17947.	LS
AA CMi	54880.645±0.003	0.066	38428.	LS	SW Cru	54855.819±0.004	0.074	87941.	LS
AA CMi	54887.312±0.002	0.064	38442.	C	SW Cru	54864.666±0.005	0.071	87968.	LS
AL CMi	54855.699±0.003	0.460	33166.	LS	SW Cru	54886.631±0.006	0.075	88035.	LS
AL CMi	54865.610±0.004	0.462	33184.	LS	SW Cru	54901.702±0.005	0.068	88081.	LS
RV Cap	55011.831±0.003	-0.023	47189.	LS	SW Cru	54906.614±0.003	0.063	88096.	LS
TX Car	54848.793±0.004	0.125	50375.	LS	SW Cru	54910.555±0.003	0.071	88108.	LS
EE Car	54855.716±0.004	0.016	44647.	LS	SW Cru	54929.562±0.006	0.066	88166.	LS
EE Car	54885.574±0.004	0.011	44691.	LS	SW Cru	54935.796±0.005	0.073	88185.	LS
IU Car	54842.702±0.004	0.308	17835.	LS	UY Cyg	54999.516±0.002	0.055	58080.	C
IU Car	54848.596±0.005	0.305	17843.	LS	UY Cyg	55008.489±0.003	0.057	58096.	C
IU Car	54862.604±0.003	0.307	17862.	LS	XZ Cyg [1]	54942.464±0.004	0.003	13656.	C
IU Car	54901.671±0.005	0.306	17915.	LS	XZ Cyg [1]	54956.464±0.003	0.005	13686.	C
IU Car	54904.612±0.005	0.298	17919.	LS	XZ Cyg [1]	54976.522±0.002	-0.000	13729.	C
IU Car	54907.565±0.002	0.302	17923.	LS	XZ Cyg [1]	54977.455±0.005	-0.001	13731.	C
BI Cen	54858.823±0.003	0.039	40091.	LS	XZ Cyg [1]	54990.512±0.002	-0.008	13759.	C
BI Cen	54906.881±0.004	0.060	40197.	LS	XZ Cyg [1]	55012.454±0.003	0.004	13806.	C
BI Cen	54911.861±0.005	0.055	40208.	LS	DX Del	55012.435±0.005	0.063	33103.	C
BI Cen	54992.534±0.005	0.061	40386.	LS	RT Dor	54843.845±0.003	-0.094	49865.	LS
V499 Cen	54886.744±0.002	0.031	26401.	LS	VW Dor	54859.698±0.004	-0.113	28882.	LS
V499 Cen	54937.824±0.002	0.032	26499.	LS	VW Dor	54879.670±0.005	-0.112	28917.	LS
V499 Cen	54945.644±0.002	0.034	26514.	LS	RW Dra	54916.413±0.003	0.165	35083.	C
V499 Cen	55004.539±0.005	0.032	26627.	LS	RW Dra	54958.495±0.003	0.170	35178.	C
V671 Cen	54915.732±0.010	-0.107	46876.	LS	RW Dra	54959.381±0.003	0.170	35180.	C
V671 Cen	54919.645±0.005	-0.133	46885.	LS	RW Dra	54982.456±0.003	0.213	35232.	C
V671 Cen	54940.674±0.010	-0.112	46933.	LS	RW Dra	54997.471±0.002	0.169	35266.	C
RT Col	54853.651±0.002	-0.266	50456.	LS	RW Dra	55013.442±0.002	0.195	35302.	C
RW Col	54855.647±0.002	0.099	51106.	LS	SU Dra	54842.616±0.003	0.051	16566.	C
RW Col	54861.652±0.003	-0.247	51118.	LS	SU Dra	54844.597±0.002	0.051	16569.	C
RX Col	54842.680±0.008	-0.257	43819.	LS	SU Dra	54854.504±0.004	0.052	16584.	C
RX Col	54848.615±0.005	-0.263	43829.	LS	SU Dra	54858.469±0.005	0.054	16590.	C
RX Col	54880.680±0.004	-0.276	43883.	LS	SU Dra	54872.336±0.004	0.053	16611.	C
AV Col	54847.661±0.004			LS	SU Dra	54874.314±0.003	0.049	16614.	C
AV Col	54855.629±0.005			LS	SU Dra	54897.435±0.004	0.056	16649.	C
AV Col	54862.659±0.001			LS	SU Dra	54899.416±0.002	0.055	16652.	C
S Com	54843.586±0.005	-0.097	24189.	C	SU Dra	54901.392±0.002	0.050	16655.	C
S Com	54856.486±0.004	-0.102	24211.	C	SU Dra	54928.473±0.003	0.054	16696.	C
S Com	54893.446±0.004	-0.098	24274.	C	SW Dra	54861.381±0.002	0.056	50269.	C
S Com	54897.549±0.003	-0.101	24281.	C	SW Dra	54871.638±0.002	0.059	50287.	C
S Com	54934.505±0.003	-0.100	24344.	C	SW Dra	54874.000±0.004	0.142	50291.	C
S Com	54961.497±0.004	-0.091	24390.	C	SW Dra	54886.452±0.004	0.061	50313.	C
ST Com	54879.629±0.004	-0.028	19460.	C	SW Dra	54890.437±0.003	0.059	50320.	C

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

Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.	Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.
SW Dra	54898.422±0.005	0.068	50334.	C	TW Her	55008.535±0.002	-0.010	83742.	C
SW Dra	54907.527±0.002	0.058	50350.	C	TW Her	55010.532±0.002	-0.012	83747.	C
XZ Dra	54950.434±0.002	-0.127	27329.	C	VX Her	54928.518±0.002	-0.428	72860.	C
XZ Dra	54960.445±0.005	-0.122	27350.	C	VX Her	54954.473±0.001	-0.430	72917.	C
XZ Dra	54971.392±0.001	-0.134	27373.	C	VX Her	54965.402±0.003	-0.430	72941.	C
XZ Dra	54990.470±0.002	-0.116	27413.	C	VX Her	54985.438±0.002	-0.430	72985.	C
XZ Dra	55001.429±0.003	-0.117	27436.	C	VX Her	54995.455±0.002	-0.431	73007.	C
XZ Dra	55010.474±0.003	-0.125	27455.	C	VZ Her	54952.492±0.002	0.068	41250.	C
BC Dra	54849.526±0.005	0.090	17470.	C	VZ Her	54960.418±0.002	0.069	41268.	C
BC Dra	54880.472±0.006	0.095	17513.	C	VZ Her	54971.426±0.001	0.068	41293.	C
BC Dra	54898.456±0.007	0.089	17538.	C	VZ Her	54974.510±0.002	0.070	41300.	C
BC Dra	54929.387±0.005	0.078	17581.	C	VZ Her	54982.434±0.002	0.068	41318.	C
BC Dra	54934.440±0.005	0.094	17588.	C	VZ Her	54985.515±0.002	0.067	41325.	C
BC Dra	54952.434±0.005	0.099	17613.	C	VZ Her	54989.479±0.002	0.068	41334.	C
BC Dra	54980.482±0.003	0.083	17652.	C	VZ Her	54993.442±0.001	0.068	41343.	C
BC Dra	54990.558±0.005	0.085	17666.	C	VZ Her	54996.526±0.002	0.070	41350.	C
BC Dra	54993.438±0.005	0.087	17670.	C	AR Her	54876.604±0.004	-1.273	28559.	C
BD Dra	54842.679±0.005	0.708	22184.	C	AR Her	54885.499±0.002	-1.308	28578.	C
BD Dra	54845.598±0.005	0.682	22189.	C	AR Her	54942.403±0.005	-1.278	28699.	C
BD Dra	54871.502±0.005	0.668	22233.	C	AR Her	54958.395±0.002	-1.267	28733.	C
BD Dra	54898.594±0.003	0.663	22279.	C	AR Her	54995.521±0.002	-1.273	28812.	C
BD Dra	54927.487±0.005	0.693	22328.	C	AR Her	54996.461±0.002	-1.273	28814.	C
BD Dra	54950.448±0.002	0.681	22367.	C	DL Her	54954.488±0.003	0.033	28305.	C
BD Dra	54953.409±0.002	0.697	22372.	C	DL Her	54993.544±0.005	0.042	28371.	C
BD Dra	54960.474±0.002	0.693	22384.	C	DL Her	54996.503±0.002	0.043	28376.	C
BD Dra	54980.495±0.003	0.686	22418.	C	V542 Her	54918.516±0.005	0.127	25301.	C
BD Dra	54990.485±0.002	0.662	22435.	C	V542 Her	54954.444±0.005	0.130	25359.	C
BD Dra	54993.422±0.005	0.654	22440.	C	V542 Her	54985.403±0.005	0.118	25409.	C
BD Dra	55010.533±0.002	0.683	22469.	C	V591 Her	54939.507±0.006	0.295	22901.	C
BD Dra	55013.469±0.004	0.673	22474.	C	V650 Her	54928.519±0.003	0.028	29842.	C
BK Dra	54958.480±0.002	-0.157	49715.	C	V650 Her	54954.464±0.002	0.030	29892.	C
BK Dra	55006.436±0.002	-0.159	49796.	C	V650 Her	54995.453±0.002	0.028	29971.	C
BT Dra	54878.501±0.004	-0.009	41014.	C	SV Hya	54866.801±0.002	0.111	32491.	LS
BT Dra	54901.455±0.003	-0.014	41053.	C	SV Hya	54912.748±0.004	0.117	32587.	LS
BT Dra	54994.470±0.002	-0.009	41211.	C	SV Hya	54913.712±0.003	0.124	32589.	LS
BT Dra	54997.407±0.002	-0.016	41216.	C	SV Hya	54935.711±0.004	0.110	32635.	LS
BB Eri	54847.609±0.003	0.234	26826.	LS	SV Hya	54993.616±0.003	0.111	32756.	LS
RR Gem	54846.292±0.002	-0.402	33952.	C	SZ Hya	54836.575±0.001	-0.192	26352.	C
RR Gem	54847.488±0.001	-0.399	33955.	C	SZ Hya	54852.688±0.010	-0.195	26382.	LS
RR Gem	54849.472±0.001	-0.401	33960.	C	SZ Hya	54853.764±0.005	-0.194	26384.	LS
RR Gem	54873.306±0.002	-0.406	34020.	C	SZ Hya	54878.455±0.005	-0.216	26430.	C
RR Gem	54874.500±0.002	-0.404	34023.	C	SZ Hya	54880.625±0.004	-0.195	26434.	LS
SZ Gem	54907.318±0.001	-0.059	55301.	C	SZ Hya	54885.461±0.002	-0.194	26443.	C
SZ Gem	54909.322±0.001	-0.059	55305.	C	UU Hya	54848.745±0.005	0.036	29339.	LS
SZ Gem	54910.324±0.002	-0.059	55307.	C	UU Hya	54859.720±0.005	0.010	29360.	LS
SZ Gem	54911.328±0.002	-0.058	55309.	C	UU Hya	54868.629±0.003	0.013	29377.	LS
SZ Gem	54913.331±0.001	-0.059	55313.	C	UU Hya	54911.590±0.002	0.017	29459.	LS
SZ Gem	54916.339±0.002	-0.058	55319.	C	UU Hya	54912.636±0.002	0.015	29461.	LS
GI Gem	54833.563±0.002	0.070	56517.	C	UU Hya	54922.610±0.005	0.036	29480.	LS
GI Gem	54836.595±0.001	0.070	56524.	C	WZ Hya	54859.753±0.004	-0.001	28328.	LS
GI Gem	54846.560±0.002	0.069	56547.	C	WZ Hya	54907.610±0.002	-0.000	28417.	LS
GI Gem	54860.424±0.002	0.069	56579.	C	WZ Hya	54908.685±0.005	-0.001	28419.	LS
GI Gem	54861.291±0.002	0.069	56581.	C	WZ Hya	54914.595±0.002	-0.005	28430.	LS
GI Gem	54876.456±0.002	0.070	56616.	C	WZ Hya	54921.583±0.003	-0.008	28443.	LS
GI Gem	54883.389±0.003	0.071	56632.	C	WZ Hya	54935.568±0.004	-0.003	28469.	LS
GI Gem	54902.453±0.002	0.071	56676.	C	WZ Hya	54942.559±0.002	-0.003	28482.	LS

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

Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.	Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.
XX Hya	54841.674±0.003	0.065	29560.	LS	SS Leo	54914.527±0.002	-0.065	20968.	C
XX Hya	54848.779±0.002	0.062	29574.	LS	SS Leo	54934.571±0.005	-0.064	21000.	LS
XX Hya	54906.662±0.003	0.059	29688.	LS	ST Leo	54842.696±0.003	-0.020	56319.	C
XX Hya	54935.605±0.002	0.059	29745.	LS	ST Leo	54856.560±0.004	-0.017	56348.	C
BI Hya	54861.715±0.005	0.234	51210.	LS	ST Leo	54879.502±0.002	-0.019	56396.	C
BI Hya	54899.618±0.002	0.231	51282.	LS	ST Leo	54880.458±0.002	-0.019	56398.	C
BI Hya	54919.624±0.003	0.232	51320.	LS	ST Leo	54889.542±0.003	-0.016	56417.	C
BI Hya	54938.578±0.002	0.232	51356.	LS	ST Leo	54911.527±0.002	-0.019	56463.	C
BI Hya	54939.631±0.003	0.233	51358.	LS	ST Leo	54934.469±0.002	-0.020	56511.	C
DD Hya	54847.399±0.002	-0.156	26211.	C	ST Leo	54935.425±0.002	-0.020	56513.	C
DD Hya	54848.402±0.002	-0.156	26213.	C	SZ Leo	54905.614±0.007	0.393	17672.	LS
DD Hya	54874.507±0.002	-0.144	26265.	C	SZ Leo	54906.682±0.007	0.392	17674.	LS
DD Hya	54875.504±0.002	-0.150	26267.	C	SZ Leo	54913.641±0.010	0.409	17687.	LS
DG Hya	54853.761±0.003	0.003	41485.	LS	TV Leo	54868.735±0.004	0.115	26495.	LS
DG Hya	54859.796±0.005	0.018	41499.	LS	TV Leo	54905.741±0.005	0.114	26550.	LS
DG Hya	54915.611±0.003	-0.063	41629.	LS	TV Leo	54924.581±0.002	0.115	26578.	LS
DG Hya	54921.643±0.002	-0.051	41643.	LS	TV Leo	54934.674±0.004	0.115	26593.	LS
DH Hya	54917.666±0.004	0.070	48551.	LS	WW Leo	54854.694±0.004	0.036	33130.	LS
DH Hya	54919.620±0.002	0.068	48555.	LS	WW Leo	54886.644±0.003	0.035	33183.	LS
ET Hya	54863.794±0.004	0.147	27632.	LS	WW Leo	54912.566±0.002	0.035	33226.	LS
ET Hya	54905.612±0.003	0.148	27693.	LS	WW Leo	54918.597±0.003	0.038	33236.	LS
FX Hya	54947.736±0.003	-0.005	49611.	LS	AX Leo	54834.561±0.004	-0.037	40711.	C
FY Hya	54937.751±0.003	0.007	21752.	LS	AX Leo	54842.555±0.009	-0.038	40722.	C
FY Hya	54944.751±0.004	0.004	21763.	LS	AX Leo	54906.519±0.005	-0.035	40810.	C
GO Hya	54848.521±0.005	-0.079	45879.	C	AX Leo	54917.418±0.005	-0.038	40825.	C
GO Hya	54876.522±0.004	-0.081	45923.	C	V LMi	54841.573±0.003	0.030	64920.	C
GO Hya	54879.709±0.005	-0.077	45928.	LS	V LMi	54876.385±0.002	0.031	64984.	C
GO Hya	54886.713±0.005	-0.073	45939.	LS	V LMi	54877.474±0.002	0.032	64986.	C
GO Hya	54890.526±0.004	-0.079	45945.	C	V LMi	54879.648±0.002	0.031	64990.	C
GO Hya	54902.624±0.006	-0.073	45964.	LS	V LMi	54914.460±0.002	0.031	65054.	C
GO Hya	54906.436±0.005	-0.080	45970.	C	U Lep	54842.641±0.004	0.047	23200.	LS
IK Hya	54908.631±0.005	0.171	25303.	LS	AO Lep	54848.661±0.005			LS
IK Hya	54913.848±0.006	0.188	25311.	LS	AO Lep	54853.704±0.004			LS
IK Hya	54973.658±0.006	0.198	25403.	LS	TV Lib	54921.745±0.002	-0.005	129456.	LS
IK Hya	54990.605±0.010	0.245	25429.	LS	TV Lib	54929.834±0.002	-0.005	129486.	LS
RR Leo	54860.479±0.001	0.094	25564.	C	VY Lib	54924.829±0.003	-0.029	25809.	LS
RR Leo	54877.670±0.002	0.095	25602.	C	XX Lib	54900.839±0.005	0.056	38580.	LS
RR Leo	54878.575±0.002	0.095	25604.	C	XX Lib	54914.807±0.009	0.055	38600.	LS
RR Leo	54885.361±0.002	0.095	25619.	C	XX Lib	54937.853±0.004	0.053	38633.	LS
RR Leo	54903.457±0.002	0.095	25659.	C	XX Lib	55005.599±0.006	0.051	38730.	LS
RR Leo	54913.410±0.001	0.096	25681.	C	AZ Lib	54913.744±0.004	0.185	41342.	LS
RR Leo	54917.481±0.002	0.096	25690.	C	AZ Lib	54924.817±0.003	0.185	41359.	LS
RX Leo	54834.638±0.004	0.099	28356.	C	TT Lyn	54859.328±0.004	-0.035	30477.	C
RX Leo	54861.423±0.003	0.094	28397.	C	TT Lyn	54860.519±0.004	-0.039	30479.	C
RX Leo	54878.416±0.006	0.098	28423.	C	TT Lyn	54876.653±0.004	-0.035	30506.	C
RX Leo	54887.559±0.003	0.093	28437.	C	TT Lyn	54890.391±0.002	-0.038	30529.	C
RX Leo	54904.555±0.005	0.101	28463.	C	TT Lyn	54918.471±0.002	-0.038	30576.	C
RX Leo	54908.469±0.003	0.094	28469.	C	TW Lyn	54848.603±0.003	0.056	20392.	C
RX Leo	54914.354±0.004	0.098	28478.	C	TW Lyn	54880.405±0.002	0.055	20458.	C
RX Leo	54944.408±0.004	0.095	28524.	C	TW Lyn	54904.499±0.004	0.056	20508.	C
SS Leo	54862.544±0.002	-0.062	20885.	C	RZ Lyr	54986.451±0.002	-0.006	26999.	C
SS Leo	54868.804±0.004	-0.065	20895.	LS	RZ Lyr	54988.497±0.003	-0.005	27003.	C
SS Leo	54879.456±0.004	-0.061	20912.	C	AW Lyr	54979.461±0.004	-0.016	59600.	C
SS Leo	54884.465±0.002	-0.063	20920.	C	AW Lyr	54986.427±0.002	-0.014	59614.	C
SS Leo	54905.757±0.005	-0.066	20954.	LS	CN Lyr	54951.511±0.003	0.022	25439.	C
SS Leo	54911.397±0.002	-0.063	20963.	C	CN Lyr	54986.478±0.002	0.022	25524.	C

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

Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.	Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.
CN Lyr	54995.527±0.002	0.020	25546.	C	DY Oct	54852.813±0.002			LS
CN Lyr	55007.456±0.002	0.019	25575.	C	DY Oct	54855.606±0.002			LS
IO Lyr	54952.473±0.002	-0.034	26569.	C	DY Oct	54860.627±0.003			LS
IO Lyr	54978.445±0.002	-0.032	26614.	C	DY Oct	54879.602±0.002			LS
IO Lyr	54986.524±0.002	-0.033	26628.	C	DZ Oct	54879.608±0.003			LS
IO Lyr	55008.454±0.003	-0.034	26666.	C	ST Oph	54994.731±0.003	-0.022	58994.	LS
IO Lyr	55012.494±0.002	-0.033	26673.	C	ST Oph	55008.693±0.003	-0.022	59025.	LS
V340 Lyr	54986.458±0.002	-0.043	42912.	C	V455 Oph	54977.463±0.005	-0.269	28958.	C
AV Men	54841.705±0.004			LS	V455 Oph	54997.432±0.003	-0.272	29002.	C
DV Mon	54852.608±0.002	0.070	71617.	LS	V455 Oph	55002.429±0.004	-0.268	29013.	C
TX Mus	54847.801±0.005	0.101	64636.	LS	TY Pav	54920.785±0.004	0.244	18846.	LS
TX Mus	54868.620±0.005	0.098	64680.	LS	TY Pav	54972.638±0.004	0.238	18919.	LS
TX Mus	54899.851±0.003	0.096	64746.	LS	TY Pav	54974.771±0.007	0.240	18922.	LS
TX Mus	54900.797±0.003	0.096	64748.	LS	TY Pav	54986.843±0.004	0.235	18939.	LS
TX Mus	54902.689±0.003	0.095	64752.	LS	WY Pav	54973.675±0.003	0.071	47751.	LS
TX Mus	54913.576±0.005	0.098	64775.	LS	BN Pav	54995.820±0.004	-0.093	47004.	LS
TX Mus	54917.830±0.002	0.093	64784.	LS	BN Pav	55004.889±0.003	-0.098	47020.	LS
TX Mus	54929.668±0.004	0.100	64809.	LS	BP Pav	54971.877±0.004	0.091	49567.	LS
TX Mus	54939.599±0.002	0.093	64830.	LS	BP Pav	54989.805±0.005	-0.252	49601.	LS
TX Mus	54991.658±0.005	0.098	64940.	LS	CG Peg	55013.542±0.002	-0.048	34061.	C
TX Mus	54994.493±0.005	0.093	64946.	LS	AR Per	54833.396±0.002	0.056	64849.	C
EM Mus	54864.787±0.005	-0.160	34943.	LS	AR Per	54836.375±0.002	0.056	64856.	C
EM Mus	54885.809±0.003	-0.166	34988.	LS	AR Per	54844.461±0.002	0.057	64875.	C
EM Mus	54896.557±0.002	-0.166	35011.	LS	AR Per	54858.509±0.004	0.062	64908.	C
EM Mus	54901.699±0.005	-0.165	35022.	LS	AR Per	54859.355±0.002	0.056	64910.	C
EM Mus	54910.576±0.003	-0.166	35041.	LS	AR Per	54870.419±0.002	0.056	64936.	C
EM Mus	54924.595±0.002	-0.166	35071.	LS	XX Pup	54864.624±0.004	0.484	25312.	LS
EM Mus	54925.528±0.002	-0.168	35073.	LS	XX Pup	54910.651±0.002	0.481	25401.	LS
EM Mus	54934.874±0.003	-0.168	35093.	LS	BB Pup	54855.776±0.002	0.116	33389.	LS
EM Mus	54994.690±0.005	-0.166	35221.	LS	BB Pup	54859.624±0.004	0.120	33397.	LS
VY Nor	54915.837±0.005	-0.164	78285.	LS	BB Pup	54921.612±0.002	0.118	33526.	LS
Y Oct	54989.646±0.005	-0.250	41154.	LS	BB Pup	54922.573±0.004	0.118	33528.	LS
Y Oct	54991.588±0.005	-0.248	41157.	LS	CR Pup	54847.575±0.010	-0.306	38279.	LS
Y Oct	54993.517±0.003	-0.259	41160.	LS	CR Pup	54861.583±0.006	-0.292	38299.	LS
RV Oct	54901.692±0.003	0.132	69656.	LS	HH Pup	54853.775±0.004	0.013	41852.	LS
RV Oct	54920.544±0.005	0.136	69689.	LS	HH Pup	54900.663±0.002	0.012	41972.	LS
RV Oct	54924.538±0.002	0.131	69696.	LS	HH Pup	54904.573±0.002	0.014	41982.	LS
RV Oct	54934.822±0.004	0.134	69714.	LS	HK Pup	54879.639±0.005	-0.262	24885.	LS
RV Oct	54936.528±0.004	0.127	69717.	LS	V675 Sgr	55009.571±0.006	0.078	41449.	LS
RV Oct	54938.818±0.005	0.132	69721.	LS	V756 Sgr	54971.840±0.005	0.103	48738.	LS
RV Oct	54948.526±0.002	0.131	69738.	LS	V1176 Sgr	54942.817±0.005	-0.075	94445.	LS
RV Oct	54988.507±0.005	0.130	69808.	LS	V1646 Sgr	55012.854±0.005	0.173	37999.	LS
RV Oct	54993.651±0.004	0.134	69817.	LS	V494 Sco	54941.842±0.005	-0.209	32330.	LS
RV Oct	55012.499±0.002	0.133	69850.	LS	V494 Sco	54950.799±0.004	-0.226	32351.	LS
RY Oct	54991.791±0.002	0.086	47925.	LS	V494 Sco	55013.615±0.005	-0.228	32498.	LS
RY Oct	54992.916±0.002	0.085	47927.	LS	V690 Sco	54940.790±0.005	-0.013	26700.	LS
RY Oct	55012.619±0.002	0.066	47962.	LS	V765 Sco	54950.637±0.004	0.146	54230.	LS
SS Oct	54987.879±0.002	-0.035	43368.	LS	V765 Sco	54993.756±0.004	0.145	54323.	LS
UV Oct	54901.858±0.005	-0.165	37915.	LS	V765 Sco	54995.609±0.004	0.143	54327.	LS
UV Oct	54906.749±0.005	-0.157	37924.	LS	UZ Scl	55009.839±0.005	0.039	35397.	LS
UV Oct	54907.829±0.003	-0.163	37926.	LS	VY Ser	54919.719±0.010	0.030	33181.	LS
UV Oct	54918.682±0.005	-0.162	37946.	LS	VY Ser	54970.432±0.004	0.043	33252.	C
UV Oct	54988.675±0.003	-0.168	38075.	LS	VY Ser	54975.433±0.006	0.045	33259.	C
UW Oct	54989.738±0.002	-0.010	46463.	LS	VY Ser	54980.429±0.005	0.042	33266.	C
UW Oct	54992.845±0.003	-0.014	46470.	LS	AN Ser	54944.493±0.002	0.005	77069.	C
DY Oct	54847.792±0.002			LS	AN Ser	54954.411±0.002	0.004	77088.	C

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

Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.	Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.
AN Ser	54978.426±0.002	0.004	77134.	C	AF Vel	54861.710±0.005	-0.230	25464.	LS
AN Ser	54992.522±0.002	0.004	77161.	C	AF Vel	54900.744±0.004	-0.223	25538.	LS
AN Ser	55002.443±0.004	0.005	77180.	C	AF Vel	54901.800±0.005	-0.222	25540.	LS
AT Ser	54937.849±0.005	0.052	17600.	LS	AF Vel	54907.593±0.003	-0.231	25551.	LS
AT Ser	54994.592±0.006	0.057	17676.	LS	AF Vel	54937.674±0.004	-0.211	25608.	LS
AV Ser	54938.763±0.003	0.147	54548.	LS	AF Vel	54974.569±0.002	-0.234	25678.	LS
CS Ser	54940.739±0.004	0.019	45111.	LS	FS Vel	54858.804±0.002	-0.123	32158.	LS
CS Ser	54950.748±0.002	0.019	45130.	LS	FS Vel	54860.706±0.002	-0.123	32162.	LS
RV Sex	54880.797±0.003	0.056	50138.	LS	FS Vel	54941.584±0.002	-0.120	32332.	LS
RV Sex	54919.558±0.003	0.054	50215.	LS	ST Vir	54888.582±0.004	0.005	34448.	C
RV Sex	54920.564±0.003	0.053	50217.	LS	ST Vir	54910.759±0.004	-0.003	34502.	LS
RV Sex	54921.567±0.002	0.050	50219.	LS	ST Vir	54913.638±0.002	0.001	34509.	C
RW TrA	54903.820±0.002	-0.179	35864.	LS	ST Vir	54917.748±0.003	0.002	34519.	LS
RW TrA	54912.805±0.004	-0.171	35888.	LS	ST Vir	54950.609±0.003	-0.003	34599.	LS
RW TrA	54974.894±0.003	-0.173	36054.	LS	ST Vir	54965.403±0.002	0.001	34635.	C
RW TrA	54987.614±0.003	-0.171	36088.	LS	UU Vir	54889.476±0.003	-0.006	27527.	C
YY Tuc	54993.839±0.003	0.129	20628.	LS	UU Vir	54909.452±0.002	-0.005	27569.	C
RV UMa	54849.657±0.002	0.117	20882.	C	UU Vir	54914.686±0.004	-0.003	27580.	LS
RV UMa	54858.552±0.003	0.119	20901.	C	UU Vir	54935.611±0.005	-0.005	27624.	LS
RV UMa	54859.485±0.003	0.116	20903.	C	UU Vir	54939.417±0.003	-0.003	27632.	C
RV UMa	54871.655±0.003	0.116	20929.	C	UU Vir	54946.546±0.002	-0.008	27647.	LS
RV UMa	54908.631±0.003	0.116	21008.	C	UV Vir	54853.558±0.005	0.021	25313.	C
RV UMa	54927.359±0.003	0.121	21048.	C	UV Vir	54870.569±0.005	0.007	25342.	C
RV UMa	54934.376±0.002	0.117	21063.	C	UV Vir	54880.560±0.003	0.017	25359.	C
RV UMa	54976.501±0.002	0.117	21153.	C	UV Vir	54908.742±0.005	0.019	25407.	LS
RV UMa	54977.436±0.003	0.116	21155.	C	UV Vir	54913.434±0.002	0.015	25415.	C
TU UMa	54853.474±0.002	-0.027	21558.	C	UV Vir	54938.678±0.005	0.014	25458.	LS
TU UMa	54887.488±0.002	-0.030	21619.	C	UV Vir	54944.551±0.002	0.016	25468.	LS
TU UMa	54897.525±0.002	-0.031	21637.	C	UV Vir	54948.660±0.002	0.016	25475.	LS
TU UMa	54935.448±0.002	-0.029	21705.	C	UV Vir	54950.418±0.002	0.013	25478.	C
AB UMa	54841.643±0.010	0.135	31045.	C	AF Vir	54870.621±0.005	-0.138	30050.	C
AB UMa	54870.409±0.009	0.121	31093.	C	AF Vir	54871.587±0.005	-0.140	30052.	C
AB UMa	54871.595±0.005	0.108	31095.	C	AF Vir	54911.739±0.005	-0.140	30135.	LS
AB UMa	54880.593±0.006	0.113	31110.	C	AF Vir	54915.608±0.005	-0.141	30143.	C
AB UMa	54889.586±0.010	0.112	31125.	C	AF Vir	54916.582±0.003	-0.134	30145.	C
AB UMa	54909.379±0.006	0.119	31158.	C	AF Vir	54951.401±0.003	-0.146	30217.	C
AB UMa	54918.376±0.007	0.122	31173.	C	AF Vir	54965.434±0.004	-0.142	30246.	C
AB UMa	54952.546±0.009	0.116	31230.	C	AF Vir	54972.687±0.002	-0.145	30261.	LS
EX UMa	54834.344±0.004	0.028	10724.	C	AF Vir	54974.620±0.002	-0.147	30265.	LS
EX UMa	54847.374±0.005	0.030	10748.	C	AF Vir	54980.419±0.002	-0.154	30277.	C
EX UMa	54853.345±0.003	0.030	10759.	C	AF Vir	54990.587±0.005	-0.144	30298.	LS
EX UMa	54860.400±0.002	0.028	10772.	C	AS Vir	54937.571±0.004	0.112	28518.	LS
EX UMa	54873.434±0.005	0.034	10796.	C	AT Vir	54886.543±0.002	-0.284	28925.	C
EX UMa	54885.375±0.005	0.033	10818.	C	AT Vir	54915.459±0.003	-0.287	28980.	C
EX UMa	54886.455±0.003	0.027	10820.	C	AT Vir	54916.511±0.002	-0.287	28982.	C
EX UMa	54893.516±0.005	0.032	10833.	C	AT Vir	54925.450±0.002	-0.286	28999.	C
KT UMa	54841.504±0.006	0.043	9207.	C	AT Vir	54941.749±0.004	-0.287	29030.	LS
KT UMa	54846.522±0.006	0.042	9215.	C	AT Vir	54944.378±0.002	-0.287	29035.	C
KT UMa	54848.399±0.007	0.038	9218.	C	AT Vir	54989.591±0.002	-0.292	29121.	LS
KT UMa	54875.380±0.005	0.045	9261.	C	AV Vir	54862.699±0.006	0.012	20387.	C
KT UMa	54876.634±0.007	0.044	9263.	C	AV Vir	54910.660±0.004	0.019	20460.	C
KT UMa	54910.518±0.007	0.054	9317.	C	AV Vir	54939.564±0.004	0.019	20504.	C
KT UMa	54912.391±0.004	0.045	9320.	C	BB Vir	54910.548±0.002	0.269	32470.	C
AF Vel	54843.784±0.002	-0.224	25430.	LS	BB Vir	54911.489±0.002	0.267	32472.	C
AF Vel	54852.741±0.002	-0.233	25447.	LS	BB Vir	54944.466±0.002	0.268	32542.	C
AF Vel	54860.654±0.003	-0.231	25462.	LS	BB Vir	54951.533±0.002	0.268	32557.	C

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

Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.	Variable star	Maximum HJD 24...	$O-C$ (days)	E	Obs.
BC Vir	54950.586±0.003	0.161	62050.	LS	SV Vol	54861.828±0.002	-0.167	34662.	LS
DO Vir	54913.833±0.003	0.214	53171.	LS	SV Vol	54880.738±0.003	-0.182	34712.	LS
DO Vir	54919.695±0.003	0.216	53182.	LS	SV Vol	54902.699±0.003	-0.174	34770.	LS
DO Vir	54920.759±0.004	0.215	53184.	LS	SV Vol	54929.533±0.003	0.165	34840.	LS
DO Vir	54991.609±0.003	0.213	53317.	LS	BN Vul	54998.512±0.003	0.069	15936.	C
DO Vir	55006.533±0.004	0.221	53345.	LS	BN Vul	55007.422±0.002	0.067	15951.	C
SV Vol	54841.710±0.004	0.154	34608.	LS					

* C = Calern, LS = La Silla

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