

# BBSAG Bulletin 25

1976 January 9

## 58<sup>th</sup> List of Minima of Eclipsing Binaries

The following table lists 172 minima obtained visually mainly during December 1975 by the observers

RD Roger Diethelm, Reinach, Switzerland  
 AF Alain Figer, Paris, France  
 RG Robert Germann, Wald, Switzerland  
 KL Kurt Locher, Grüt, Switzerland  
 HP Hermann Peter, Otelfingen, Switzerland  
 AR Alain Royer, Epinac, France  
 VT Vince Tuboly, Hegyhátsál, Hungary  
 GZ György Zajác, Debrecen, Hungary

The O-C values refer to the linear elements of the GCVS 1969, disregarding improved elements in the 1971 and 1974 supplements to the GCVS. Reductions were made using mainly the tracing paper method.

| cur-<br>rent<br>no. | star        | minimum<br>or-<br>der | JD hel<br>244... | O-C    | ob-<br>n ser-<br>ver | cur-<br>rent<br>no. | star   | minimum<br>or-<br>der | JD hel<br>244... | O-C    | ob-<br>n ser-<br>ver |
|---------------------|-------------|-----------------------|------------------|--------|----------------------|---------------------|--------|-----------------------|------------------|--------|----------------------|
| 9083                | RT And      | I                     | 2758.242         | -0.008 | 9 RG                 | 9104                |        | II                    | 2774.209         | -0.037 | 6 KL                 |
| 9084                | UU And      | I                     | 2778.421         | +0.097 | 6 KL                 | 9105                | SZ Ari | I                     | 2777.236         | -0.097 | 11 RD                |
| 9085                | XZ And      | I                     | 2752.417         | -0.022 | 14 HP                | 9106                | RY Aur | I                     | 2778.284         | -0.005 | 6 KL                 |
| 9086                | AB And      | I                     | 2753.401         | +0.024 | 10 KL                | 9107                |        | I                     | 2778.284         | -0.004 | 9 HP                 |
| 9087                |             | I                     | 2768.346         | +0.034 | 7 KL                 | 9108                | RZ Aur | I                     | 2775.692         | +0.059 | 9 KL                 |
| 9088                |             | I                     | 2774.300         | +0.014 | 8 RG                 | 9109                | TT Aur | I                     | 2767.246         | +0.015 | 10 KL                |
| 9089                |             | I                     | 2775.296         | +0.015 | 7 RG                 | 9110                | BF Aur | I                     | 2140.376         | +0.002 | 13 AF                |
| 9090                |             | I                     | 2776.294         | +0.016 | 6 RG                 | 9111                | TU Boo | II                    | 2777.660         | +0.001 | 7 KL                 |
| 9091                |             | I                     | 2778.286         | +0.018 | 8 RG                 | 9112                | AR Boo | II                    | 2775.697         | +0.042 | 5 KL                 |
| 9092                | AP And      | II                    | 2777.261         | -0.006 | 10 RD                | 9113                | SV Cam | I                     | 2758.299         | -0.011 | 8 RG                 |
| 9093                | BL And      | I                     | 2748.301         | -0.033 | 8 RD                 | 9114                |        | I                     | 2774.293         | -0.030 | 8 RG                 |
| 9094                | BX And      | I                     | 2748.302         | +0.009 | 9 RD                 | 9115                | RY Cnc | I                     | 2774.413         | -0.038 | 7 KL                 |
| 9095                |             | II                    | 2777.240         | -0.034 | 6 RD                 | 9116                |        | I                     | 2777.689         | -0.041 | 10 KL                |
| 9096                | EP And      | II                    | 2751.250         | *      | 5 KL                 | 9117                | WX Cnc | I                     | 2775.624         | +0.106 | 9 RD                 |
| 9097                |             | II                    | 2768.228         | *      | 10 KL                | 9118                | WY Cnc | I                     | 2775.593         | -0.005 | 8 RD                 |
| 9098                |             | I                     | 2774.489         | *      | 4 KL                 | 9119                | VW CVn | II                    | 2775.580         | -0.038 | 6 RD                 |
| 9099                | S 10776 And | I                     | 2774.450         | **     | 7 KL                 | 9120                | RX CMa | I                     | 2758.600         | -0.015 | 10 KL                |
| 9100                | CX Aqr      | I                     | 2751.217         | +0.016 | 7 KL                 | 9121                | AG CMi | I                     | 2778.372         | -0.134 | 6 KL                 |
| 9101                | EE Aqr      | I                     | 2777.216         | +0.006 | 7 KL                 | 9122                | RZ Cas | I                     | 2331.368         | +0.006 | 15 VT                |
| 9102                |             | I                     | 2778.226         | -0.001 | 7 KL                 | 9123                |        | I                     | 2337.335         | -0.002 | 9 VT                 |
| 9103                | 00 Aql      | I                     | 2758.243         | -0.039 | 9 RG                 | 9124                |        | I                     | 2343.311         | -0.003 | 10 VT                |

\* GCVS period erroneous, O-C according to the elements of page 4 of this issue: -0.011 -0.006 -0.008

\*\* not contained in the GCVS, O-C according to Meinunger's elements, Mitteilungen über Veränderliche Sterne Sonneberg 7 (1975), no. 1, p.7: +0.032

| cur-<br>rent<br>no. | star      | minimum<br>or-<br>der | JD hel<br>244... | O - C  | n  | ob-<br>ser-<br>ver | cur-<br>rent<br>no. | star   | minimum<br>or-<br>der | JD hel<br>244... | O - C  | n  | ob-<br>ser-<br>ver |
|---------------------|-----------|-----------------------|------------------|--------|----|--------------------|---------------------|--------|-----------------------|------------------|--------|----|--------------------|
| 9125                |           | I                     | 2692.334         | +0.007 | 9  | AR                 | 9172                | YY Eri | II                    | 2753.306         | -0.011 | 10 | KL                 |
| 9126                |           | I                     | 2710.259         | +0.004 | 8  | VT                 | 9173                |        | I                     | 2775.323         | -0.016 | 7  | RG                 |
| 9127                |           | I                     | 2741.333         | +0.002 | 4  | AF                 | 9174                | W For  | II                    | 2669.598         | +0.196 | 5  | KL                 |
| 9128                |           | I                     | 2741.335         | +0.004 | 7  | GZ                 | 9175                |        | I                     | 2774.273         | +0.136 | 5  | KL                 |
| 9129                |           | I                     | 2747.308         | 0.000  | 11 | AF                 | 9176                | AF Gem | I                     | 2774.465         | -0.018 | 9  | HP                 |
| 9130                |           | I                     | 2753.283         | -0.001 | 12 | KL                 | 9177                | CC Her | I                     | 2775.681         | +0.061 | 6  | KL                 |
| 9131                |           | I                     | 2754.479         | 0.000  | 9  | HP                 | 9178                | SY Hya | I                     | 2758.591         | -0.104 | 10 | KL                 |
| 9132                |           | I                     | 2759.270         | +0.010 | 7  | KL                 | 9179                |        | I                     | 2775.586         | -0.124 | 7  | RD                 |
| 9133                |           | I                     | 2778.385         | +0.001 | 8  | HP                 | 9180                |        | I                     | 2775.521         | -0.089 | 6  | KL                 |
| 9134                | IS Cas    | I                     | 2777.292         | -0.025 | 8  | RD                 | 9181                | SW Lac | II                    | 2753.371         | -0.082 | 11 | KL                 |
| 9135                | V 523 Cas | II                    | 2753.413         | *      | 8  | KL                 | 9182                |        | I                     | 2768.281         | -0.086 | 10 | KL                 |
| 9136                |           | I                     | 2768.265         | *      | 5  | KL                 | 9183                |        | I                     | 2775.338         | -0.086 | 7  | RG                 |
| 9137                |           | II                    | 2770.259         | *      | 10 | KL                 | 9184                |        | I                     | 2776.291         | -0.095 | 6  | RG                 |
| 9138                |           | I                     | 2775.285         | *      | 6  | KL                 | 9185                |        | I                     | 2778.239         | -0.071 | 8  | HP                 |
| 9139                | VW Cep    | I                     | 2753.313         | -0.039 | 12 | KL                 | 9186                | EM Lac | I                     | 2774.280         | -0.072 | 6  | KL                 |
| 9140                |           | I                     | 2767.230         | -0.088 | 12 | KL                 | 9187                | RW Leo | I                     | 2774.544         | +0.040 | 10 | KL                 |
| 9141                | EG Cep    | I                     | 2753.415         | +0.017 | 10 | KL                 | 9188                | UU Leo | I                     | 2748.506         | -0.020 | 7  | KL                 |
| 9142                |           | I                     | 2758.300         | 0.000  | 7  | RG                 | 9189                | UV Leo | I                     | 2768.536         | -0.008 | 10 | KL                 |
| 9143                |           | I                     | 2758.314         | +0.014 | 7  | KL                 | 9190                |        | I                     | 2777.544         | -0.001 | 11 | KL                 |
| 9144                |           | I                     | 2770.295         | +0.014 | 10 | KL                 | 9191                | AM Leo | II                    | 2753.649         | -0.037 | 6  | KL                 |
| 9145                |           | I                     | 2773.569         | +0.020 | 6  | KL                 | 9192                |        | II                    | 2775.608         | -0.026 | 9  | RD                 |
| 9146                | TW Cet    | II                    | 2752.328         | -0.024 | 8  | KL                 | 9193                | BL Leo | I                     | 2773.632         | -0.005 | 8  | KL                 |
| 9147                |           | II                    | 2767.225         | -0.019 | 7  | KL                 | 9194                |        | I                     | 2775.617         | +0.007 | 6  | KL                 |
| 9148                |           | I                     | 2776.261         | -0.013 | 12 | RG                 | 9195                | TZ Lyr | I                     | 2754.242         | +0.022 | 9  | HP                 |
| 9149                |           | II                    | 2778.312         | -0.021 | 12 | RG                 | 9196                | RW Mon | I                     | 2774.424         | -0.003 | 6  | KL                 |
| 9150                |           | II                    | 2778.312         | -0.021 | 8  | KL                 | 9197                |        | I                     | 2774.426         | -0.001 | 10 | HP                 |
| 9151                | VY Cet    | I                     | 2752.340         | **     | 8  | KL                 | 9198                | ER Ori | II                    | 2752.442         | -0.025 | 10 | HP                 |
| 9152                |           | I                     | 2768.359         | **     | 6  | KL                 | 9199                |        | II                    | 2774.431         | -0.052 | 6  | VT                 |
| 9153                |           | II                    | 2774.382         | **     | 8  | KL                 | 9200                |        | II                    | 2774.456         | -0.027 | 9  | HP                 |
| 9154                |           | I                     | 2778.239         | **     | 8  | HP                 | 9201                |        | II                    | 2775.307         | -0.023 | 9  | RG                 |
| 9155                |           | I                     | 2778.245         | **     | 11 | KL                 | 9202                |        | II                    | 2778.273         | -0.021 | 9  | RG                 |
| 9156                | AA Cet    | I                     | 2768.357         | ***    | 10 | KL                 | 9203                | FL Ori | I                     | 2774.406         | +0.093 | 7  | KL                 |
| 9157                |           | I                     | 2774.259         | ***    | 7  | KL                 | 9204                |        | I                     | 2774.410         | +0.097 | 8  | HP                 |
| 9158                |           | II                    | 2778.264         | ***    | 10 | KL                 | 9205                | GG Cri | I                     | 2777.306         | +0.037 | 6  | RD                 |
| 9159                | RW Com    | II                    | 2753.678         | -0.038 | 6  | KL                 | 9206                | U Peg  | I                     | 2777.244         | -0.029 | 6  | RD                 |
| 9160                |           | I                     | 2775.630         | -0.040 | 8  | RD                 | 9207                | BB Peg | I                     | 2748.310         | -0.028 | 6  | RD                 |
| 9161                | CC Com    | I                     | 2775.585         | +0.103 | 4  | RD                 | 9208                | BG Peg | I                     | 2777.269         | +0.001 | 10 | RD                 |
| 9162                | V Crt     | I                     | 2753.663         | +0.030 | 15 | KL                 | 9209                | BY Peg | I                     | 2774.276         | +0.055 | 8  | KL                 |
| 9163                | W Crv     | I                     | 2777.641         | 0.000  | 9  | KL                 | 9210                | DI Peg | I                     | 2754.247         | -0.013 | 8  | HP                 |
| 9164                | DO Cyg    | I                     | 2748.302         | -0.020 | 8  | RD                 | 9211                |        | I                     | 2776.296         | -0.031 | 6  | RG                 |
| 9165                | V 456 Cyg | I                     | 2758.243         | +0.025 | 6  | KL                 | 9212                | RT Per | I                     | 2754.283         | -0.063 | 11 | HP                 |
| 9166                |           | II                    | 2778.272         | +0.004 | 9  | HP                 | 9213                | ST Per | I                     | 2754.388         | +0.004 | 12 | HP                 |
| 9167                | V 700 Cyg | II                    | 2748.314         | -0.052 | 9  | RD                 | 9214                | WY Per | I                     | 2778.336         | -0.059 | 11 | HP                 |
| 9168                | DM Del    |                       | 2748.273         | ****   | 6  | RD                 | 9215                | XZ Per | I                     | 2754.309         | +0.008 | 13 | HP                 |
| 9169                | Z Dra     | I                     | 2777.571         | -0.005 | 8  | KL                 | 9216                |        | I                     | 2777.337         | +0.003 | 6  | KL                 |
| 9170                | RU Eri    | I                     | 2770.290         | +0.035 | 10 | KL                 | 9217                | DK Per | I                     | 2777.305         | +0.065 | 10 | RD                 |
| 9171                |           | I                     | 2777.233         | +0.025 | 10 | KL                 | 9218                | IZ Per | I                     | 2774.308         | +0.009 | 9  | KL                 |

\* not contained in the GCVS, O - C according to Häussler's elements IBVS 887: -0.001 +0.013 +0.019 +0.021

\*\* GCVS 1969 period erroneous, O - C according to the GCVS 1974: -0.182  
-0.184 -0.186 -0.189 -0.183

\*\*\* not contained in the GCVS 1969, O - C according to the GCVS 1974: -0.007  
-0.003 -0.020

\*\*\*\* GCVS period probably erroneous

| cur-<br>rent<br>no. | star        | minimum<br>or-<br>der | JD hel<br>244... | O - C  | ob-<br>n<br>ser-<br>ver | cur-<br>rent<br>no. | star   | minimum<br>or-<br>der | JD hel<br>244... | O - C  | ob-<br>n<br>ser-<br>ver |
|---------------------|-------------|-----------------------|------------------|--------|-------------------------|---------------------|--------|-----------------------|------------------|--------|-------------------------|
| 9219                | KW Per      | I                     | 2758.216         | +0.040 | 7 KL                    | 9237                |        | I                     | 2777.333         | -0.020 | 10 RD                   |
| 9220                |             | I                     | 2768.453         | +0.033 | 6 KL                    | 9238                | AP Tau | I                     | 2774.552         | *      | 7 KL                    |
| 9221                | $\beta$ Per | I                     | 2751.267         | -0.072 | 7 RG                    | 9239                |        | I                     | 2778.452         | *      | 7 KL                    |
| 9222                |             | I                     | 2768.456         | -0.088 | 17 KL                   | 9240                | CT Tau | I                     | 2758.365         | +0.012 | 8 KL                    |
| 9223                |             | I                     | 2768.469         | -0.074 | 11 HP                   | 9241                |        | I                     | 2768.382         | +0.026 | 12 HP                   |
| 9224                |             | I                     | 2774.208         | -0.074 | 9 RG                    | 9242                |        | I                     | 2774.384         | +0.026 | 8 HP                    |
| 9225                | RV Psc      | I                     | 2777.314         | +0.010 | 10 RD                   | 9243                | HU Tau | I                     | 2774.357         | +0.006 | 10 HP                   |
| 9226                | UV Psc      | I                     | 2776.240         | +0.022 | 8 HP                    | 9244                | V Tri  | I                     | 2754.376         | +0.016 | 11 HP                   |
| 9227                | XZ Pup      | I                     | 2758.588         | -0.013 | 5 KL                    | 9245                |        | I                     | 2768.418         | +0.013 | 12 HP                   |
| 9228                | AY Pup      | I                     | 2748.489         | +0.066 | 7 KL                    | 9246                |        | I                     | 2768.422         | +0.017 | 4 KL                    |
| 9229                |             | II                    | 2758.563         | +0.058 | 6 KL                    | 9247                |        | I                     | 2778.374         | +0.021 | 10 HP                   |
| 9230                |             | II                    | 2773.577         | +0.064 | 9 KL                    | 9248                | X Tri  | I                     | 2752.405         | -0.036 | 12 HP                   |
| 9231                |             | II                    | 2774.507         | +0.057 | 6 KL                    | 9249                |        | I                     | 2753.383         | -0.030 | 11 KL                   |
| 9232                | RZ Pyx      | I                     | 2753.696         | +0.199 | 12 KL                   | 9250                |        | I                     | 2754.350         | -0.034 | 8 HP                    |
| 9233                | AC UMa      | I                     | 2768.392         | +0.278 | 12 KL                   | 9251                |        | I                     | 2758.235         | -0.036 | 12 RG                   |
| 9234                | RZ Tau      | I                     | 2777.304         | +0.004 | 9 RD                    | 9252                |        | I                     | 2758.237         | -0.034 | 8 KL                    |
| 9235                | SV Tau      | I                     | 2768.497         | -0.032 | 6 KL                    | 9253                | VV UMa | I                     | 2770.269         | +0.093 | 10 KL                   |
| 9236                | AH Tau      | I                     | 2772.340         | -0.023 | 5 KL                    | 9254                | AH Vir | II                    | 2753.670         | +0.037 | 10 KL                   |

\* Failing an epoch in the GCVS, the first observed BBSAG minimum (no. 9063 in Bulletin 24) has been taken as epoch and combined with the GCVS period to get the O - C: +0.001 +0.003

B V 1 6 1 6 L e p :

Very probably Not an Eclipsing Variable

This star was announced by Markworth in 1974 through IBVS 921 as an eclipsing binary with unknown but probably long period. For the preliminary results of the later BBSAG survey see

BBSAG Bull 19, p. 4  
20 4  
21 6 .

The bright phase reported in Bulletin 21 continued at least 10 more days. Then the survey was forced to be interrupted by heliac disparition until 1975 September 12. From this date onward the star was possibly always at usual minimum brightness until a few days before the issue of the present bulletin, when a new rise began, possibly of the same shape as the one in March 1975.

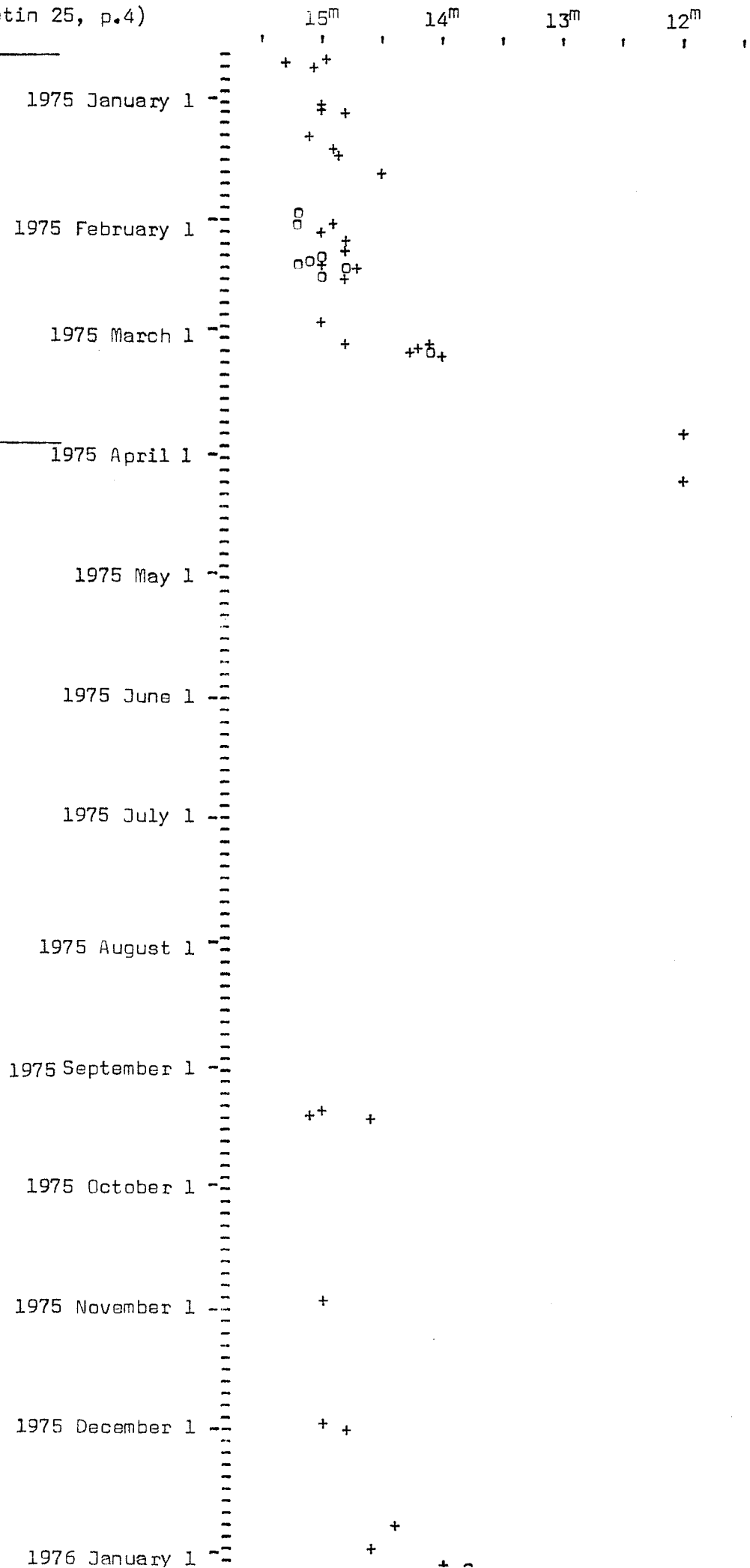
If, in any case, these two ending faintness intervals are considered as ending eclipses, an extremely improbable ratio  $d/p \geq 0.36$  will result. Figure 30 on next page contains all BBSAG survey data and is analogous to fig.22 of BBSAG Bull 21 in all details.

Very probably the star is some kind of eruptive variable. If it continues behaving as such during the next weeks, it will be dropped from BBSAG's interest and should be taken over by some institution dealing with intrinsic variables, preferably the VSSRAS New Zealand.

K. Locher

Figure 30

repeated from fig.22 BBSAG Bulletin 21



EP Andromedae :

Definite Elements for the Reinterpretation

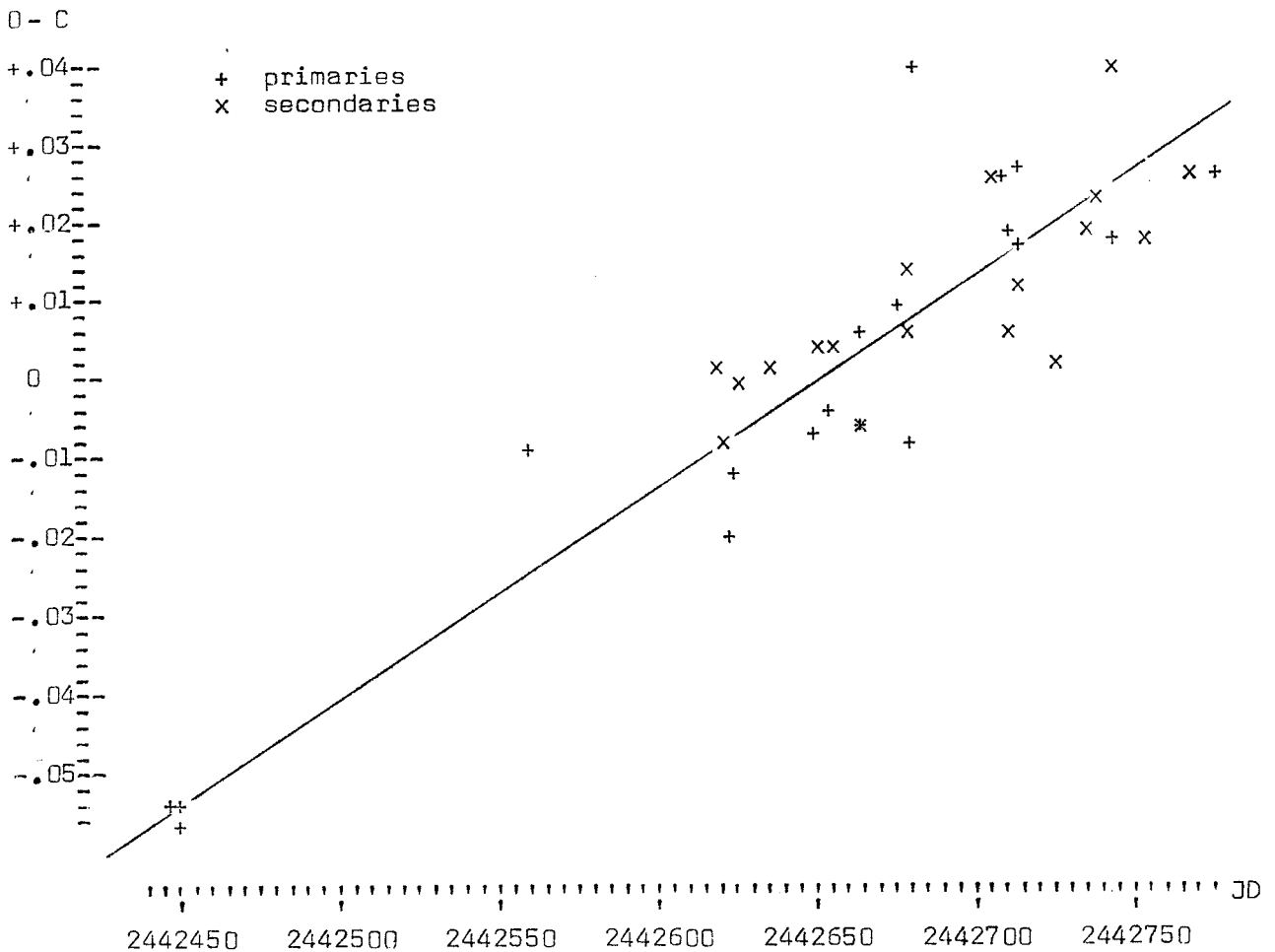
At the time of the announcement of the new interpretation (BBSAG Bull 23, p. 6) it was too early to include unambiguously the former BBSAG minima nos 7552, 7553, 7554, and 7986 into the data defining the new period. This now is possible, so that 2 more significant digits of the period yield the definite elements

$$JD \ 2442714.285 + .40411 E$$

The O-C values against these elements for all BBSAG observations can be taken from figure 29 as vertical offsets from the oblique straight line, while the true ordinates denote the O-C against elements based on the preliminary period .404 of BBSAG Bull 23.

K. Locher

figure 29



Erratum

EP And, BBSAG Bull 23, p.6, fig.25 :

The directions to the comparison magnitudes are southwest and southsouthwest instead of southeast and southsoutheast.