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OBSERVATIONS OF VARIABLES ON SKY PATROL PLATES

GK And = Wr 170 was discovered by Weber and announced as an eclipsing binary ($11^m.4 - 12^m.2$ ph) (Weber, R. 1967, IBVS 183). Elements of light variations were found by Kholopov (GCVS 1st Suppl. 1971). On 118 sky patrol plates (Sonneberg Obs. JD. 2439024 - 41602) I examined the star and found 5 minima and improved elements:

$$\text{Min. (hel.)} = \text{JD. } 2438643.430 + 2^d.009365 \cdot E \quad (\text{EA})$$
$$(11^m.28 - 12^m.36/11^m.5 \text{ ph; } D = 0^p.08)$$

EY Vul = GR 37 is a variable star discovered by Romano in 1958 (Oss. Treviso Pubbl. No.14). It is an eclipsing binary ($11.2 - 12.0$ ph). I examined the star on sky patrol plates (Sonneberg Obs.) $n = 374$, JD. 2435685 - 41602 (Hartha Obs.) $n = 274$, JD. 2436810 - 41570 and found the improved elements:

$$\text{Min. (hel.)} = \text{JD. } 2435771.238 + 4^d.103052 \cdot E \quad (\text{EA})$$
$$(\text{Max.} = 11.16, \quad \text{Min. I} = 12.19, \quad \text{Min. II} = 11.21 \text{ ph, } D = 0^p.08)$$

HBV 489 This star was discovered in 1972 by Wachmann as an Algol-type variable ($11^m.80 - 12^m.63$ ph). No elements were given (IBVS No.749). Using 384 sky patrol plates (Sonneberg Obs.) I obtained the following elements:

$$\text{Min. (hel.)} = \text{JD. } 2430633.378 + 4^d.980605 \cdot E \quad (\text{EA})$$
$$(12.02 - 12.8 \text{ ph; } D = 0^p.04)$$

BD -5^o2893 By observations of RU Sex I suspected the variability of BD -5^o2893. In order to test the variability I obtained 70 short-exposures. There are irregular variations between $10^m.7 - 11^m.1$ ph. The star seems to be coloured.

VV 423 Miller discovered this variable star in 1971 and Wachmann, (Hamburg Obs.) examined but could not find elements of this eclipsing binary (Ric. astr. Specola Vatic. Vol. 8 No. 12). So I observed the star on 472 sky patrol plates (Sonneberg Obs. JD. 2435695 - 41604). 12 minima and the following elements were obtained:

$$\text{Min. (hel.)} = \text{JD. } 2433562.520 + 5^d.5337615 \cdot E \quad (\text{EB})$$
$$(\text{Max.} = 10^m.72, \quad \text{Min. I} = 11^m.10, \quad \text{Min. II} = 11^m.76 \text{ ph})$$

CSV 8484 = GR 43 was discovered by Romano in 1958 ($11^m.6$ - 12^m ph).
220 plates of the sky patrol confirm the variability between the limits
 $11^m.50$ - $12^m.33$ ph. The type is presumable Isa.
Details for all these variables will be published in "Mitt. der Bruno-
H.-Bürgel-Sternwarte Hartha" Heft 6.

H. BUSCH

OBSERVATIONS OF 5 CSV - STARS ON SKY PATROL PLATES

CSV 4548 = BD + 36° 3414 (9.2) = SVS 868 = P 2486
I examined 140 plates of Hartha Observatory (JD. 2436817 - 38372). No
light variations were found.

CSV 8390 = GR 32. 249 plates (JD. 2436810 - 41570) of Hartha Obs.
The period is about $0^d.5$, the type is RR Lyrae.
Observed maxima: JD. (hel.) 2436847.314, 2437129.379, 2437575.399,
2437886.446, 2437940.428, 2438351.304, 2438640.354, 2440483.341.

CSV 8392 = GR 56. 136 plates of Sonneberg Observatory (JD. 2437559-
39792). The light variations are longperiodic.

CSV 8474 = BD + 21° 4117 = GR 54. 298 plates of Hartha Obs.
(JD. 2436810 - 41570). Unperiodical light variations were observed. The
star is not noticeable coloured. The type is presumably Isa.

CSV 8518 = GR 52 = BD + 24° 4131. 287 plates of Hartha Obs.
(JD. 2436810 - 41570). The star is probable a SRa - star with late
spectral type. I found a mean cycle of 362.5 days. The increasing lasts
 20 - 40^d . Mira - type is impossible because the amplitude is only $0^m.5$
(10.7 - $11^m.2$ ph). Observed maxima: JD. 243 6825, 243 7195, 243 7947,
243 8284, 243 8664, 243 8995.

Further particulars and light curves will be given in "Mitt. der Bruno-
H.-Bürgel-Sternwarte Hartha" Heft 6.

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