

COMMISSION 27 OF THE I. A. U
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PHOTOMETRIC LIGHT-CURVES OF SOUTHERN
 BV- STARS

The given magnitudes and amplitudes of the variables have to be understood in connexion with the magnitudes of the comparison stars. Because of the mean error of about 0.1 magnitudes for a single measurement a difference of this order in the depths of the primary and secondary minima cannot be discovered, therefore it may be necessary to double the period in some cases.

$$\text{BV 424} = \text{CoD } -65^{\circ}2086 = \text{HD 144 375 (F}_5) \text{ (Fig. 1)}$$

$$\text{Min} = \text{JD } 243\ 8228.285 + 2^{\text{d}}.7095 \cdot E, \text{ EB, Ampl. } 0.^{\text{m}}.6 \text{ } 1^{\text{a}}$$

Comparison stars:

HD 144 403 (A₀) 8.^m65 (mean values of Harvard and Cape catalogues)

HD 144 560 (K₂) 9.^m30

Individual minima (fainter than 9.^m40)

Minima	E	O - C
243 8228.315	0	+0.030
8266.224	14	+0.006
8553.417	120	-0.008

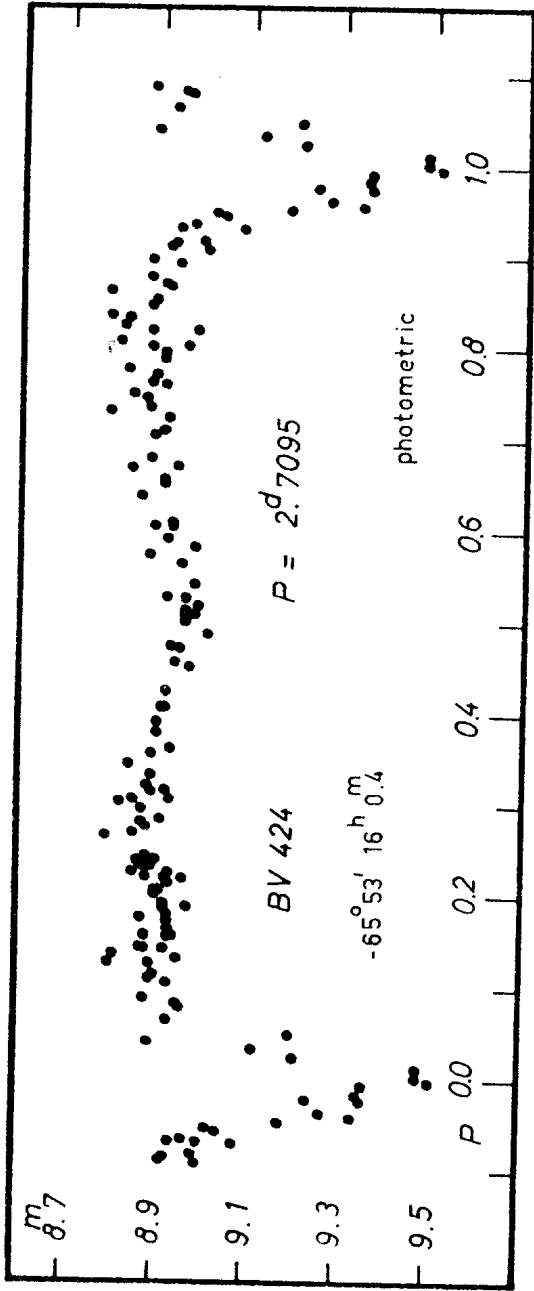


Fig.1

$$\underline{BV\ 445 = BD\ -10^{\circ}3826\ (8.^m_5) = HD\ 123\ 423\ (F_5)} \quad (\text{Fig. 2})$$

$$\text{Min} = \text{JD } 242\ 6087.505 + 2.^d_{334\ 715} \cdot E, \text{ EA, Ampl. } 0.^m_7 \quad 1b$$

Comparison stars:

$$\text{HD } 123\ 900\ (F_0) \quad 9.^m_1$$

(Data from Harvard catalogue)

$$\text{HD } 123\ 286\ (F_8) \quad 10.^m_1$$

The light-curve has been derived using sky patrol plates of the Bamberg Southern Station, covering a time-interval of 404 days = 173 epochs. In deriving the period, however, sky patrol plates from Bamberg have been used additionally. By means of these plates a total time-interval of 12 692 days = 5 479 epochs could be covered. The sky patrol plates of Bamberg have been estimated and minima are given in the following list:

Minima	E	O - C
242 6087.481	0	-0.024
6505.452	179	+0.032
7182.516	469	+0.027
7483.639	598	-0.029

Photometric minima (fainter than $9.^m_{70}$)

Minima	E	O - C
243 8475.501	5306	+0.002
8578.244	5350	+0.017
8779.403	5479	-0.003

BV 445 has been already published in Inf. Bull. on Var. Stars No. 62 ^{1b}. The period given there is wrong.

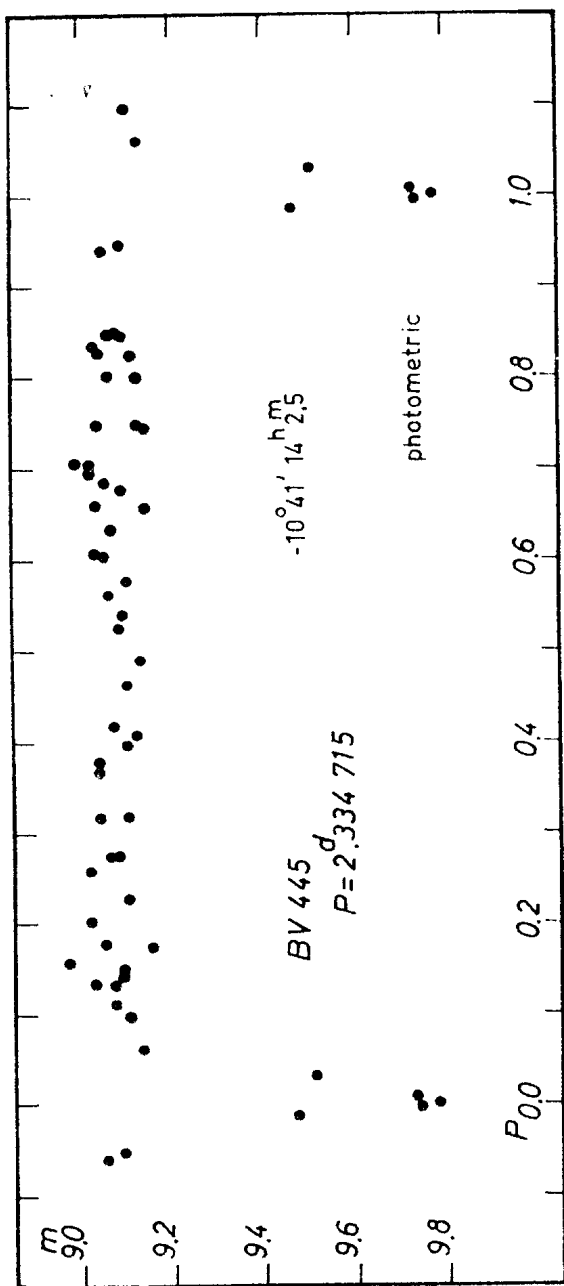


Fig. 2

BV 458 = 1900: 6^h 7^m 54^s -66° 57' 9" = HD 271 924 (A₀) (Fig. 3)

Max = JD 243 8379.425 + 1.^d3338 . E, Cepheid, Ampl. 0.^m95 ^{1c}

Comparison stars:

a = Cape -66° 49' 5" 9.^m4 (Value from the Cape catalogue)
 b = 10.^m6 estimated (Fig. 3, Ident. chart)

Individual maxima (brighter than 9.^m95)

Maxima	E	O - C
243 8379.453	0	+0.028
8707.526	246	-0.026
.572	246	+0.032
8739.506	270	-0.045
8798.279	314	+0.041
8810.272	323	+0.030

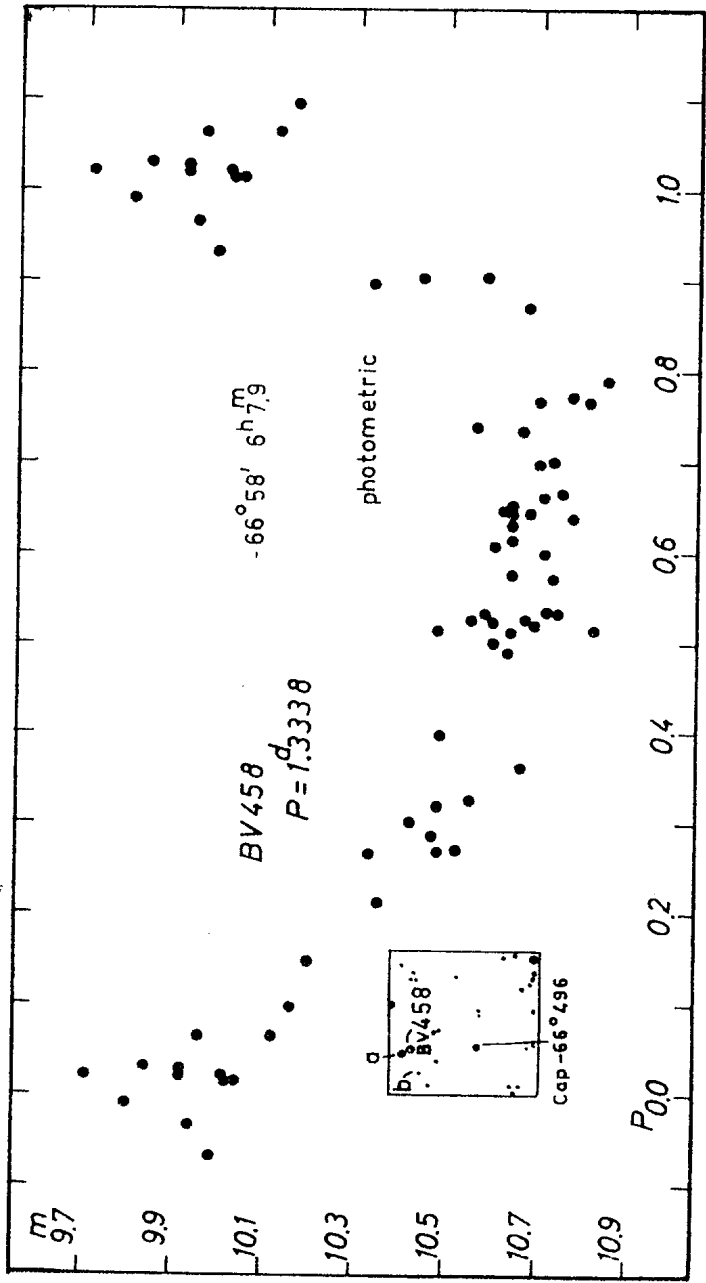


Fig. 3

BV 477 = CoD -77°608 (10^m.0) = Cape -77°905 (9^m.2) (Fig. 4)

Min = JD 243 8494.410 + 2^d.1162 . E, AE, Ampl. 0^m.7 1c

Comparison stars:

Cape -78°822 9^m.0
Cape -77°604 10.0 (Data from Cape catalogue)

Individual minima (fainter than 9^m.90)

Minima	E	O - C
243 8494.403	0	-0.007
8547.287	25	-0.028
8583.247	42	-0.043
8877.447	181	+0.005
8911.292	197	-0.009

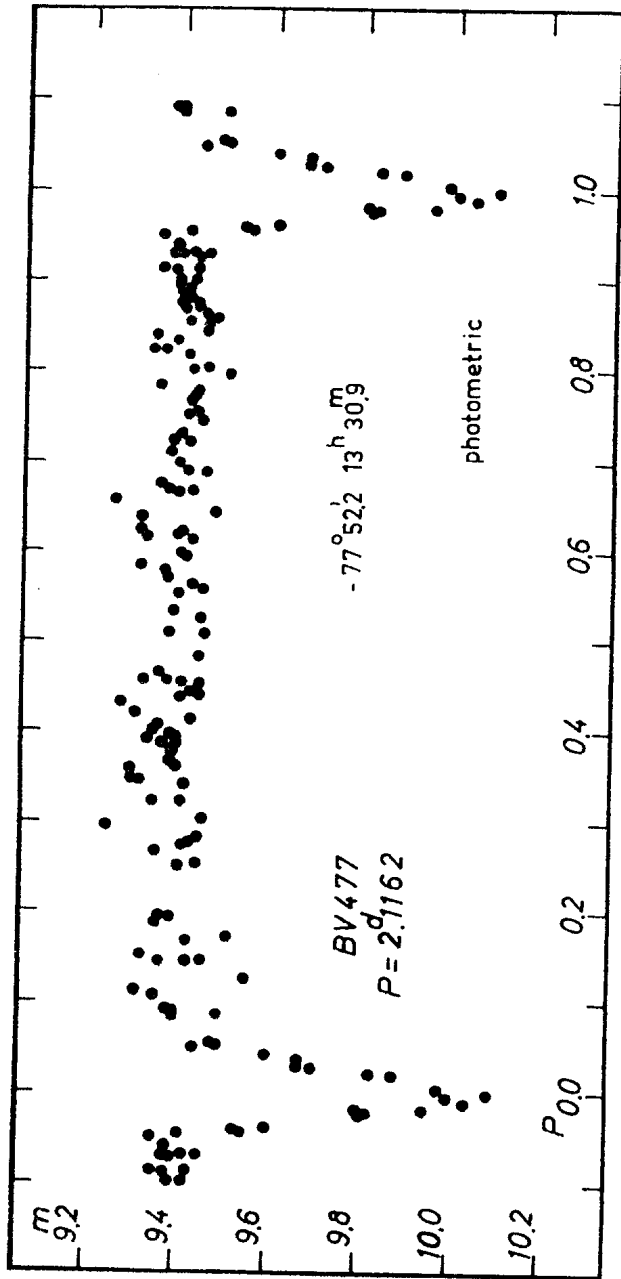


Fig.4

BV 510 = CoD -55°5858 (10^m3/4) = Cape -55°6204 (9^m.6) (Fig. 5)

Min = JD 243 8205.310 + 0^d.86 956 . E, EA, Ampl. 0^m.45 1d

Comparison stars:

Cape -55°6207 9^m.4
Cape -55°6203 10^m.1 (Data from Cape catalogue)

Individual minima (fainter than 9^m.80)

Minima	E	O - C
243 8205.284	0	-0.026
8524.438	367	0.000
8592.250	445	-0.013
8877.452	773	-0.027
8884.457	781	+0.022

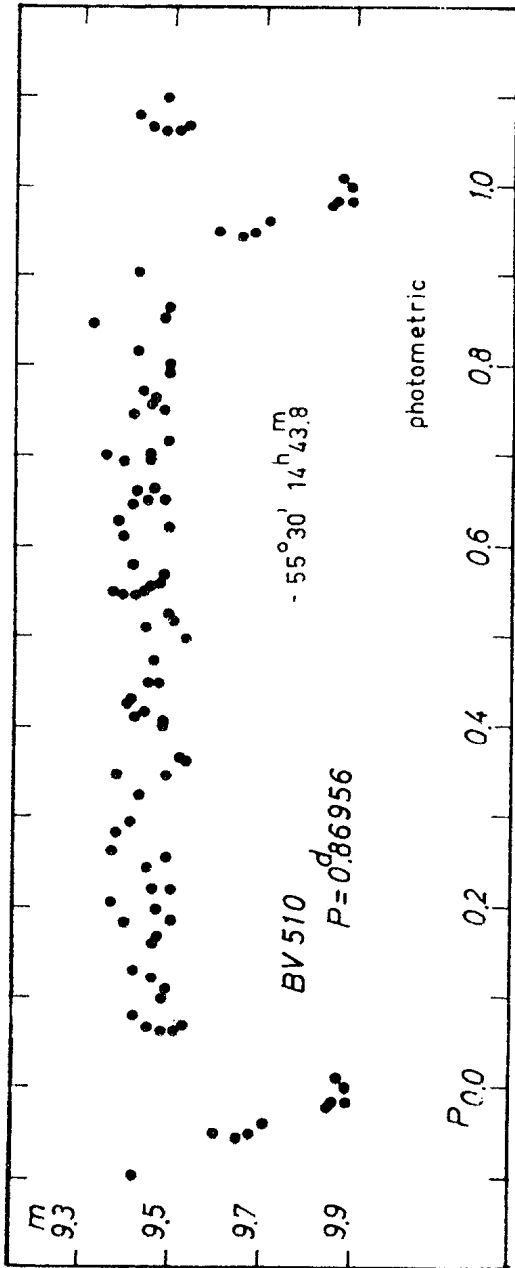


Fig.5

HV 526 = CoD -64° 898 (9^m.0) = HD 132 461 (B₉) (Fig. 6)

Min = JD 243 8199.250 + 6^d.460 . E, EB, Ampl. 0^m.3 1e

Comparison stars:

HD 131 782 (A₃) 8^m.0 (mean values of Harvard and
 HD 132 023 (A₂) 9^m.2 Cape catalogues)

Individual minima (fainter than 9^m.0)

Minima	E	O - C
243 8199.313	0	+0.063
8548.331	54	+0.239
8580.245	59	-0.147
.290	59	-0.102
8877.447	105	-0.105
.491	105	-0.061
8916.345	111	+0.033
.392	111	+0.080

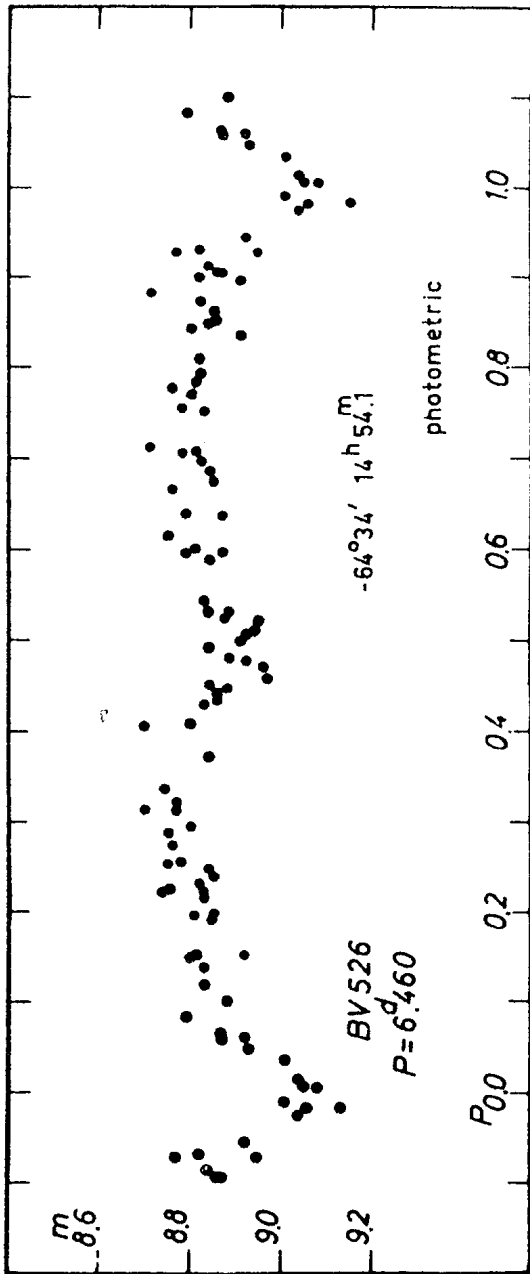


Fig.6

BV 556 = BD -16^o 4888 (8.^m3) = HD 170 097 (B₉) (Fig. 7)

Min = JD 243 8505.574 + 5.^d2747 . E, EW, Ampl. 0.^m6 1^e

Comparison stars:

HD 170 604 (B₃) 8.^m5
HD 170 378 (B₈) 9.^m4 (Data from Harvard catalogue)

Individual minima (fainter than 8.^m80)

Minima	E	O - C
243 8505.574	0	+0.000
8587.386	15.5	+0.054

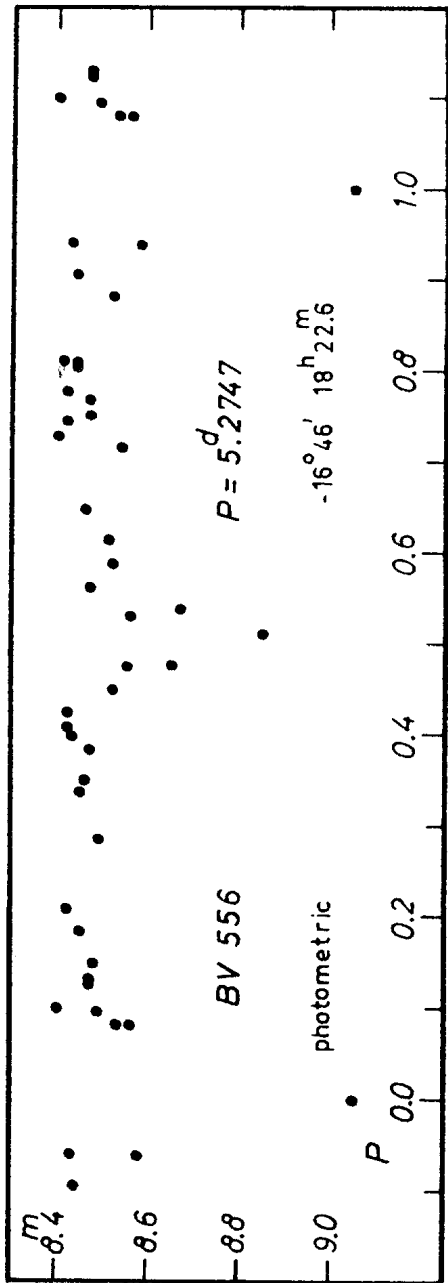


Fig.7

BV 577 = CoD -34°10981 (7.^m2) = HD 147 683 (B₈) (Fig. 8)

Min = JD 243 8230.250 + 1.^d7309 . E, EW, Ampl. 0.^m3 1f

Comparison stars:

HD 147 387 (F₂) 7.^m20 estimated
 HD 146 745 (F₂) 7. 65 estimated

In the Harvard catalogue as well as in the Cape catalogue the comparison star a is fainter than b in contrary to their values derived from sky patrol plates.

Individual minima (fainter than 7.^m50)

Minima	E	O - C
243 8230.265	0	+0.015
8499.406	155.5	+0.001
.428	155.5	+0.023
.514	155.5	+0.109
8505.485	159	+0.022
8551.376	185.5	+0.045
8557.374	189	-0.016
8577.290	200.5	-0.005
8584.292	204.5	+0.073
8590.294	208	+0.017
8610.209	219.5	+0.027
8616.212	223	-0.028
8885.452	378.5	+0.057
8911.384	393.5	+0.025

The period given in Inf. Bull. on Var. Stars No. 81^{1f} appears to be wrong as may be seen from new plate-material. A better light-curve result from the period of 1.^d7309 . E.

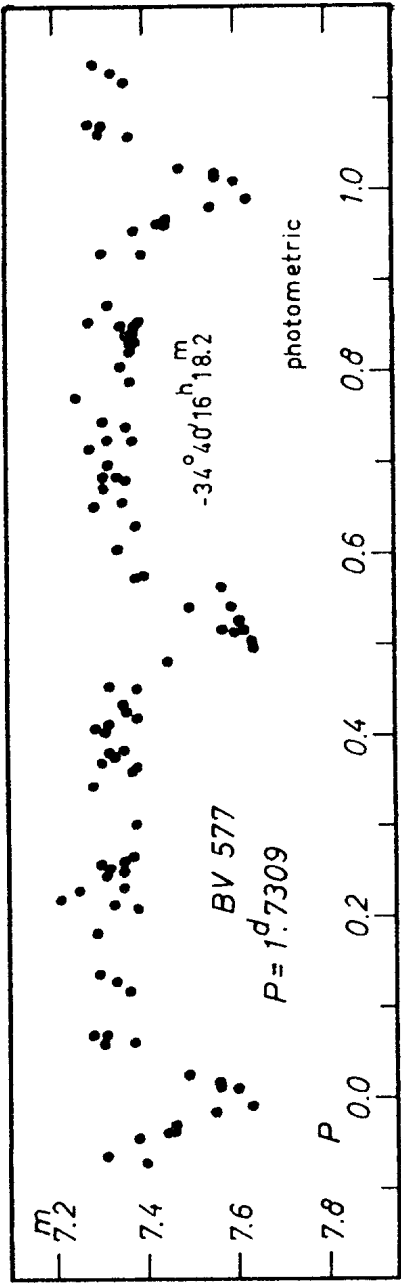


Fig.8

BV 581 = CoD -54⁰7490 (8^m.9) = HD 161 337 (B₈) (Fig. 9)

Min = JD 243 8233.340 + 1.^d8744 . E, EW, Ampl. 0^m.5 ^{1f}

Comparison stars:

HD 157 624 (B₈) 7^m.82
 HD 157 943 (A₀) 9^m.40 (Cousins' catalogue ²)

Individual minima (fainter than 9^m.80)

Minima	E	O - C
243 8233.310	0	-0.030
8264.225	16.5	-0.038
8265.223	17	+0.018
8498.540	141.5	-0.028
8529.514	158	+0.019
8606.317	199	-0.030
8607.253	199.5	-0.030
8607.299	199.5	+0.016
8608.253	200	+0.033
8621.292	207	-0.049
8622.270	207.5	-0.008
8638.219	216	+0.009

BV 581 has been published without light-curve in Inf. Bull. on Var. Stars No. 81 ^{1f}. The period and classification there as the first communication has been changed.

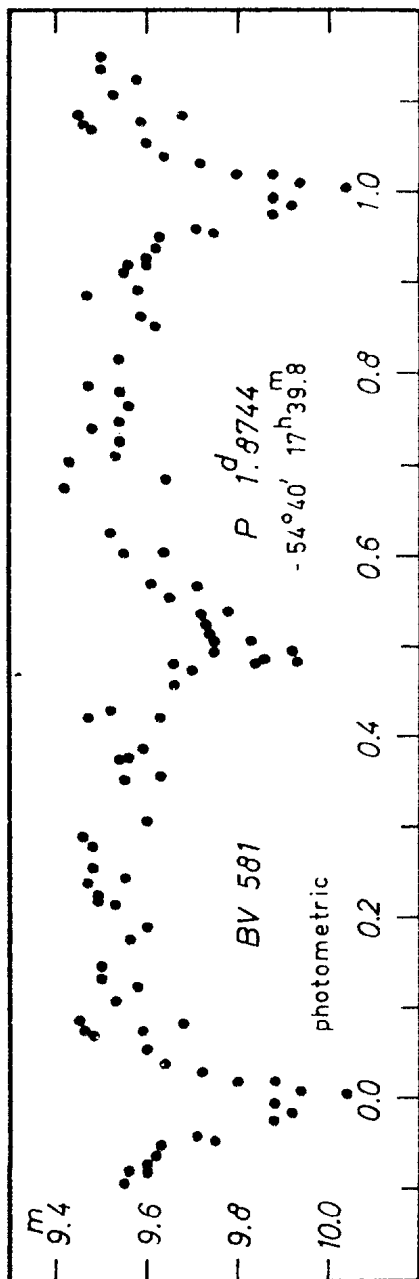


Fig.9

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- 1d/ NUMBER 70, W. STROHMEIER, R. KNIGGE, H. OTT, Bright
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- 1e/ NUMBER 74, W. STROHMEIER, R. KNIGGE, H. OTT, Bright
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