



**BAV results of observations 2022:
Visual maxima and minima of pulsating and eruptive stars**

Pagel, Lienhard

E-Mail: publicat@bav-astro.de

BAV Mitteilungen No. 260

January 2023

Abstract: *In this 98th compilation of BAV results, visual observations of variable stars, obtained mostly in the year 2022 are presented, giving 158 maxima and 103 minima of pulsating and eruptive stars.*

We present 158 minima and 103 maxima of pulsating and eruptive stars. The results were acquired by 9 observers in Germany and France, mostly observed in the year 2022. The observations were made at private observatories.

This paper contains only unpublished observations. The types of the variable stars are taken from the GCVS catalog [1] or observer.

Please use the following link for an easy access to all the publications of the BAV: [2] [3].

Explanations to the table

| | | |
|----------|----------|---|
| column 1 | Variable | designation from the GCVS |
| column 2 | | constellation |
| column 3 | Phs | phase: maximum (max) or minimum (min) |
| column 4 | HJD 24+ | heliocentric UTC timings of the observed min or max |
| column 5 | U | if uncertain, marked with „ : “ |
| column 6 | Mag | visual magnitude |
| column 7 | Obs | abbreviations, see table at the end of the list |
| column 8 | Type | type of the variable star |
| column 9 | n | number of observations entering this maximum or minimum |

Table 2: Times of minima and maxima

| Variable | Phs | HJD 24... | U | Mag | Obs | Type | n |
|----------|-----|-----------|---------|-----|------|---------|-----|
| W | And | max | 59384.0 | | 7.3 | VOH M | 31 |
| R | And | max | 59136.0 | | 6.6 | RCR M | 23 |
| R | And | max | 59131.0 | | 6.3 | VOH M | 66 |
| TU | And | max | 59357.0 | : | 8.2 | VOH M | 26 |
| VX | And | max | 59094.0 | | 7.1 | NMN SRA | 13 |
| R | Aql | max | 59153.0 | | 6.3 | SM M | 18 |
| R | Aql | max | 59147.0 | | 6.3 | SCB M | 19 |
| R | Aql | min | 59027.0 | | 10.8 | VOH M | 89 |
| R | Aql | max | 59153.0 | | 6.4 | VOH M | 61 |
| R | Aql | min | 59297.0 | | 10.8 | VOH M | 60 |
| RV | Aql | max | 59425.0 | | 10.0 | VOH M | 25 |
| R | Ari | max | 59070.0 | | 8.5 | VOH M | 42 |
| T | Ari | min | 59109.0 | | 10.3 | VOH M | 39 |
| R | Aur | max | 59116.0 | | 7.4 | VOH M | 97 |
| X | Aur | max | 59127.0 | | 8.0 | VOH M | 32 |
| X | Aur | max | 59305.0 | | 9.0 | VOH M | 29 |
| X | Aur | max | 59452.0 | | 8.3 | VOH M | 18 |
| Z | Aur | max | 59135.0 | | 10.3 | VOH SR | 47 |
| Z | Aur | min | 59195.0 | | 11.2 | VOH SR | 40 |
| Z | Aur | max | 59228.0 | | 10.1 | VOH SR | 19 |
| Z | Aur | min | 59271.0 | | 10.7 | VOH SR | 17 |
| UV | Aur | max | 59210.0 | | 7.9 | VOH M | 73 |
| VX | Aur | max | 59218.0 | | 8.9 | VOH M | 23 |
| V0442 | Aur | max | 58550.0 | | 7.4 | DMT SR: | 22 |
| R | Boo | max | 59063.0 | : | 7.0 | RCR M | 8 |
| R | Boo | max | 59295.0 | | 7.1 | VOH M | 55 |
| V | Boo | max | 59358.0 | | 7.3 | SM SR | 10 |
| V | Boo | max | 59099.0 | | 7.9 | VOH SR | 44 |
| V | Boo | min | 59182.0 | | 9.5 | VOH SR | 67 |
| V | Boo | max | 59368.0 | | 7.8 | VOH SR | 85 |
| R | Cam | min | 58937.0 | | 12.8 | SCB M | 24 |
| R | Cam | max | 59066.0 | | 9.2 | VOH M | 77 |
| R | Cam | max | 59304.0 | | 9.2 | VOH M | 44 |
| R | Cam | max | 59372.0 | | 9.3 | VOH M | 44 |
| T | Cam | max | 59199.0 | | 8.1 | VOH M | 74 |
| X | Cam | max | 59174.0 | | 8.2 | VOH M | 50 |
| X | Cam | max | 59322.0 | | 8.5 | VOH M | 31 |
| WY | Cam | max | 58605.0 | | 9.6 | SCB M | 15 |
| WY | Cam | max | 59018.0 | | 9.5 | SCB M | 23 |
| R | Cvn | max | 59016.0 | | 6.9 | SCB M | 34 |
| R | Cvn | max | 59031.0 | | 7.2 | VOH M | 101 |
| R | Cvn | min | 59200.0 | | 11.9 | VOH M | 94 |
| R | Cvn | max | 59357.0 | | 9.3 | VOH M | 89 |
| R | CMi | max | 59202.0 | | 7.8 | VOH M | 29 |
| R | Cas | max | 59159.0 | | 5.8 | SCB M | 25 |
| R | Cas | max | 59161.0 | | 5.7 | VOH M | 121 |
| T | Cas | min | 58464.0 | | 10.8 | SCB M | 18 |
| T | Cas | max | 59083.0 | | 7.8 | VOH M | 184 |
| T | Cas | max | 59125.0 | | 7.7 | VOH M | 184 |
| U | Cas | max | 59314.0 | | 8.1 | VOH M | 29 |
| V | Cas | min | 59151.0 | | 12.2 | VOH M | 71 |
| V | Cas | max | 59260.0 | | 7.5 | VOH M | 69 |
| W | Cas | max | 59192.0 | | 8.8 | VOH M | 142 |
| SV | Cas | max | 58862.0 | | 7.8 | VOH SR | 98 |
| WZ | Cas | max | 58536.0 | | 7.0 | SCB SRB | 25 |
| WZ | Cas | max | 58909.0 | | 6.7 | SCB SRB | 37 |
| PY | Cas | max | 58987.0 | | 10.1 | NMN SR | 5 |
| PY | Cas | min | 59032.0 | | 10.6 | NMN SR | 9 |
| V0667 | Cas | max | 59427.0 | | 9.9 | VOH M | 35 |

| Variable | Phs | HJD 24+ | U | Mag | Obs | Type | n |
|----------|-----|---------|---------|-----|------|-------------|-----|
| V1391 | Cas | max | 59073.0 | | 11.2 | VOH N | 13 |
| T | Cen | min | 59314.0 | | 7.3 | SM SR | 15 |
| T | Cen | max | 59359.0 | | 6.0 | SM SR | 9 |
| S | Cep | min | 58531.0 | | 9.9 | SCB M | 19 |
| S | Cep | min | 58980.0 | | 9.6 | SCB M | 38 |
| S | Cep | min | 58994.0 | | 9.7 | VOH M | 197 |
| S | Cep | max | 59278.0 | | 6.9 | VOH M | 197 |
| T | Cep | max | 58641.0 | | 6.7 | SCB M | 31 |
| T | Cep | max | 59006.0 | | 6.5 | SCB M | 48 |
| T | Cep | max | 59014.0 | | 6.3 | RCR M | 48 |
| T | Cep | max | 59001.0 | | 6.6 | VOH M | 175 |
| T | Cep | min | 59177.0 | | 10.2 | VOH M | 125 |
| W | Cep | max | 58918.0 | | 7.2 | SCB SRC | 45 |
| W | Cep | min | 59119.0 | | 7.7 | VOH SRC | 132 |
| W | Cep | max | 59273.0 | | 7.2 | VOH SRC | 92 |
| PQ | Cep | min | 58904.0 | | 11.0 | SCB M | 25 |
| PQ | Cep | max | 59138.0 | | 8.5 | VOH M | 174 |
| my | Cep | max | 59019.0 | | 3.6 | VOH SRC: | 335 |
| omi | Cet | max | 58776.0 | | 2.6 | SCB M | 44 |
| omi | Cet | max | 59112.0 | | 3.1 | VOH M | 30 |
| omi | Cet | max | 59112.0 | | 3.2 | SM | 20 |
| X | Cnc | min | 58577.5 | | 7.5 | DMT SRB | 8 |
| S | CrB | min | 59311.0 | | 13.1 | VOH M | 76 |
| S | CrB | max | 58672.0 | | 8.4 | DMT M | 9 |
| RR | CrB | max | 59248.0 | | 7.2 | VOH SRB | 88 |
| R | Cyg | max | 59108.0 | | 7.3 | VOH M | 40 |
| U | Cyg | min | 58762.0 | | 11.5 | VOH M | 131 |
| U | Cyg | max | 58996.0 | | 7.6 | VOH M | 130 |
| U | Cyg | min | 59240.0 | | 11.5 | VOH M | 123 |
| W | Cyg | max | 59244.0 | | 5.8 | VOH SRB | 50 |
| W | Cyg | min | 59312.0 | | 6.5 | VOH SRB | 50 |
| Z | Cyg | max | 59137.0 | | 8.5 | VOH M | 36 |
| Z | Cyg | max | 59374.0 | | 8.8 | VOH M | 42 |
| RS | Cyg | max | 59039.0 | | 7.1 | VOH SRA | 132 |
| RS | Cyg | min | 59183.0 | | 9.5 | VOH SRA | 72 |
| RT | Cyg | max | 59064.0 | | 7.9 | VOH M | 65 |
| RT | Cyg | max | 59229.0 | | 6.9 | VOH M | 48 |
| RT | Cyg | max | 59427.0 | | 7.7 | VOH M | 42 |
| RU | Cyg | max | 59244.0 | | 8.0 | VOH SRA | 79 |
| TY | Cyg | max | 59137.0 | | 9.8 | VOH M | 41 |
| AA | Cyg | max | 59017.0 | | 8.6 | VOH SRB | 96 |
| AA | Cyg | min | 59141.0 | | 9.8 | VOH SRB | 47 |
| AA | Cyg | max | 59209.0 | | 8.9 | VOH SRB | 22 |
| AA | Cyg | min | 59311.0 | | 10.1 | VOH SRB | 43 |
| AF | Cyg | max | 58386.0 | | 6.6 | DMT SRB | 41 |
| AF | Cyg | min | 58690.0 | | 8.5 | DMT SRB | 12 |
| AF | Cyg | max | 58744.0 | | 6.8 | DMT SRB | 20 |
| AF | Cyg | max | 59113.0 | : | 6.6 | SM SRB | 33 |
| AF | Cyg | max | 59284.0 | | 6.4 | SM SRB | 10 |
| AF | Cyg | min | 59363.0 | | 7.3 | SM SRB | 10 |
| AF | Cyg | min | 59034.0 | | 8.0 | VOH SRB | 93 |
| AF | Cyg | max | 59111.0 | | 7.0 | VOH SRB | 65 |
| AF | Cyg | min | 59187.0 | | 7.6 | VOH SRB | 61 |
| AF | Cyg | max | 59299.0 | | 6.6 | VOH SRB | 67 |
| AF | Cyg | min | 59379.0 | | 7.8 | VOH SRB | 53 |
| BF | Cyg | min | 58991.0 | | 10.4 | VOH ZAND | 114 |
| BG | Cyg | max | 59387.0 | | 9.1 | VOH M | 40 |
| CN | Cyg | max | 59096.0 | | 9.3 | VOH M | 49 |
| CN | Cyg | max | 59302.0 | | 9.4 | VOH M | 33 |
| chi | Cyg | max | 59064.0 | | 7.4 | VOH ZAND+SR | 209 |
| chi | Cyg | max | 59292.0 | | 4.7 | VOH | 58 |
| chi | Cyg | max | 59288.0 | | 4.7 | SM M | 15 |
| R | Del | max | 59218.0 | | 8.5 | VOH M | 7 |
| R | Dra | max | 59087.0 | | 6.5 | VOH M | 96 |
| R | Dra | max | 59344.0 | | 7.5 | VOH M | 42 |

| Variable | Phs | HJD 24+ | U Mag | Obs | Type | n |
|----------|-----|--------------|-------|------|------------|-----|
| S | Dra | max 59104.0 | | 8.6 | VOH SRB | 119 |
| S | Dra | min 59196.0 | | 9.1 | VOH SRB | 119 |
| S | Dra | max 59291.0 | | 8.6 | VOH SRB | 119 |
| Y | Dra | max 59190.0 | | 8.8 | VOH M | 42 |
| SV | Dra | max 59125.0 | | 9.3 | VOH M | 23 |
| SV | Dra | max 59384.0 | | 9.3 | VOH M | 21 |
| AH | Dra | min 58968.0 | | 8.4 | SCB SRB | 17 |
| AP | Dra | max 59099.0 | | 11.1 | VOH M: | 12 |
| AP | Dra | max 59382.0 | | 11.0 | VOH M: | 14 |
| CZ | Dra | max 59312.0 | | 10.5 | VOH M | 34 |
| R | Gem | max 59283.0 | | 6.6 | VOH M | 22 |
| SS | Gem | min 59204.0 | | 9.8 | VOH RVA | 18 |
| ST | Gem | max 59317.0 | | 9.8 | VOH M | 25 |
| ZZ | Gem | max 59230.0 | | 9.3 | VOH M | 19 |
| eta | Gem | min 59177.0 | | 3.5 | VOH SRA+EA | 58 |
| S | Her | max 59149.0 | | 7.8 | VOH M | 40 |
| T | Her | max 59128.0 | | 8.4 | VOH M | 33 |
| T | Her | max 59307.0 | | 8.4 | VOH M | 40 |
| U | Her | min 59000.0 | | 12.3 | VOH M | 82 |
| U | Her | max 59162.0 | | 7.7 | VOH M | 65 |
| W | Her | max 59333.0 | | 8.0 | VOH M | 52 |
| X | Her | max 59359.0 | | 5.8 | SM SRB | 6 |
| RS | Her | max 59424.0 | | 7.8 | VOH M | 50 |
| SX | Her | max 58942.0 | | 7.8 | NMN SRD | 9 |
| SX | Her | min 58966.0 | | 8.3 | NMN SRD | 7 |
| SX | Her | max 59044.0 | | 7.8 | NMN SRD | 7 |
| SX | Her | min 59310.0 | | 9.4 | SM SRD | 9 |
| SX | Her | min 59325.0 | | 8.8 | VOH SRD | 35 |
| UU | Her | min 58947.0 | | 9.2 | NMN SRD | 11 |
| UU | Her | max 58976.0 | | 8.9 | NMN SRD | 11 |
| UU | Her | max 59056.0 | | 8.9 | NMN SRD | 4 |
| UU | Her | min 58950.0 | | 9.3 | VOH SRD | 27 |
| AC | Her | min 59029.0 | | 8.4 | SM RVA | 12 |
| AC | Her | min 59069.0 | | 7.9 | SM RVA | 10 |
| AC | Her | min 59104.0 | | 8.2 | SM RVA | 5 |
| AC | Her | min 59179.0 | | 8.2 | SM RVA | 12 |
| AC | Her | min 59325.0 | | 8.2 | SM RVA | 15 |
| R | Hya | min 59295.0 | | 8.0 | SM M | 17 |
| V | Hya | min 59275.0 | : | 8.3 | SM SRA | 20 |
| RT | Hya | min 59172.0 | | 8.4 | SM SRB | 19 |
| RT | Hya | min 59273.0 | | 8.2 | SM SRB | 22 |
| RT | Hya | max 59325.0 | | 7.1 | SM SRB | 8 |
| S | Lac | max 59433.0 | | 7.8 | VOH M | 27 |
| R | Leo | max 58528.0 | | 5.5 | DMT M | 22 |
| R | Leo | max 58936.0 | | 7.9 | RCR M | 20 |
| R | Leo | max 59151.0 | | 5.7 | VOH M | 47 |
| R | Leo | min 59326.0 | | 10.4 | VOH M | 47 |
| S | Leo | max 59306.0 | | 10.7 | VOH M | 17 |
| R | Lyn | max 59110.0 | | 7.9 | VOH M | 48 |
| W | Lyr | max 59234.0 | | 8.0 | VOH M | 29 |
| W | Lyr | min 59331.0 | | 12.8 | VOH M | 53 |
| W | Lyr | max 59432.0 | | 8.4 | VOH M | 67 |
| RR | Lyr | max 59379.57 | | | SPI RRAB | 10 |
| U | Mon | min 59262.0 | : | 7.3 | SM RVB | 10 |
| U | Mon | min 59303.0 | | 6.1 | SM RVB | 17 |
| X | Mon | max 59279.0 | | 7.2 | SM SRA | 25 |
| X | Oph | max 59181.0 | | 6.6 | VOH M | 77 |
| Z | Oph | max 59039.0 | | 8.3 | VOH M | 74 |
| U | Ori | min 59221.0 | | 11.9 | VOH M | 49 |
| Y | Ori | max 59172.0 | | 9.9 | VOH M | 20 |
| BK | Ori | max 59207.0 | | 10.2 | VOH M | 38 |

| Variable | Phs | HJD 24+ | U | Mag | Obs | Type | n |
|----------|-----|---------|----------|-----|------|----------|-----|
| alf | Ori | min | 58885.0 | | 1.7 | SCB SRC | 55 |
| alf | Ori | min | 59271.0 | | 0.6 | BR | 14 |
| U | Per | max | 59146.0 | | 8.5 | VOH M | 114 |
| U | Per | min | 59273.0 | | 11.0 | VOH M | 97 |
| Y | Per | min | 59088.0 | | 9.7 | VOH M | 142 |
| Y | Per | max | 59193.0 | | 9.3 | VOH M | 142 |
| Y | Per | min | 59315.0 | | 9.9 | VOH M | 142 |
| R | Sct | min | 58725.0 | | 7.6 | DMT RVA! | 16 |
| R | Ser | max | 58637.0 | | 6.6 | DMT M! | 10 |
| R | Sge | min | 59067.0 | | 9.8 | SM RVB | 10 |
| R | Sge | min | 59102.0 | | 10.1 | SM RVB | 5 |
| R | Sge | min | 59173.0 | | 10.1 | SM RVB | 10 |
| R | Sge | min | 59314.0 | : | 10.1 | SM RVB | 8 |
| R | Sge | min | 59384.0 | | 10.1 | SM RVB | 11 |
| RR | Sco | max | 59428.0 | | 5.6 | SM M | 9 |
| RV | Sco | max | 59328.58 | | | SM DCEP | 33 |
| R | Sct | max | 59083.0 | : | 5.3 | SM RVA | 9 |
| R | Sct | min | 59143.0 | | 8.9 | SM RVA | 17 |
| R | Sct | min | 59286.0 | | 7.0 | SM RVA | 14 |
| R | Sct | min | 59348.0 | | 6.0 | SM RVA | 15 |
| R | Sct | min | 59146.0 | | 8.5 | VOH RVA | 42 |
| R | Ser | max | 59348.0 | | 6.5 | VOH M | 55 |
| R | Ser | max | 59352.0 | | 6.1 | SM M | 8 |
| R | Tau | max | 59196.0 | | 7.8 | VOH M | 43 |
| S | Tau | max | 59112.0 | | 10.7 | VOH M | 18 |
| V | Tau | max | 59256.0 | | 9.3 | VOH M | 23 |
| R | Tri | min | 59191.0 | | 11.0 | VOH M | 85 |
| R | UMa | max | 59140.0 | | 7.7 | VOH M | 72 |
| R | UMa | min | 59320.0 | | 12.6 | VOH M | 81 |
| S | UMa | max | 59131.0 | | 7.9 | VOH M | 80 |
| S | UMa | min | 59243.0 | | 11.7 | VOH M | 70 |
| S | UMa | max | 59362.0 | | 8.1 | VOH M | 61 |
| T | UMa | max | 59207.0 | | 6.8 | VOH M | 71 |
| Z | UMa | max | 59113.0 | : | 6.7 | SWZ SRB | 23 |
| Z | UMa | max | 59107.0 | | 6.9 | SCB SRB | 16 |
| Z | UMa | max | 59293.0 | | 6.0 | SWZ SRB | 34 |
| Z | UMa | max | 59123.0 | | 6.9 | VOH SRB | 72 |
| Z | UMa | min | 59227.0 | | 9.5 | VOH SRB | 67 |
| Z | UMa | max | 59288.0 | | 6.5 | VOH SRB | 65 |
| RS | UMa | max | 59247.0 | | 9.3 | VOH M | 47 |
| RY | UMa | max | 59132.0 | | 7.1 | VOH SRB | 177 |
| RY | UMa | min | 59247.0 | | 8.0 | VOH SRB | 177 |
| S | UMi | max | 59206.0 | | 8.9 | VOH M | 121 |
| S | UMi | min | 59361.0 | | 11.6 | VOH M | 65 |
| T | UMi | max | 59188.0 | | 10.7 | VOH M | 35 |
| T | UMi | min | 59289.0 | | 11.1 | VOH M | 47 |
| U | UMi | min | 59195.0 | | 11.4 | VOH M | 115 |
| U | UMi | max | 59359.0 | | 7.6 | VOH M | 73 |
| R | Vir | max | 58985.0 | | 6.4 | SCB M | 22 |
| R | Vir | max | 59269.0 | : | 6.7 | SM M | 13 |
| R | Vir | max | 59269.0 | | 6.9 | VOH M | 32 |
| R | Vul | max | 59124.0 | | 7.6 | VOH M | 16 |
| R | Vul | max | 59410.0 | | 8.0 | VOH M | 18 |
| V | Vul | min | 59057.0 | | 9.1 | SM RVA | 13 |
| V | Vul | min | 59167.0 | | 8.9 | SM RVA | 11 |
| V | Vul | min | 59283.0 | : | 9.4 | SM RVA | 13 |
| V | Vul | min | 59360.0 | | 9.1 | SM RVA | 13 |
| VZ | Vul | max | 59112.0 | | 9.4 | VOH CST: | 113 |
| BD | Vul | max | 59387.0 | | 9.8 | VOH M | 31 |
| V1112 | Per | max | 59186.0 | | 8.2 | VOH NA | 12 |

Observer

| | | | |
|-----|--------------------|-------------------|---|
| BR | Braune, Werner | Berlin | |
| DMT | Dumont, Michel | Bailleau l'Eveque | F |
| NMN | Neumann, Joerg | Leipzig | |
| RCR | Raetz, Kerstin | Herges-Hallenberg | |
| SCB | Schubert, Matthias | Stralsund | |
| SM | Sturm, Arthur | Saarburg | |
| SPI | Spiess, Wolfgang | Ertingen | |
| SWZ | Schwarz, Bernd | Laubach | |
| VOH | Vohla, Frank | Altenburg | |

Remark

The type of the variable is marked by „!“ if specified by the observer, else it is taken from the GCVS Catalog [3]. Uncertain classifications are marked by „:“.

References

[1] Samus N.N., Kazarovets E.V., Durlevich O.V., Kireeva N.N., Pastukhova E.N.,
General Catalogue of Variable Stars: Version GCVS 5.1,
Astronomy Reports, 2017, vol. 61, No. 1, pp. 80-88 2017ARep...61...80S

[2] BAV Services for Scientists, 2022,

<https://www.bav-astro.eu/index.php/veroeffentlichungen/service-for-scientists>

[3] Lichtenknecker Database of the BAV, <http://www.bav-astro.de/LkDB/index.php/>