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# MAXIMA OF RR LYR STARS FROM AAVSO INTERNATIONAL DATABASE

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We present here a list of light maxima of RR Lyrae stars of ab and c types extracted from AAVSO International Database (`http://www.aavso.org/`, Henden, 2007). We have extracted the measurements of RR Lyrae stars made with CCDs and selected the time series which allow the determination of maximum times with an accuracy better than 0.005 day and which have not been used and published for such a purpose yet. These unpublished times of maximum were determined in order to supply the GEOS RR Lyr database (`http://dbrr.ast.obs-mip.fr`, Le Borgne et al., 2007).

The selected data were obtained by 20 observers (Table 1) who use telescopes of diameter from 20 to 40 cm. The time series contain from about 30 to 300 measurements obtained during a time interval from 2 to 6 hours. The present list contains 479 maxima observed with $V$, $B$, $R$ or $I$ filters between JD 2452654 and 2454452 (Table 2). Most of the measurements have been done through $V$ filter. In Table 2, the filter is indicated in the last column when different from $V$. Some maxima have been obtained with more than 1 filter: the times of maximum were computed separately for each filter but the mean value is given since the differences are within errors in all cases. Only 3 maxima were obtained with no filter. The columns in Table 2 are self explanatory. The observers are identified by their AAVSO acronyms which identifies them in Table 1. The times of maximum are determined by fitting a polynomial function on the data points. $O-C$s are computed with GCVS elements (Kholopov et al., 1985), when available. Note that the cycle number '$E$' 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 then greater than 1 period. The uncertainty on the times of maximum depends on individual measurement uncertainties, the time sampling and the shape of the light curve; the sharp maximum of an RRab star is determined with a better accuracy than the flat one of an RRc though the period of an RRc is shorter. The typical uncertainty is about 0.002 day ($\sim$3 min). As noted above, the maxima of RRc stars are usually flat and may be even double. In this last case, we have measured the first occurring maximum. When relevant, this is noted as remarks in the last column of Table 2.

**Acknowledgments**

We acknowledge with thanks the variable star observations from the AAVSO International Database contributed by observers worldwide and used in this research.

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**Table 1: Observers**

| Observer | Number of maxima | | Observer | Number of maxima | |
|---|---|---|---|---|---|
| M. Banfi | 5 | BVN | M. A. Nicholas | 1 | NMI |
| N. Butterworth | 142 | BIW | R. Papini | 4 | PCC |
| G. Di Scala | 11 | DSI | V. Petriew | 8 | PVA |
| S. Dvorak | 291 | DKS | H. Pulley | 1 | PHA |
| G. Hagen | 1 | HGH | W. Rauscher | 1 | RWA |
| R. Huziak | 5 | HUZ | C. W. Robertson | 10 | RCW |
| G. Klingenberg | 2 | KGE | D. R. Starkey | 1 | SDB |
| A. Marchini | 2 | MXI | D. Trowbridge | 1 | TDW |
| M. P. Nicholson | 1 | NMR | J. Waller | 4 | WAJ |

**Table 2: 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 | 54126.579±0.003 | 0.219 | 20808 | DKS | BH Aur | 53396.774±0.002 | -0.004 | 23340 | DKS | |
| ZZ And | 53709.568±0.003 | 0.022 | 52082 | DKS | BH Aur | 53698.707±0.003 | -0.002 | 24002 | DKS | |
| AC And | 54023.423±0.014 | -0.220 | 7766 | PCC | BH Aur | 53762.560±0.002 | -0.002 | 24142 | DKS | |
| AC And | 54024.561±0.008 | 0.207 | 7767 | PCC | BH Aur | 54124.695±0.003 | -0.002 | 24936 | NMI | |
| AC And | 54056.576±0.004 | 0.216 | 7812 | DKS | RS Boo | 53755.903±0.003 | -0.004 | 31763 | DKS | |
| AC And | 54058.700±0.007 | 0.206 | 7815 | DKS | RS Boo | 53803.825±0.002 | -0.005 | 31890 | DKS | |
| AC And | 54295.495±0.004 | 0.158 | 8148 | PCC | RS Boo | 54152.868±0.002 | -0.000 | 32815 | DKS | |
| AC And | 54308.537±0.009 | -0.313 | 8167 | BVN | RS Boo | 54222.671±0.002 | -0.004 | 33000 | DKS | |
| AC And | 54308.540±0.008 | -0.310 | 8167 | MXI | RS Boo | 54292.855±0.002 | -0.006 | 33186 | TDW | |
| AC And | 54316.490±0.013 | -0.184 | 8178 | MXI | ST Boo | 53467.927±0.005 | 0.091 | 55097 | NMR | |
| AT And | 53338.683±0.003 | -0.009 | 17823 | DKS | SW Boo | 53006.910±0.003 | 0.232 | 20322 | DKS | |
| AT And | 54029.634±0.004 | -0.003 | 18943 | DKS | SW Boo | 53041.832±0.003 | 0.234 | 20390 | DKS | |
| AT And | 54063.561±0.004 | -0.006 | 18998 | DKS | SW Boo | 53474.755±0.002 | 0.253 | 21233 | DKS | |
| AT And | 54278.865±0.006 | -0.005 | 19347 | DKS | SW Boo | 53479.889±0.003 | 0.252 | 21243 | DKS | |
| CI And | 53731.648±0.003 | 0.091 | 37162 | DKS | SW Boo | 53511.729±0.003 | 0.253 | 21305 | DKS | |
| CI And | 54008.917±0.002 | 0.101 | 37734 | DKS | SW Boo | 53530.732±0.002 | 0.255 | 21342 | DKS | |
| CI And | 54033.635±0.003 | 0.098 | 37785 | DKS | SZ Boo | 53167.960±0.003 | 0.007 | 48827 | BIW | |
| CI And | 54044.781±0.003 | 0.096 | 37808 | DKS | SZ Boo | 53474.856±0.002 | 0.008 | 49414 | DKS | |
| CI And | 54078.710±0.002 | 0.094 | 37878 | DKS | TV Boo | 52654.895±0.002 | 0.054 | 89728 | DKS | |
| CI And | 54129.610±0.003 | 0.099 | 37983 | DKS | TV Boo | 53396.919±0.003 | 0.062 | 92102 | DKS | |
| DR And | 53697.708±0.002 | -0.007 | 29261 | DKS | TV Boo | 53482.875±0.003 | 0.064 | 92377 | RCW | |
| DR And | 53745.571±0.003 | -0.009 | 29346 | DKS | TV Boo | 53500.705±0.004 | 0.078 | 92434 | RCW | |
| DR And | 53754.583±0.002 | -0.007 | 29362 | DKS | TV Boo | 53510.706±0.004 | 0.077 | 92466 | RCW | |
| DR And | 53763.592±0.003 | -0.008 | 29378 | DKS | TV Boo | 53523.822±0.004 | 0.066 | 92508 | RCW | |
| DR And | 54006.843±0.004 | -0.024 | 29810 | DKS | TV Boo | 53540.706±0.004 | 0.072 | 92562 | RCW | |
| DR And | 54028.811±0.002 | -0.018 | 29849 | DKS | TV Boo | 53544.763±0.003 | 0.065 | 92575 | RCW | [1] |
| DR And | 54066.532±0.004 | -0.025 | 29916 | DKS | TV Boo | 53545.704±0.003 | 0.069 | 92578 | RCW | [1] |
| DR And | 54075.533±0.004 | -0.034 | 29932 | DKS | TV Boo | 54139.906±0.006 | 0.095 | 94479 | DKS | [2] |
| SW Aqr | 52893.026±0.002 | -0.002 | 60517 | BIW | TV Boo | 54185.825±0.003 | 0.068 | 94626 | DKS | |
| SW Aqr | 53265.981±0.003 | -0.001 | 61329 | BIW | TV Boo | 54228.680±0.002 | 0.102 | 94763 | DKS | |
| SW Aqr | 53672.004±0.002 | -0.002 | 62213 | BIW | TV Boo | 54243.646±0.003 | 0.066 | 94811 | DKS | |
| SW Aqr | 54360.041±0.002 | -0.001 | 63711 | BIW | TW Boo | 52817.718±0.005 | -0.043 | 48709 | WAJ | *R* |
| SX Aqr | 53668.541±0.002 | -0.104 | 25895 | DKS | TW Boo | 53073.742±0.002 | -0.043 | 49190 | DKS | |
| TZ Aqr | 52898.040±0.003 | 0.007 | 26872 | BIW | TW Boo | 53469.750±0.002 | -0.046 | 49934 | DKS | |
| TZ Aqr | 53640.029±0.004 | 0.014 | 28171 | BIW | UU Boo | 52658.891±0.002 | 0.147 | 36274 | DKS | |
| TZ Aqr | 54037.577±0.003 | 0.011 | 28867 | DKS | UU Boo | 53051.853±0.002 | 0.157 | 37134 | DKS | |
| YZ Aqr | 52896.037±0.003 | 0.043 | 31764 | BIW | UU Boo | 53133.645±0.002 | 0.160 | 37313 | DKS | |
| YZ Aqr | 53245.960±0.004 | 0.041 | 32398 | BIW | UU Boo | 53504.674±0.002 | 0.170 | 38125 | DKS | |
| AA Aqr | 52903.972±0.003 | -0.099 | 52810 | BIW | UU Boo | 53810.821±0.002 | 0.180 | 38795 | DKS | |
| AA Aqr | 53261.992±0.005 | -0.107 | 53398 | BIW | UU Boo | 54241.709±0.002 | 0.192 | 39738 | DKS | |
| AA Aqr | 53687.605±0.002 | -0.107 | 54097 | DKS | UY Boo | 53485.664±0.006 | -0.003 | 17900 | DKS | |
| BO Aqr | 52895.002±0.005 | 0.112 | 16244 | BIW | UY Boo | 53539.697±0.003 | 0.010 | 17983 | DKS | |
| BO Aqr | 53267.001±0.003 | 0.117 | 16780 | BIW | UY Boo | 54240.742±0.003 | 0.104 | 19060 | DKS | |
| BO Aqr | 54018.643±0.003 | 0.137 | 17863 | DKS | XX Boo | 54172.738±0.003 | 0.011 | 42666 | DKS | |
| BR Aqr | 52915.967±0.003 | -0.137 | 31709 | BIW | AE Boo | 54164.854±0.002 | 0.093 | 75507 | DKS | |
| BR Aqr | 53273.034±0.002 | -0.142 | 32450 | BIW | AE Boo | 54242.637±0.008 | 0.098 | 75754 | DKS | |
| BR Aqr | 53646.002±0.001 | -0.148 | 33224 | BIW | AE Boo | 54248.614±0.008 | 0.092 | 75773 | DKS | |
| BR Aqr | 53697.563±0.002 | -0.149 | 33331 | DKS | U Cae | 53701.006±0.004 | -0.091 | 46181 | BIW | *BVRI* |
| BR Aqr | 54388.567±0.002 | -0.158 | 34765 | DKS | U Cae | 53740.046±0.002 | -0.092 | 46274 | BIW | |
| BR Aqr | 54390.976±0.002 | -0.158 | 34770 | BIW | U Cae | 54446.962±0.002 | -0.109 | 47958 | BIW | *VI* |
| BR Aqr | 54415.552±0.002 | -0.158 | 34821 | DKS | U Cae | 54452.001±0.002 | -0.107 | 47970 | BIW | *VI* |
| DN Aqr | 52911.022±0.003 | 0.022 | 38636 | BIW | UY Cam | 53808.421±0.010 | -0.082 | 68316 | KGE | |
| DN Aqr | 53277.965±0.005 | 0.022 | 39215 | BIW | AH Cam | 53669.839±0.005 | -0.376 | 40519 | DKS | |
| AA Aql | 53661.571±0.002 | 0.031 | 81026 | DKS | AH Cam | 53670.936±0.001 | -0.386 | 40522 | DKS | |
| S Ara | 53184.979±0.003 | -0.179 | 26628 | BIW | AH Cam | 53680.895±0.002 | -0.382 | 40549 | DKS | |
| S Ara | 53625.983±0.003 | -0.212 | 27604 | BIW | AH Cam | 53697.881±0.002 | -0.358 | 40595 | DKS | |
| TZ Aur | 53687.904±0.002 | 0.011 | 86259 | DKS | AH Cam | 53717.780±0.006 | -0.371 | 40649 | DKS | |
| IN Ara | 53176.070±0.003 | 0.141 | 41059 | BIW | AH Cam | 53731.792±0.003 | -0.371 | 40687 | DKS | |
| IN Ara | 54338.018±0.003 | 0.146 | 42899 | BIW | AH Cam | 53734.727±0.002 | -0.385 | 40695 | DKS | |
| MS Ara | 53198.925±0.003 | -0.218 | 48026 | BIW | AH Cam | 53744.693±0.002 | -0.375 | 40722 | DKS | |
| BH Aur | 52660.648±0.003 | -0.001 | 21726 | DKS | AH Cam | 53764.605±0.002 | -0.375 | 40776 | DKS | |
| BH Aur | 53380.812±0.003 | -0.003 | 23305 | DKS | AH Cam | 53785.631±0.004 | -0.367 | 40833 | DKS | |

**Table 2 (cont.): maxima of RR Lyrae stars**

| Variable | Maximum HJD 24... | $O-C$ (days) | $E$ | Obs. | | Variable | Maximum HJD 24... | $O-C$ (days) | $E$ | Obs. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AH Cam | 54002.806±0.005 | -0.377 | 41422 | DKS | | AN Cap | 52849.050±0.005 | 0.112 | 6035 | BIW | |
| RW Cnc | 52695.839±0.003 | 0.183 | 24012 | DKS | | AN Cap | 52854.043±0.005 | 0.116 | 6047 | BIW | |
| RW Cnc | 53102.959±0.003 | 0.187 | 24756 | BIW | | AN Cap | 52883.991±0.004 | 0.127 | 6119 | BIW | |
| RW Cnc | 53442.772±0.003 | 0.189 | 25377 | DKS | | AN Cap | 53226.999±0.005 | 0.108 | 6944 | BIW | |
| RW Cnc | 53450.985±0.005 | 0.194 | 25392 | BIW | | AN Cap | 53632.045±0.005 | 0.175 | 7918 | BIW | |
| RW Cnc | 53726.794±0.003 | 0.215 | 25896 | DKS | | IU Car | 53105.945±0.006 | 0.272 | 15479 | BIW | |
| RW Cnc | 53739.916±0.005 | 0.204 | 25920 | DKS | | BI Cen | 53163.886±0.002 | 0.007 | 36351 | BIW | |
| RW Cnc | 53745.925±0.003 | 0.194 | 25931 | DKS | | V499 Cen | 53161.011±0.002 | 0.024 | 23090 | BIW | |
| RW Cnc | 53761.811±0.003 | 0.211 | 25960 | DKS | | V674 Cen | 53115.014±0.002 | -0.062 | 37825 | BIW | |
| RW Cnc | 53767.830±0.003 | 0.211 | 25971 | DKS | | RR Cet | 53718.661±0.002 | 0.004 | 37136 | DKS | |
| RW Cnc | 53788.615±0.004 | 0.202 | 26009 | DKS | | RU Cet | 52931.010±0.005 | 0.068 | 22352 | BIW | |
| RW Cnc | 53802.910±0.004 | 0.270 | 26035 | DKS | | RU Cet | 53273.996±0.005 | 0.081 | 22937 | BIW | |
| RW Cnc | 53829.662±0.004 | 0.209 | 26084 | DKS | | RV Cet | 52968.037±0.004 | 0.166 | 22224 | BIW | |
| RW Cnc | 54075.892±0.003 | 0.200 | 26534 | DKS | | RV Cet | 53401.947±0.005 | 0.187 | 22920 | BIW | |
| RW Cnc | 54081.920±0.003 | 0.209 | 26545 | DKS | | RV Cet | 53673.741±0.005 | 0.178 | 23356 | DKS | |
| RW Cnc | 54087.940±0.003 | 0.209 | 26556 | DKS | | RX Cet | 52933.028±0.006 | 0.133 | 22324 | BIW | |
| RW Cnc | 54126.797±0.003 | 0.215 | 26627 | DKS | | RX Cet | 53286.973±0.002 | 0.110 | 22941 | BIW | |
| SS Cnc | 54100.692±0.002 | 0.048 | 84451 | DKS | | RZ Cet | 52969.921±0.003 | -0.112 | 37334 | BIW | |
| SS Cnc | 54150.649±0.002 | 0.047 | 84587 | DKS | | RZ Cet | 53380.959±0.003 | -0.116 | 38139 | BIW | |
| TT Cnc | 53000.700±0.003 | 0.084 | 23172 | DKS | | RZ Cet | 54041.674±0.002 | -0.131 | 39433 | DKS | |
| TT Cnc | 53455.978±0.003 | 0.094 | 23980 | BIW | | UU Cet | 52930.064±0.004 | -0.119 | 19340 | BIW | |
| TT Cnc | 53479.646±0.002 | 0.098 | 24022 | DKS | | UU Cet | 53264.011±0.004 | -0.122 | 19891 | BIW | |
| TT Cnc | 53698.813±0.003 | 0.083 | 24411 | DKS | | RY Col | 53097.960±0.003 | -0.084 | 39234 | BIW | |
| TT Cnc | 53707.835±0.002 | 0.090 | 24427 | DKS | | RY Com | 54151.821±0.002 | -0.007 | 31033 | DKS | |
| TT Cnc | 53734.897±0.003 | 0.106 | 24475 | DKS | | WW CrA | 53193.962±0.003 | -0.065 | 39156 | BIW | |
| TT Cnc | 53742.782±0.002 | 0.102 | 24489 | DKS | | RV CrB | 54177.917±0.003 | -0.099 | 67768 | DKS | [1] |
| TT Cnc | 53755.735±0.002 | 0.096 | 24512 | DKS | | RV CrB | 54188.859±0.002 | -0.101 | 67801 | DKS | [1] |
| TT Cnc | 53764.739±0.003 | 0.085 | 24528 | DKS | | RV CrB | 54246.892±0.003 | -0.100 | 67976 | DKS | |
| TT Cnc | 53772.620±0.002 | 0.078 | 24542 | DKS | | TV CrB | 53486.656±0.004 | 0.029 | 37406 | DKS | |
| TT Cnc | 53772.621±0.002 | 0.079 | 24542 | DKS | | SW Cru | 53091.035±0.004 | 0.057 | 82557 | BIW | |
| TT Cnc | 53794.604±0.003 | 0.087 | 24581 | DKS | | SW Cru | 53835.098±0.002 | 0.060 | 84827 | DSI | |
| TT Cnc | 53803.624±0.003 | 0.092 | 24597 | DKS | | SW Cru | 54171.074±0.002 | 0.061 | 85852 | DSI | *BVRI* |
| TT Cnc | 54049.842±0.003 | 0.083 | 25034 | DKS | | SW Cru | 54175.007±0.002 | 0.061 | 85864 | DSI | *BVRI* |
| TT Cnc | 54054.918±0.007 | 0.088 | 25043 | DKS | | SW Cru | 54214.012±0.003 | 0.060 | 85983 | BIW | |
| TT Cnc | 54058.865±0.003 | 0.091 | 25050 | DKS | | RW Dra | 52786.882±0.003 | 0.179 | 30275 | DKS | |
| TT Cnc | 54167.615±0.003 | 0.095 | 25243 | DKS | | RW Dra | 53504.822±0.002 | 0.150 | 31896 | DKS | |
| TT Cnc | 54198.607±0.000 | 0.097 | 25298 | DKS | | RW Dra | 53513.682±0.003 | 0.152 | 31916 | DKS | |
| AS Cnc | 54129.910±0.002 | 0.340 | 24176 | DKS | | RW Dra | 53535.861±0.002 | 0.185 | 31966 | DKS | |
| W CVn | 54155.831±0.003 | -0.131 | 59362 | DKS | | RW Dra | 53822.879±0.002 | 0.193 | 32614 | DKS | |
| W CVn | 54176.797±0.003 | -0.131 | 59400 | DKS | | RW Dra | 53970.776±0.005 | 0.156 | 32948 | PHA | |
| Z CVn | 53519.626±0.003 | 0.245 | 22312 | DKS | | XZ Dra | 52753.847±0.004 | -0.062 | 22719 | DKS | |
| Z CVn | 53726.904±0.002 | 0.263 | 22629 | DKS | | RX Eri | 53007.963±0.002 | -0.008 | 53326 | BIW | |
| Z CVn | 53743.892±0.005 | 0.252 | 22655 | DKS | | RX Eri | 53359.722±0.003 | -0.009 | 53925 | DKS | |
| Z CVn | 53762.853±0.004 | 0.252 | 22684 | DKS | | RX Eri | 53409.054±0.004 | -0.006 | 54009 | BIW | |
| Z CVn | 53794.897±0.003 | 0.259 | 22733 | DKS | | RX Eri | 53739.670±0.002 | -0.010 | 54572 | DKS | |
| Z CVn | 53813.858±0.004 | 0.259 | 22762 | DKS | | BB Eri | 53056.949±0.003 | 0.194 | 23684 | DKS | |
| Z CVn | 53830.864±0.004 | 0.266 | 22788 | DKS | | BB Eri | 53396.618±0.003 | 0.204 | 24280 | DKS | |
| Z CVn | 54197.687±0.003 | 0.296 | 23349 | DKS | | BB Eri | 53415.995±0.004 | 0.204 | 24314 | BIW | |
| RX CVn | 54208.795±0.003 | -0.040 | 27115 | DKS | | RX For | 53032.606±0.003 | -0.018 | 22101 | DKS | |
| SS CVn | 53043.949±0.002 | 0.166 | 28047 | DKS | | RX For | 53373.064±0.003 | -0.029 | 22671 | BIW | |
| AA CMi | 54116.612±0.003 | 0.055 | 36824 | DKS | | SS For | 52964.991±0.003 | -0.146 | 28856 | BIW | |
| AL CMi | 54141.678±0.002 | 0.437 | 31869 | DKS | | SS For | 53391.563±0.002 | -0.141 | 29717 | DKS | |
| RV Cap | 52868.974±0.003 | 0.023 | 42403 | BIW | | SS For | 53398.995±0.003 | -0.140 | 29732 | BIW | |
| RV Cap | 53228.961±0.003 | 0.024 | 43207 | BIW | | SS For | 53400.975±0.002 | -0.142 | 29736 | BIW | |
| RV Cap | 53596.970±0.003 | -0.013 | 44029 | BIW | | SX For | 53680.974±0.005 | 0.038 | 23991 | BIW | |
| RV Cap | 53613.981±0.002 | -0.016 | 44067 | BIW | | SX For | 53683.998±0.005 | 0.036 | 23996 | BIW | |
| RV Cap | 54003.536±0.003 | 0.001 | 44937 | DKS | | RR Gem | 52659.608±0.002 | -0.289 | 28448 | WAJ | |
| VW Cap | 52860.003±0.005 | 0.106 | 87349 | BIW | [1] | RR Gem | 52669.545±0.004 | -0.285 | 28473 | WAJ | |
| VW Cap | 53239.960±0.005 | 0.123 | 88558 | BIW | [1] | RR Gem | 52674.706±0.003 | -0.289 | 28486 | DKS | |
| VW Cap | 53596.033±0.005 | 0.139 | 89691 | BIW | [1] | RR Gem | 52682.652±0.002 | -0.289 | 28506 | DKS | |
| YZ Cap | 53221.990±0.005 | 0.034 | 34712 | BIW | [1] | RR Gem | 52707.685±0.003 | -0.287 | 28569 | WAJ | |
| YZ Cap | 53639.013±0.005 | 0.036 | 36237 | BIW | [1] | RR Gem | 52742.645±0.003 | -0.290 | 28657 | WAJ | |

**Table 2 (cont.): maxima of RR Lyrae stars**

| Variable | Maximum HJD 24... | $O-C$ (days) | $E$ | Obs. | | Variable | Maximum HJD 24... | $O-C$ (days) | $E$ | Obs. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RR Gem | 53073.588±0.002 | -0.306 | 29490 | DKS | | SZ Hya | 53465.043±0.002 | -0.149 | 23799 | BIW | |
| RR Gem | 53323.878±0.001 | -0.322 | 30120 | DKS | | SZ Hya | 53708.950±0.002 | -0.149 | 24253 | DKS | |
| RR Gem | 53352.879±0.001 | -0.325 | 30193 | DKS | | SZ Hya | 53784.697±0.003 | -0.152 | 24394 | DKS | |
| RR Gem | 53429.957±0.002 | -0.325 | 30387 | BIW | | SZ Hya | 54145.710±0.005 | -0.165 | 25066 | DKS | |
| RR Gem | 53467.697±0.002 | -0.330 | 30482 | PVA | 3 | SZ Hya | 54173.646±0.002 | -0.166 | 25118 | DKS | |
| RR Gem | 53482.396±0.002 | -0.331 | 30519 | HGH | | UU Hya | 53065.993±0.003 | 0.008 | 25936 | BIW | |
| RR Gem | 53687.800±0.002 | -0.337 | 31036 | DKS | | UU Hya | 53112.629±0.001 | 0.019 | 26025 | DKS | |
| RR Gem | 53730.706±0.002 | -0.341 | 31144 | DKS | | UU Hya | 53421.701±0.003 | 0.010 | 26615 | DKS | |
| RR Gem | 54138.719±0.001 | -0.365 | 32171 | DKS | | UU Hya | 53459.946±0.004 | 0.012 | 26688 | BIW | |
| RR Gem | 54169.710±0.002 | -0.364 | 32249 | DKS | | UU Hya | 53464.658±0.002 | 0.009 | 26697 | DKS | |
| RR Gem | 54175.667±0.002 | -0.367 | 32264 | DKS | | DG Hya | 53058.665±0.010 | 0.044 | 37310 | DKS | |
| SZ Gem | 54138.579±0.002 | -0.054 | 53767 | DKS | | DG Hya | 53069.973±0.005 | 0.173 | 37336 | BIW | |
| GI Gem | 53705.773±0.002 | 0.070 | 53914 | DKS | | DG Hya | 53419.941±0.003 | 0.143 | 38150 | BIW | |
| GI Gem | 54089.646±0.002 | 0.069 | 54800 | DKS | | DH Hya | 53043.806±0.003 | 0.051 | 44719 | DKS | |
| GI Gem | 54148.570±0.002 | 0.070 | 54936 | DKS | | DH Hya | 53056.031±0.003 | 0.052 | 44744 | BIW | |
| RR GRU | 53609.065±0.003 | | | BIW | | DH Hya | 53377.795±0.003 | 0.055 | 45402 | DKS | |
| RR GRU | 54351.022±0.003 | | | BIW | | DH Hya | 53413.001±0.002 | 0.053 | 45474 | BIW | |
| SS Gru | 53631.019±0.003 | 0.163 | 51661 | BIW | | DH Hya | 53705.916±0.001 | 0.057 | 46073 | DKS | |
| TW Her | 52732.814±0.002 | -0.009 | 78047 | DKS | | V Ind | 53647.023±0.002 | -0.153 | 28209 | BIW | |
| TW Her | 53120.826±0.001 | -0.009 | 79018 | DKS | | V Ind | 54364.983±0.002 | -0.140 | 29706 | BIW | |
| TW Her | 53203.942±0.002 | -0.010 | 79226 | BIW | | RR Leo | 52787.572±0.002 | 0.054 | 20982 | DKS | |
| TW Her | 54275.667±0.002 | -0.012 | 81908 | DKS | | RR Leo | 53092.942±0.002 | 0.059 | 21657 | DKS | |
| VX Her | 52757.819±0.001 | -0.365 | 68093 | DKS | | RR Leo | 53463.007±0.002 | 0.065 | 22475 | BIW | |
| VX Her | 53174.928±0.002 | -0.378 | 69009 | BIW | | RR Leo | 53735.806±0.002 | 0.071 | 23078 | DKS | |
| VX Her | 53509.619±0.002 | -0.386 | 69744 | DKS | | SS Leo | 53478.968±0.003 | -0.043 | 18676 | BIW | |
| VX Her | 54249.577±0.002 | -0.409 | 71369 | DKS | | ST Leo | 53490.001±0.002 | -0.019 | 53489 | BIW | |
| AR Her | 52744.715±0.005 | -1.585 | 24024 | DKS | | SZ Leo | 53440.687±0.004 | -0.138 | 14930 | DKS | |
| AR Her | 53489.693±0.005 | -1.601 | 25609 | DKS | | SZ Leo | 53441.753±0.003 | -0.141 | 14932 | DKS | |
| AR Her | 53497.668±0.002 | -1.617 | 25626 | DKS | | SZ Leo | 54078.893±0.002 | -0.136 | 16125 | DKS | |
| AR Her | 53505.635±0.005 | -1.640 | 25643 | DKS | | SZ Leo | 54116.828±0.001 | -0.119 | 16196 | DKS | |
| AR Her | 53510.783±0.005 | -1.192 | 25653 | DKS | | SZ Leo | 54148.876±0.002 | -0.115 | 16256 | DKS | |
| AR Her | 53519.764±0.003 | -1.612 | 25673 | DKS | | SZ Leo | 54168.625±0.003 | -0.126 | 16293 | DKS | |
| AR Her | 53536.653±0.004 | -1.644 | 25709 | DKS | | TV Leo | 52727.696±0.004 | 0.093 | 23313 | DKS | |
| AR Her | 53817.728±0.002 | -1.176 | 26306 | PVA | | TV Leo | 52737.114±0.003 | 0.091 | 23327 | BIW | |
| AR Her | 54245.378±0.004 | -1.251 | 27216 | BVN | | TV Leo | 53087.004±0.003 | 0.098 | 23847 | BIW | |
| AR Her | 54260.462±0.003 | -1.208 | 27248 | BVN | | TV Leo | 53477.932±0.003 | 0.099 | 24428 | BIW | |
| AR Her | 54276.394±0.006 | -1.257 | 27282 | BVN | | WW Leo | 53135.973±0.003 | 0.027 | 30279 | BIW | |
| AR Her | 54276.396±0.003 | -1.255 | 27282 | PCC | | WW Leo | 53366.864±0.002 | 0.028 | 30662 | DKS | |
| AR Her | 54300.392±0.002 | -1.230 | 27333 | BVN | | WW Leo | 53428.959±0.003 | 0.030 | 30765 | BIW | |
| DL Her | 52871.942±0.006 | 0.017 | 24785 | BIW | | WW Leo | 53744.852±0.003 | 0.032 | 31289 | DKS | |
| DL Her | 53223.970±0.006 | 0.027 | 25380 | BIW | | WW Leo | 53822.619±0.003 | 0.032 | 31418 | DKS | |
| DL Her | 53954.049±0.005 | 0.037 | 26614 | BIW | | AA Leo | 52764.619±0.003 | -0.067 | 21996 | DKS | |
| DL Her | 54191.875±0.005 | 0.029 | 27016 | DKS | | AA Leo | 53503.955±0.002 | -0.070 | 23231 | BIW | |
| DL Her | 54249.847±0.004 | 0.021 | 27114 | DKS | | AA Leo | 53718.873±0.003 | -0.070 | 23590 | DKS | |
| DL Her | 54274.714±0.003 | 0.040 | 27156 | DKS | | AA Leo | 54154.690±0.003 | -0.074 | 24318 | DKS | |
| SZ Hya | 52673.698±0.010 | -0.139 | 22326 | DKS | | Y LMi | 53784.905±0.004 | -0.173 | 34757 | DKS | |
| SZ Hya | 52720.949±0.005 | -0.165 | 22414 | BIW | | Y LMi | 54165.641±0.002 | -0.203 | 35483 | DKS | |
| SZ Hya | 52729.044±0.003 | -0.129 | 22429 | BIW | | Y LMi | 54185.569±0.003 | -0.205 | 35521 | DKS | |
| SZ Hya | 52736.035±0.002 | -0.122 | 22442 | BIW | | U Lep | 52994.704±0.002 | 0.042 | 20022 | DKS | |
| SZ Hya | 52741.941±0.003 | -0.126 | 22453 | BIW | | U Lep | 53042.966±0.002 | 0.041 | 20105 | BIW | |
| SZ Hya | 52755.908±0.003 | -0.127 | 22479 | BIW | | U Lep | 53399.994±0.002 | 0.043 | 20719 | BIW | |
| SZ Hya | 52756.986±0.003 | -0.123 | 22481 | BIW | | TT Lyn | 54155.552±0.003 | -0.033 | 29299 | DKS | |
| SZ Hya | 52758.060±0.003 | -0.124 | 22483 | BIW | | TV Lyn | 53806.531±0.003 | 0.022 | 53420 | KGE | 3 |
| SZ Hya | 52763.971±0.003 | -0.123 | 22494 | BIW | | TV Lyn | 54110.714±0.002 | 0.022 | 54684 | DKS | |
| SZ Hya | 52777.884±0.004 | -0.178 | 22520 | BIW | | TV Lyn | 54127.561±0.002 | 0.024 | 54754 | DKS | 1 |
| SZ Hya | 52784.919±0.002 | -0.127 | 22533 | BIW | | TV Lyn | 54177.617±0.002 | 0.024 | 54962 | DKS | 1 |
| SZ Hya | 53055.683±0.002 | -0.132 | 23037 | DKS | | TW Lyn | 54088.705±0.002 | 0.051 | 18815 | DKS | |
| SZ Hya | 53382.822±0.005 | -0.172 | 23646 | DKS | | RR Lyr | 53956.872±0.003 | -0.045 | 19465 | RCW | *VI* |
| SZ Hya | 53389.839±0.002 | -0.140 | 23659 | DKS | | RR Lyr | 53984.684±0.007 | -0.008 | 19514 | RCW | *I* |
| SZ Hya | 53410.784±0.005 | -0.147 | 23698 | DKS | | RZ Lyr | 53073.901±0.002 | 0.002 | 23258 | DKS | |
| SZ Hya | 53427.967±0.005 | -0.155 | 23730 | BIW | | RZ Lyr | 53538.623±0.002 | 0.004 | 24167 | DKS | |
| SZ Hya | 53431.686±0.002 | -0.197 | 23737 | DKS | | RZ Lyr | 53671.546±0.002 | 0.004 | 24427 | DKS | |

**Table 2 (cont.): maxima of RR Lyrae stars**

| Variable | Maximum HJD 24... | $O-C$ (days) | $E$ | Obs. | | Variable | Maximum HJD 24... | $O-C$ (days) | $E$ | Obs. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RZ Lyr | 53821.842±0.003 | -0.005 | 24721 | DKS | | RU Scl | 53284.970±0.002 | 0.366 | 44922 | BIW | |
| RZ Lyr | 54014.587±0.002 | 0.002 | 25098 | DKS | | RU Scl | 54016.124±0.004 | 0.392 | 46404 | DSI | |
| RZ Lyr | 54269.698±0.002 | 0.003 | 25597 | DKS | | RU Scl | 54021.056±0.002 | 0.391 | 46414 | DSI | |
| RZ Lyr | 54275.835±0.002 | 0.005 | 25609 | DKS | | CS Ser | 53165.956±0.002 | 0.012 | 41742 | BIW | |
| CN Lyr | 53559.804±0.006 | 0.022 | 22056 | DKS | | CS Ser | 53561.048±0.002 | 0.007 | 42492 | BIW | |
| EZ Lyr | 53557.654±0.002 | -0.118 | 37397 | DKS | | CS Ser | 53567.893±0.003 | 0.003 | 42505 | BIW | |
| KS Lyr | 54002.587±0.002 | | | DKS | | CS Ser | 53568.947±0.003 | 0.004 | 42507 | BIW | |
| Z Mic | 54358.966±0.002 | -0.116 | 21743 | BIW | | CS Ser | 53570.001±0.003 | 0.004 | 42509 | BIW | |
| CM Ori | 54140.633±0.003 | -0.022 | 43972 | DKS | | SS Tau | 53671.721±0.002 | 0.489 | 42471 | DKS | |
| V964 Ori | 53668.819±0.002 | -0.357 | 43929 | DKS | | SS Tau | 53734.607±0.002 | 0.489 | 42641 | DKS | |
| V964 Ori | 53707.676±0.002 | -0.358 | 44006 | DKS | | SS Tau | 54009.822±0.002 | 0.485 | 43385 | DKS | |
| BN Pav | 54368.017±0.003 | -0.035 | 45897 | BIW | | SS Tau | 54013.891±0.003 | 0.484 | 43396 | DKS | |
| AO Peg | 54269.790±0.003 | 0.038 | 52546 | DKS | | SS Tau | 54020.917±0.002 | 0.482 | 43415 | DKS | |
| AV Peg | 52909.943±0.002 | 0.083 | 23361 | BIW | | SS Tau | 54023.878±0.002 | 0.483 | 43423 | DKS | |
| AV Peg | 53267.923±0.002 | 0.090 | 24278 | BIW | | SS Tau | 54088.594±0.002 | 0.464 | 43598 | DKS | |
| AV Peg | 53315.549±0.001 | 0.090 | 24400 | RWA | [3] | BI Tel | 53201.144±0.007 | -0.051 | 46834 | BIW | |
| AV Peg | 53645.031±0.002 | 0.096 | 25244 | BIW | | HH Tel | 53627.980±0.002 | -0.187 | 52389 | BIW | |
| AV Peg | 53680.556±0.001 | 0.097 | 25335 | DKS | | HH Tel | 54381.007±0.002 | -0.170 | 53951 | BIW | |
| AV Peg | 54020.579±0.002 | 0.104 | 26206 | DKS | | U Tri | 54034.672±0.002 | -0.040 | 78109 | DKS | |
| AV Peg | 54261.836±0.002 | 0.109 | 26824 | DKS | | U Tri | 54050.773±0.003 | -0.040 | 78145 | DKS | |
| BH Peg | 53538.832±0.004 | -0.085 | 22112 | DKS | | U Tri | 54063.743±0.002 | -0.041 | 78174 | DKS | |
| BH Peg | 53678.553±0.004 | -0.101 | 22330 | DKS | | UX Tri | 53662.854±0.006 | 0.036 | 3061 | DKS | |
| BH Peg | 54001.622±0.004 | -0.092 | 22834 | DKS | | UX Tri | 53672.641±0.003 | 0.018 | 3082 | DKS | |
| BH Peg | 54015.710±0.003 | -0.106 | 22856 | DKS | | UX Tri | 53700.636±0.004 | -0.001 | 3142 | DKS | |
| BH Peg | 54044.542±0.003 | -0.119 | 22901 | DKS | | UX Tri | 53735.645±0.004 | -0.010 | 3217 | DKS | |
| BT Peg | 53677.588±0.003 | 0.079 | 30929 | DKS | | UX Tri | 54032.627±0.002 | 0.021 | 3853 | DKS | |
| BT Peg | 54059.535±0.004 | 0.082 | 31615 | DKS | | UX Tri | 54038.683±0.002 | 0.007 | 3866 | DKS | |
| CG Peg | 54023.681±0.005 | -0.043 | 31942 | DKS | | YY Tuc | 53644.015±0.003 | -0.276 | 18503 | BIW | |
| CG Peg | 54248.838±0.002 | -0.047 | 32424 | DKS | | YY Tuc | 54424.960±0.002 | 0.229 | 19732 | BIW | |
| DZ Peg | 53728.537±0.002 | 0.156 | 32662 | DKS | | RV UMa | 53223.593±0.002 | 0.094 | 17408 | DKS | |
| ET Peg | 54034.524±0.002 | -0.046 | 30681 | DKS | | RV UMa | 53506.770±0.003 | 0.094 | 18013 | DKS | |
| GY Peg | 54054.710±0.002 | -0.246 | 25499 | DKS | | RV UMa | 53507.705±0.005 | 0.093 | 18015 | SDB | *B* |
| GY Peg | 54100.536±0.003 | -0.234 | 25590 | DKS | | RV UMa | 53762.807±0.002 | 0.102 | 18560 | PVA | |
| TU Per | 54011.769±0.002 | -0.222 | 25103 | DKS | | RV UMa | 53827.867±0.003 | 0.102 | 18699 | DKS | |
| TU Per | 54031.806±0.002 | -0.219 | 25136 | DKS | | RV UMa | 54127.899±0.002 | 0.108 | 19340 | DKS | |
| TU Per | 54115.574±0.002 | -0.227 | 25274 | DKS | | RV UMa | 54255.676±0.003 | 0.104 | 19613 | DKS | |
| AR Per | 53661.855±0.002 | 0.051 | 62096 | DKS | | SX UMa | 53480.861±0.002 | 0.111 | 27258 | PVA | [1 3] |
| AR Per | 53678.876±0.003 | 0.050 | 62136 | DKS | | SX UMa | 53483.932±0.002 | 0.111 | 27268 | PVA | [1 3] |
| AR Per | 54089.533±0.002 | 0.052 | 63101 | DKS | | SX UMa | 53492.840±0.002 | 0.112 | 27297 | PVA | [1 3] |
| ET Per | 53731.558±0.002 | 0.064 | 64841 | DKS | | SX UMa | 53780.935±0.002 | 0.131 | 28235 | PVA | [1] |
| ET Per | 54014.837±0.002 | 0.048 | 65560 | DKS | | SX UMa | 54061.040±0.002 | 0.145 | 29147 | PVA | [1] |
| FM Per | 53705.655±0.006 | 0.007 | 40760 | DKS | [1] | TU UMa | 54165.880±0.001 | -0.028 | 20325 | DKS | |
| FM Per | 53727.682±0.003 | 0.020 | 40805 | DKS | | AB UMa | 54191.679±0.004 | 0.113 | 29961 | DKS | |
| U Pic | 53715.051±0.003 | 0.051 | 27360 | BIW | *B* | AB UMa | 54236.643±0.006 | 0.108 | 30036 | DKS | |
| U Pic | 53715.051±0.002 | 0.051 | 27360 | BIW | | AX UMa | 54140.874±0.004 | 0.234 | 16373 | DKS | |
| U Pic | 53715.931±0.003 | 0.051 | 27362 | BIW | *B* | AF Vel | 53114.922±0.003 | 0.253 | 22151 | BIW | |
| U Pic | 53715.932±0.002 | 0.051 | 27362 | BIW | | AN Vel | 53093.959±0.002 | -0.127 | 68769 | BIW | |
| RU Psc | 54019.652±0.006 | 0.014 | 35545 | DKS | | CD Vel | 53090.911±0.002 | -0.183 | 42494 | BIW | |
| RU Psc | 54028.626±0.005 | 0.010 | 35568 | DKS | | AE Vir | 53151.980±0.003 | 0.086 | 39235 | BIW | |
| RU Psc | 54064.526±0.006 | -0.006 | 35660 | DKS | | AE Vir | 53518.990±0.005 | 0.093 | 39814 | BIW | |
| HH Pup | 53737.017±0.002 | 0.008 | 38994 | BIW | | BB Vir | 54256.648±0.002 | -0.221 | 31083 | DKS | |
| V796 Sgr | 53202.988±0.004 | -0.059 | 30316 | BIW | | BC Vir | 53499.721±0.002 | 0.099 | 59480 | DKS | |
| V494 Sco | 53195.939±0.002 | -0.031 | 28244 | BIW | | FK Vul | 53698.560±0.003 | 0.023 | 40599 | DKS | |
| RU Scl | 52931.728±0.003 | 0.355 | 44206 | DKS | | | | | | | |

[1] RRc, double maximum
[2] RRc, flat maximum
[3] No filter