| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|

# BBSAG

# BULLETIN

# 118

1998 October 1

## 151. LIST OF MINIMA OF ECLIPSING BINARIES

The following table lists 82 electronically recorded (CCD; underlined) and 104 visual timings of minima of eclipsing binaries obtained primarily between May and August 1998 by the following observers:

| | |
|---|---|
| EBl | Ernst BlŠttler, Wald, Switzerland |
| RD | Roger Diethelm, R. Szafraniec Observatory, Metzerlen, Switzerland |
| MKo | Michael Kohl, Laupen, Switzerland |
| KL | Kurt Locher, GrŸt, Switzerland |
| MMa | Massimiliano Martignoni, Magnago, Italy |
| APs | Anton Paschke, RŸti, Switzerland |

The O-C values given in the table below generally refer to the linear elements of the GCVS 1985, with the remarked exceptions. For the reduction of the minima, the tracing paper method was employed. For the reduction of some of the electronic observations, the Kwee-van Woerden algorithm was used. All times are UTC.

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|

**One of our most active observers, Hermann Peter, Otelfingen, Switzerland, has decided to end his observational career due to age. For almost 35 years, his data have been a major part of our activity. He has followed faithfully a large number of eclipsing binaries over this period of time, supplying the astronomical community with a reliable base for the study of their period behaviour. We thank him very much for his loyality to our cause.**

**This as well as a number of earlier issues of the BBSAG Bulletins are now available for downloading through the Internet in RTF format (www.astroinfo.ch).**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 35250 | 0041+306 | **UU And** | p | 51055.642 | 0.003 | +0.021 | 5 | KL | |
| 35251 | 0153+418 | **XZ And** | p | 51034.608 | 0.002 | +0.080 | 13 | KL | |
| 35252 | 2334+483 | **AD And** | s | 50748.482 | 0.005 | -0.055 | 22 | APs | CCD |
| 35253 | 0017+399 | **CN And** | p | 50767.435 | 0.007 | -0.063 | 19 | MMa | CCD |
| 35254 | 0139+445 | **EP And** | p | 50859.347 | 0.003 | +0.065 | 8 | MKo | |
| 35255 | | | s | 50862.369 | 0.004 | +0.056 | 6 | MKo | |
| 35256 | | | s | 50994.509 | 0.005 | +0.053 | 6 | KL | |
| 35257 | 2337+474 | **EX And** | p | 50789.410 | 0.003 | -0.011 | 24 | APs | CCD |
| 35258 | 2351+453 | **GSC3639.1081 And** | p | 51032.4479 | 0.0007 | | 18 | RD | CCD; note p. 7 |
| 35259 | 2233-009 | **CX Aqr** | p | 51031.498 | 0.005 | -0.016 | 6 | KL | |
| 35260 | 2319-162 | **CZ Aqr** | p | 50989.580 | 0.006 | -0.007 | 5 | KL | |
| 35261 | 1946+154 | **V688 Aql** | s | 51029.500 | 0.005 | -0.019 | 14 | RD | CCD |
| 35262 | 1947+077 | **V694 Aql** | p | 51055.3673 | 0.0009 | -0.0021 | 15 | RD | CCD; elem. IBVS No. 4481 |
| 35263 | 1848+075 | **V699 Aql** | s | 51020.4196 | 0.0008 | +0.0196 | 14 | RD | CCD |
| 35264 | 1958+142 | **V761 Aql** | p | 51013.3902 | 0.0013 | +0.0861 | 17 | EBI | CCD |
| 35265 | 1858-075 | **V803 Aql** | p | 50988.407 | 0.004 | -0.028 | 6 | KL | |
| 35266 | 1908+120 | **V917 Aql** | p | 51055.3889 | 0.0010 | +0.0847 | 15 | RD | CCD |
| 35267 | 1930+047 | **V981 Aql** | s | 50988.431 | 0.010 | -0.003 | 7 | RD | CCD |
| 35268 | 1931+158 | **V1355 Aql** | p | 51013.3909 | 0.0008 | -0.1606 | 18 | EBI | CCD |
| 35269 | 0615+497 | **HL Aur** | p | 50863.399 | 0.004 | -0.004 | 6 | MKo | elem. AJ 113, 2270 |
| 35270 | 1427+323 | **SU Boo** | p | 50947.4574 | 0.0012 | +0.0186 | 14 | RD | CCD |
| 35271 | 1402+302 | **TU Boo** | s | 50951.545 | 0.006 | -0.008 | 5 | KL | elem. A&ASS 117, 105 |
| 35272 | 1533+436 | **YY Boo** | p | 50844.591 | 0.008 | -0.096 | 42 | APs | CCD |
| 35273 | 1345+175 | **AQ Boo** | s | 50941.4413 | 0.0013 | +0.0258 | 10 | RD | CCD; elem. PASP 108, 1105 |
| 35274 | 1524+371 | **CV Boo** | s | 50864.592 | 0.005 | -0.012 | 34 | APs | CCD; elem. IBVS No. 2788 |

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 35275 | 0734+761 | **Y Cam** | p | 51034.455 | 0.008 | +0.193 | 7 | KL | |
| 35276 | 0447+548 | **AQ Cam** | p | 51056.58 | 0.02 | +0.04 | 5 | KL | |
| 35277 | 0707-161 | **SX CMa** | p | 50859.417 | 0.007 | +0.036 | 11 | MKo | |
| 35278 | 0629-241 | **TU CMa** | p | 50864.323 | 0.004 | -0.013 | 41 | APs | CCD |
| 35279 | 0738+029 | **TY CMi** | p | 50865.407 | 0.005 | -0.606 | 34 | APs | CCD |
| 35280 | 0748+037 | **UZ CMi** | p | 50863.497 | 0.003 | 0.000 | 37 | APs | CCD |

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 35281 | 0705+063 | **AG CMi** | p | 50851.342 | 0.005 | -0.068 | 23 | APs | CCD |
| 35282 | 0737+040 | **AK CMi** | p | 50862.378 | 0.003 | -0.012 | 8 | MKo | |
| 35283 | 0727+046 | **BF CMi** | p | 50789.587 | 0.010 | -0.094 | 63 | APs | CCD |
| 35284 | 0232+710 | **AB Cas** | p | 50974.543 | 0.004 | +0.062 | 6 | KL | |
| 35285 | 0130+707 | **AH Cas** | p | 50984.551 | 0.006 | -0.212 | 5 | KL | |
| 35286 | 0135+631 | **BW Cas** | p | 50994.461 | 0.005 | -0.012 | 7 | KL | elem. IBVS No. 4531 |
| 35287 | 2304+538 | **IR Cas** | p | 50994.487 | 0.005 | +0.023 | 8 | KL | |
| 35288 | 2347+528 | **IV Cas** | p | 51041.5213 | 0.0019 | -0.0226 | 9 | RD | CCD |
| 35289 | 0045+605 | **OR Cas** | p | 51034.377 | 0.005 | -0.020 | 6 | KL | |
| 35290 | 0037+499 | **V523 Cas** | s | 50951.567 | 0.003 | +0.033 | 6 | KL | |
| 35291 | 2211+622 | **SY Cep** | s | 51056.5252 | 0.0004 | -0.0662 | 19 | RD | CCD |
| 35292 | 2239+583 | **BE Cep** | s | 51020.3491 | 0.0003 | -0.0764 | 19 | EBI | CCD |
| 35293 | 2320+650 | **CM Cep** | p | 50983.443 | 0.005 | -0.027 | 7 | KL | |
| 35294 | 2047+589 | **DE Cep** | p | 50954.462 | 0.004 | -0.015 | 6 | KL | |
| 35295 | 2207+555 | **EE Cep** | p | 50744.8 | 0.5 | +2.6 | 18 | APs | CCD; see note p. 7 |
| 35296 | 2024+614 | **HI Cep** | p | 50988.592 | 0.006 | +0.003 | 6 | KL | elem. BBSAG Bull. 114, 12 |
| 35297 | 0220+809 | **V358 Cep** | p | 50950.424 | 0.006 | +0.017 | 6 | KL | elem. BBSAG Bull. 96, 10 |
| 35298 | 0146-211 | **TW Cet** | p | 51032.606 | 0.003 | -0.018 | 7 | KL | |
| 35299 | 0147-198 | **VY Cet** | s | 51049.517 | 0.003 | -0.005 | 5 | KL | |
| 35300 | 1209+228 | **CC Com** | s | 50943.384 | 0.003 | -0.011 | 10 | RD | CCD |
| 35301 | 1315+303 | **NSV6177 Com** | p | 50953.432 | 0.003 | +0.032 | 12 | RD | CCD; elem. IBVS No. 4386 |
| 35302 | 1205-128 | **W Crv** | p | 50949.466 | 0.003 | +0.010 | 5 | KL | |
| 35303 | 1121-164 | **V Crt** | p | 50569.433 | 0.004 | -0.001 | 27 | MMa | CCD |
| 35304 | 2021+430 | **UW Cyg** | p | 50950.507 | 0.004 | +0.029 | 6 | KL | |
| 35305 | 2051+386 | **WZ Cyg** | p | 51007.498 | 0.005 | +0.043 | 6 | KL | |
| 35306 | 2022+467 | **ZZ Cyg** | p | 51007.384 | 0.006 | -0.032 | 6 | KL | |
| 35307 | 2156+467 | **GV Cyg** | p | 51029.4304 | 0.0008 | -0.2759 | 12 | RD | CCD |
| 35308 | 2026+381 | **V445 Cyg** | p | 50961.465 | 0.003 | +0.210 | 5 | KL | |
| 35309 | 2021+390 | **V498 Cyg** | p | 51035.4199 | 0.0015 | +0.0755 | 15 | RD | CCD |

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 35310 | 2108+457 | **V526 Cyg** | p | 50944.577 | 0.005 | +0.061 | 12 | RD | CCD |
| 35311 | 2132+470 | **V628 Cyg** | s | 51017.37 | 0.003 | 0.000 | 23 | EBI | CCD; elem. IBVS No. 4381 |

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 35312 | 2025+586 | **V728 Cyg** | p | 51007.465 | 0.005 | +0.008 | 10 | KL | |
| 35313 | 1940+314 | **V947 Cyg** | p | 51024.3608 | 0.0018 | -0.0334 | 21 | EBI | CCD |
| 35314 | 1942+281 | **V970 Cyg** | p | 51007.4603 | 0.0013 | -0.0057 | 16 | RD | CCD |
| 35315 | 1935+287 | **V1136 Cyg** | s | 51034.3929 | 0.0008 | +0.4423 | 12 | RD | CCD; displaced secondary |
| 35316 | 2003+376 | **V1305 Cyg** | p | 50944.510 | 0.003 | -0.035 | 12 | RD | CCD |
| 35317 | 2123+388 | **SVS2365 Cyg** | p | 50954.509 | 0.008 | -0.018 | 6 | KL | elem. Per. Zv. 23, 330 |
| 35318 | 2051+044 | **FZ Del** | p | 51024.441 | 0.003 | -0.035 | 9 | MKo | |
| 35319 | 1142+725 | **Z Dra** | p | 50942.559 | 0.005 | -0.108 | 6 | KL | |
| 35320 | 1841+626 | **RR Dra** | p | 50862.424 | 0.007 | +0.066 | 7 | MKo | |
| 35321 | | | p | 50961.507 | 0.003 | +0.052 | 6 | KL | |
| 35322 | 1901+586 | **RX Dra** | p | 50951.4123 | 0.0004 | +0.0444 | 17 | RD | CCD |
| 35323 | 1735+686 | **AU Dra** | p | 50941.3807 | 0.0008 | +0.0010 | 30 | EBI | CCD; elem. IBVS No. 4587 |
| 35324 | 1922+698 | **DW Dra** | p | 50985.449 | 0.005 | -0.006 | 5 | KL | elem. see page 7 |
| 35325 | 0321-008 | **WX Eri** | p | 50862.351 | 0.004 | +0.005 | 7 | MKo | |
| 35326 | 0410-108 | **ZZ Eri** | p | 50845.291 | 0.003 | -0.014 | 19 | APs | CCD |
| 35327 | 0558+231 | **RW Gem** | p | 50860.434 | 0.004 | 0.000 | 10 | MKo | |
| 35328 | 0639+134 | **AV Gem** | p | 50727.608 | 0.004 | -0.035 | 31 | APs | CCD |
| 35329 | 0749+272 | **GW Gem** | p | 50863.395 | 0.004 | +0.017 | 6 | MKo | |
| 35330 | 1737+329 | **SZ Her** | p | 50970.534 | 0.004 | -0.023 | 6 | KL | |
| 35331 | 1711+307 | **TU Her** | p | 50948.536 | 0.003 | -0.074 | 6 | KL | |
| 35332 | 1615+090 | **CC Her** | p | 50984.554 | 0.005 | +0.090 | 7 | KL | |
| 35333 | | | p | 51024.437 | 0.004 | +0.091 | 7 | MKo | |
| 35334 | 1806+458 | **DQ Her** | p | 50954.421 | 0.002 | +0.003 | 6 | KL | |
| 35335 | 1658+320 | **IK Her** | p | 50943.4190 | 0.0008 | +0.1701 | 13 | RD | CCD |
| 35336 | 1853+121 | **LP Her** | p | 50984.4387 | 0.0007 | +0.1818 | 14 | RD | CCD |
| 35337 | 1819+144 | **MT Her** | p | 50961.515 | 0.004 | +0.002 | 7 | KL | |
| 35338 | 1813+233 | **V643 Her** | p | 51020.4196 | 0.0013 | -0.2631 | 11 | RD | CCD |
| 35339 | 1718+443 | **V732 Her** | p | 51040.4207 | 0.0014 | -0.0853 | 14 | EBI | CCD |
| 35340 | 1719+479 | **V733 Her** | p | 50946.445 | 0.003 | +0.095 | 13 | RD | CCD |
| 35341 | 1736+441 | **V742 Her** | s | 50941.4485 | 0.0016 | +0.0194 | 10 | RD | CCD |

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 35342 | 0852+062 | **DF Hya** | p | 50954.3774 | 0.0010 | -0.0095 | 21 | EBI | CCD; elem. JAAVSO 21, 111 |
| 35343 | 2212+496 | **TZ Lac** | p | 51045.523 | 0.006 | +0.271 | 11 | KL | |

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 35344 | 2213+484 | **AU Lac** | p | 51049.532 | 0.003 | -0.015 | 5 | KL | |
| 35345 | 2226+535 | **DG Lac** | p | 51007.459 | 0.008 | -0.171 | 10 | KL | |
| 35346 | 2230+537 | **ES Lac** | p | 51034.398 | 0.003 | +0.074 | 16 | RD | CCD |
| 35347 | 2202+504 | **HR Lac** | s | 51032.4447 | 0.0005 | +0.1375 | 17 | RD | CCD |
| 35348 | 0933+264 | **Y Leo** | p | 50862.341 | 0.004 | +0.014 | 8 | MKo | |
| 35349 | | | p | 50953.388 | 0.005 | +0.011 | 6 | KL | |
| 35350 | 1114-063 | **UX Leo** | p | 50898.460 | 0.004 | +0.014 | 23 | APs | CCD; el. BAV M. 68, 21; note p. 7 |
| 35351 | 1037+138 | **UZ Leo** | s | 50851.702 | 0.005 | +0.043 | 48 | APs | CCD |
| 35352 | 1059+101 | **AM Leo** | p | 50851.488 | 0.003 | -0.006 | 25 | APs | CCD |
| + 35353 | 1831+377 | **EW Lyr** | p | 50950.566 | 0.005 | +0.241 | 8 | KL | |
| 35354 | 1909+365 | **FH Lyr** | p | 50943.5175 | 0.0018 | +0.0046 | 54 | EBI | CCD |
| 35355 | 1839+329 | **LZ Lyr** | p | 51031.4234 | 0.0005 | +0.1848 | 30 | EBI | CCD |
| 35356 | 1917+382 | **V404 Lyr** | p | 50949.4325 | 0.0011 | -0.0659 | 14 | RD | CCD |
| 35357 | 1732+072 | **RV Oph** | p | 50983.424 | 0.007 | -0.007 | 6 | KL | |
| 35358 | 1724+130 | **AL Oph** | p | 50946.4773 | 0.0018 | -0.0051 | 13 | RD | CCD; elem. IBVS No. 4452 |
| 35359 | 1638+006 | **V502 Oph** | s | 50954.525 | 0.010 | -0.081 | 31 | APs | CCD |
| 35360 | 1756+135 | **V508 Oph** | s | 50949.360 | 0.004 | +0.006 | 6 | KL | |
| 35361 | 1757+034 | **V509 Oph** | p | 50988.4641 | 0.0014 | +0.0253 | 14 | RD | CCD |
| 35362 | 1814+068 | **V577 Oph** | p | 51035.4180 | 0.0010 | +0.0126 | 15 | RD | CCD |
| 35363 | 1752+141 | **V913 Oph** | p | 50938.584 | 0.004 | +0.135 | 6 | KL | |
| 35364 | 1613-052 | **V1016 Oph** | p | 50898.565 | 0.005 | -0.014 | 14 | APs | CCD; elem. BBSAG Bull. 99, 9 |
| 35365 | 1716-001 | **NSV8513 Oph** | s | 50957.452 | 0.003 | -0.017 | 12 | RD | CCD; elem. IBVS No. 4407 |
| 35366 | 0508-086 | **ER Ori** | p | 50478.432 | 0.003 | +0.021 | 30 | MMa | CCD |
| 35367 | 0538+025 | **FZ Ori** | p | 50479.395 | 0.004 | -0.047 | 19 | MMa | CCD |
| 35368 | 0533+088 | **OS Ori** | p | 50849.368 | 0.003 | -0.020 | 40 | APs | CCD |
| 35369 | 2355+156 | **U Peg** | p | 50766.408 | 0.004 | -0.072 | 25 | MMa | CCD |
| 35370 | | | p | 50789.272 | 0.003 | -0.070 | 26 | APs | CCD |
| 35371 | 2327+132 | **TY Peg** | p | 51042.460 | 0.009 | -0.177 | 6 | KL | |
| 35372 | 2146+278 | **CW Peg** | p | 50748.329 | 0.002 | +0.043 | 27 | APs | CCD |
| 35373 | 2205+059 | **DO Peg** | p | 51040.502 | 0.008 | +0.001 | 6 | KL | |

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 35374 | 2312+165 | **EY Peg** | p | 51051.587 | 0.008 | -0.018 | 7 | KL | elem. BBSAG Bull. 105, 8 |

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 35375 | 0236+419 | **Z Per** | p | 51056.561 | 0.005 | -0.122 | 6 | KL | |
| 35376 | 0320+463 | **RT Per** | p | 50716.608 | 0.003 | +0.042 | 38 | APs | CCD |
| 35377 | | | p | 51032.584 | 0.003 | +0.041 | 7 | KL | |
| 35378 | 0405+464 | **XZ Per** | p | 51057.544 | 0.003 | -0.047 | 7 | KL | |
| 35379 | 0220+577 | **DK Per** | p | 51033.501 | 0.004 | -0.027 | 7 | KL | elem. IBVS No. 3875 |
| 35380 | 0232+559 | **DZ Per** | p | 51056.597 | 0.003 | -0.041 | 19 | RD | CCD |
| 35381 | 0148+569 | **HS Per** | p | 50988.534 | 0.009 | -0.037 | 6 | KL | elem. IBVS No. 3754 |
| 35382 | 0355+445 | **HW Per** | p | 51045.578 | 0.007 | -0.004 | 6 | KL | elem. IBVS No. 4516 |
| 35383 | 0156+529 | **KW Per** | p | 50762.384 | 0.003 | +0.004 | 8 | MKo | |
| 35384 | | | p | 50844.342 | 0.003 | +0.011 | 6 | MKo | |
| 35385 | 0304+407 | **Beta Per** | p | 50854.326 | 0.006 | +0.053 | 8 | MKo | |
| 35386 | 2331+076 | **Y Psc** | p | 51031.567 | 0.004 | -0.018 | 10 | KL | |
| 35387 | 0811-238 | **XZ Pup** | p | 50859.437 | 0.007 | +0.067 | 8 | MKo | |
| 35388 | 2009+210 | **FF Sge** | p | 51020.52 | 0.02 | +0.04 | 7 | RD | CCD |
| 35389 | 2011+183 | **FL Sge** | p | 51034.433 | 0.002 | +0.066 | 9 | RD | CCD |
| 35390 | 1756-173 | **WX Sgr** | p | 51035.393 | 0.004 | -0.088 | 13 | KL | |
| 35391 | 1808-164 | **XY Sgr** | p | 51045.406 | 0.005 | +0.012 | 9 | KL | |
| 35392 | 1819-252 | **XZ Sgr** | p | 50970.501 | 0.006 | +0.043 | 6 | KL | |
| 35393 | 1846-102 | **RS Sct** | p | 51024.425 | 0.004 | +0.007 | 7 | MKo | |
| 35394 | 1839-063 | **EY Sct** | p | 51007.554 | 0.003 | +0.065 | 10 | RD | CCD |
| 35395 | 1536+024 | **AS Ser** | p | 50949.4403 | 0.0009 | -0.0017 | 14 | RD | CCD |
| 35396 | 1554+224 | **AU Ser** | p | 50942.573 | 0.006 | -0.053 | 5 | KL | |
| 35397 | 1553+176 | **BI Ser** | p | 50950.3804 | 0.0009 | -0.5483 | 21 | EBI | CCD |
| 35398 | | | s | 51041.348: | 0.003 | -0.549 | 18 | EBI | CCD |
| 35399 | 1553+190 | **LX Ser** | p | 50988.379 | 0.002 | 0.000 | 6 | KL | |
| 35400 | 0434+015 | **AC Tau** | p | 51051.557 | 0.006 | +0.074 | 6 | KL | |
| 35401 | 0344+249 | **AH Tau** | p | 50754.466 | 0.007 | -0.097 | 18 | APs | CCD |
| 35402 | | | p | 51033.581 | 0.005 | -0.097 | 6 | KL | |
| 35403 | 0222+278 | **RW Tri** | p | 51045.618 | 0.002 | -0.004 | 6 | KL | |
| 35404 | 1334+521 | **UX UMa** | p | 50952.399 | 0.002 | +0.001 | 5 | KL | |
| 35405 | 0934+562 | **VV UMa** | p | 50863.412 | 0.006 | -0.043 | 6 | MKo | |

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 35406 | 0928+496 | **XZ UMa** | p | 50941.537 | 0.005 | -0.049 | 5 | KL | |

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 35407 | 1108+467 | **BM UMa** | s | 50953.398 | 0.003 | +0.003 | 10 | RD | CCD |
| 35408 | 1551+723 | **RS UMi** | p | 50740.43 | 0.02 | +0.13 | 88 | APs | CCD |
| 35409 | 1402-099 | **VV Vir** | p | 50948.430 | 0.005 | -0.019 | 5 | KL | |
| 35410 | 1402-181 | **AK Vir** | p | 50949.444 | 0.004 | -0.054 | 7 | KL | |
| 35411 | 1502+045 | **CG Vir** | p | 50951.4081 | 0.0004 | -0.2406 | 17 | RD | CCD |
| 35412 | 1241-084 | **HW Vir** | p | 50925.393 | 0.001 | -0.002 | 16 | KL | elem. IBVS No. 4109 |
| 35413 | | | p | 50943.368 | 0.001 | -0.001 | 6 | KL | |
| 35414 | | | p | 50944.416 | 0.001 | -0.004 | 6 | KL | |
| 35415 | | | p | 50945.351 | 0.001 | -0.003 | 5 | KL | |
| 35416 | | | p | 50948.387 | 0.001 | -0.001 | 6 | KL | |
| 35417 | | | p | 50948.503 | 0.001 | -0.002 | 4 | KL | |
| 35418 | | | p | 50949.437 | 0.001 | -0.002 | 6 | KL | |
| 35419 | | | p | 50950.37 | 0.001 | -0.002 | 6 | KL | |
| 35420 | | | p | 50950.487 | 0.001 | -0.002 | 6 | KL | |
| 35421 | | | p | 50952.354 | 0.001 | -0.003 | 5 | KL | |
| 35422 | | | p | 50952.471 | 0.001 | -0.002 | 6 | KL | |
| 35423 | | | p | 50953.405 | 0.001 | -0.002 | 5 | KL | |
| 35424 | | | p | 50957.375 | 0.001 | -0.001 | 6 | KL | |
| 35425 | | | p | 50961.458 | 0.001 | -0.003 | 7 | KL | |
| 35426 | | | p | 50973.366 | 0.001 | -0.001 | 6 | KL | |
| 35427 | | | p | 50983.401 | 0.001 | -0.003 | 5 | KL | |
| 35428 | | | p | 50985.386 | 0.001 | -0.002 | 5 | KL | |
| 35429 | 2030+246 | **AX Vul** | p | 51057.477 | 0.003 | -0.019 | 7 | KL | |
| 35430 | 1954+237 | **BO Vul** | p | 50941.508 | 0.004 | +0.020 | 6 | KL | |
| 35431 | 2023+208 | **BP Vul** | p | 51036.496 | 0.005 | -0.018 | 6 | KL | |
| 35432 | 2011+265 | **DR Vul** | s | 50984.447 | 0.0011 | +0.0506 | 16 | RD | CCD; dipl. secondary |
| 35433 | 1929+270 | **FM Vul** | p | 51020.415 | 0.002 | +0.017 | 8 | RD | CCD |
| 35434 | 1940+265 | **GI Vul** | p | 50988.4165 | 0.0013 | -0.0145 | 10 | RD | CCD |
| 35435 | | | p | 51042.3408 | 0.0009 | -0.0163 | 22 | EBI | CCD |

## Errata

| No. | Bulletin | Star | Correction |
|---|---|---|---|
| 16154 | 50 | CS Vul | **primary** minimum |
| 32336 | 109 | DK Peg | O = 49585.**557** instead of 49585.511 |
| 33756 | 114 | V1168 Aql | O = 50391.**2**69 instead of 50391.369 |
| 34146 | 115 | V1168 Aql | O = 50681.**4**12 instead of 50681.512 |
| 34419 | 115 | NY Lyr | O = 50642.**6**965 instead of 50642.3965 |

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|

## Notes on observations given in table above

**GSC3639.1081 And**
In IBVS No. 4525, we reported on the incidental discovery of this eclipsing binary in the field of GK And. Using the photographic sky patrol plates of Sonneberg Observatory, Germany, a approximate value for the period has been established (0.954 days). We will continue to follow GSC3639.1081 Andromedae and will publish a complete study of the available data in an upcomming issue of the IBVS.

R. Diethelm, P. Kroll

**EE Cep**
Six of the images used in the determination of the time of minimum where obtained with the instrument of the University of Iowa accessible through the Internet.

**UX Leo**
The observed minimum was slightly asymmetric, with the descent beeing steeper than the ascent.

A. Paschke

## Refinement of the elements of DW Dra

In BBSAG Bulletin 84, page 6, K. Locher reported the elements of variation for DW Draconis. Thanks to the many visually timed minima by K. Locher, we are now able to refine these elements to:

JD(min,hel) = 2447008.3611 + 1.2263627 (8) * E.

R. Diethelm

## Approximate current O-C values of seldom observed eclipsing binaries

Once more, we have used the photographic plate collection of Sonneberg Observatory, Germany, to search for minima of neglected eclipsing binaries. The following approximate O-C values against the GCVS elements were found:

| | |
|---|---|
| **CD Aqr** | +0.10 days |
| **V406 Aql** | +0.04 |
| **V631 Aql** | Ð0.05 |
| **TX Boo** | +1.25 |
| **FS Cas** | +0.41 |
| **NN Cas** | Ð0.23 |
| **BS Gem** | +0.46 |
| **EH Ori** | +0.17 |

We will attempt to follow these stars in the comming observing seasons.

| Nr | Design. | Star | Type | O | e. | O-C | n | Obs | Remarks |
|---|---|---|---|---|---|---|---|---|---|

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R. Diethelm, BBSAG
P. Kroll, Sonneberg Obs.