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PHOTOGRAPHIC AND CCD PHOTOMETRY OF V350 CEPHEI

The variability of V350 Cep was discovered by Gyulbudaghian and Sarkissian (1977) comparing their photographic observations in NGC 7129 with the Palomar Observatory Sky Survey charts. They found the star to be brighter in 1977 with more than 4^m in B colour in comparison with the brightness in 1952. The following photometric observations of V350 Cep (Gyulbudaghian and Sarkissian, 1978; Hakverdian and Gyulbudaghian 1978; Shevchenko and Yakubov (1989); Pogosyants 1991; Semkov 1993) demonstrated changes of brightness, which are typical for T Tauri type stars with amplitude of about 1^m.5 in B-light. The recent spectral observations of V350 Cep made in 1989 (Miranda et al., 1994) confirmed that its spectrum is also of a T Tauri type star with a number of emission lines and P Cygni profile of H α line.

Table 1. Photographic observations of V350 Cep in the period December 1992 - August 1994

J.D. 244...	U mag	B mag	V mag	J.D. 244...	U mag	B mag	V mag
8982.2	—	—	15.9	9151.4	—	17.1	15.8
9002.3	—	17.4	16.1	9152.4	—	17.1	15.8
9005.2	—	17.3	16.3	9184.5	16.3	17.1	15.6
9006.2	16.8	17.0	15.8	9185.5	16.4	16.8	15.6
9007.2	—	17.2	—	9186.4	—	16.9	—
9008.2	—	17.3	—	9187.5	—	16.7	—
9009.2	16.8	—	—	9224.4	16.3	17.0	—
9029.3	—	17.1	16.2	9267.4	16.9	17.0	15.5
9036.3	—	17.3	—	9300.3	—	16.7	—
9036.6	—	17.4	—	9354.3	—	16.5	—
9038.6	—	17.0	—	9452.5	—	16.4	—
9063.5	—	—	16.1	9456.5	16.7	17.2	—
9067.5	—	16.7	15.7	9507.4	—	17.4	16.3
9096.6	—	17.3	16.3	9576.4	—	17.3	15.9
9120.5	—	17.1	16.5	9577.3	—	17.3	—
9149.4	—	—	16.0	9579.4	—	17.3	16.7
9150.4	—	16.8	15.9				

The present photometric data are a continuation of our investigation of V350 Cep which has been carried out since 1984 (Semkov, 1993). The UBV photographic observations were made with the 50/70/172 cm Schmidt telescope of the National Astronomical Observatory Rozhen (Bulgaria) in the period December 1992 - August 1994 (Table 1). The B-light

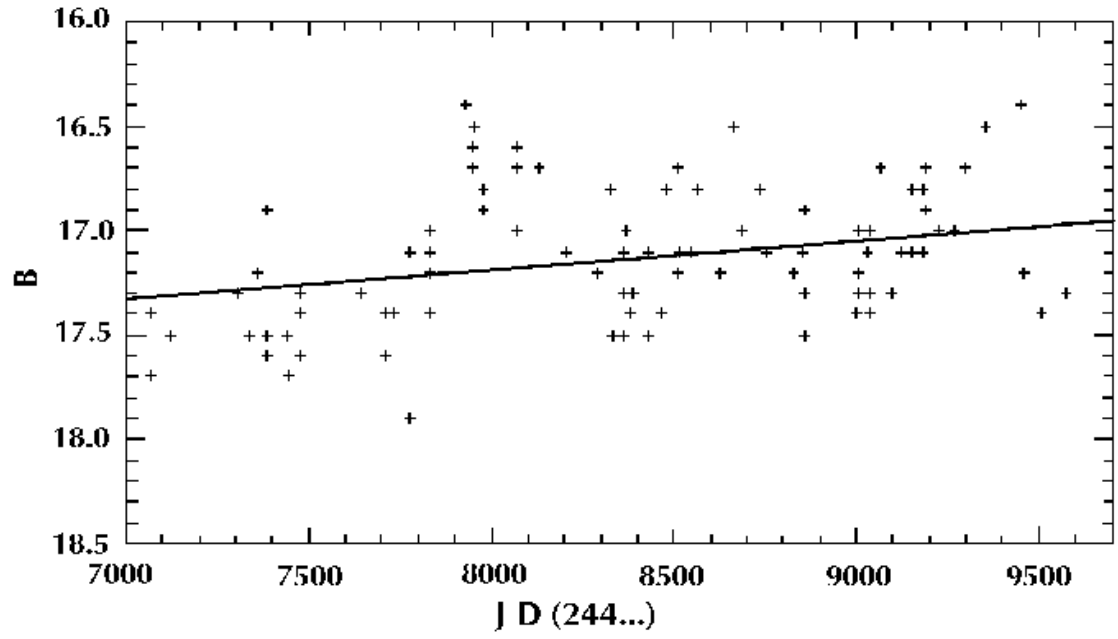


Figure 1. Light curve in B-light of V350 Cep during the period July 1987-August 1994 (Semkov 1993 and this paper)

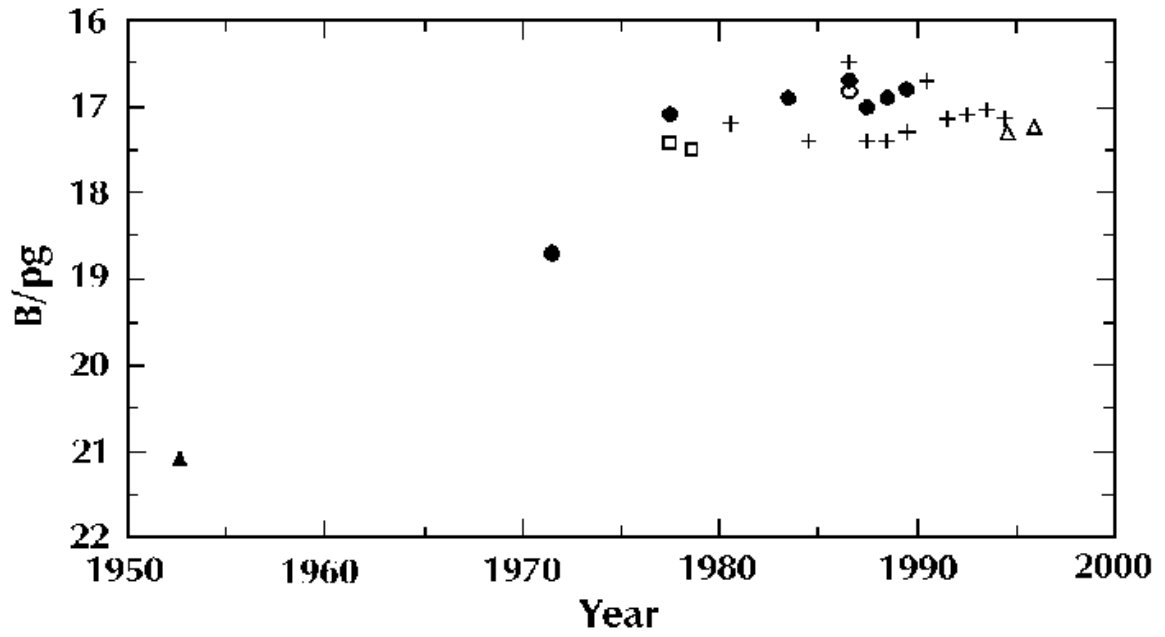


Figure 2. Light curve of V350 Cep from all known observations

curve only from our observations during the period July 1987 - August 1994 is presented in Figure 1. The increase in B-light has continued over the period December 1992 - August 1994. The BVRI(Kron) CCD photometric observations were made with an SBIG ST-6 camera attached to the Rozhen 2m RCC telescope (Table 2). The reductions to the standard BVRI system were made according to Georgiev et al. (1994).

Table 2. BVRI(Kron) CCD photometry of V350 Cep

J.D. (24...)	V	B - V	V - R	V - I
49215.379	16.88	–	0.97	2.04
49573.481	16.32	0.98	0.85	1.98
50047.399	16.14	1.05	0.98	2.10
50048.441	16.11	1.21	0.89	2.05

Using all known observations we composed the light curve in B/pg-band of V350 Cep presented in Figure 2. The mean value of the stellar magnitude for each year from all photographic data is taken. In Figure 2 the crosses denote our photographic data (Semkov 1993 and this paper), the filled circles: photographic data from Pogosyants (1991), the squares: photographic data from the Byurakan Schmidt telescope (Gyulbudaghian and Sarkissian 1977, 1978; Hakverdian and Gyulbudaghian 1978), the filled triangle: visual estimation from the Palomar Observatory Sky Survey Prints, the circles: the mean photo-electric data from Shevchenko and Yakubov (1989), the triangles: our CCD photometric data. From Figure 2 the gradual increase of brightness of V350 Cep resembling the FU Ori type star V1515 Cyg (Herbig, 1977) can be seen.

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