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**DISCOVERY OF TWO NEW DWARF NOVAE
 IN CEPHEUS AND CYGNUS**

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Name of the object:
Var 75 Cep

Equatorial coordinates:	Equinox:
R.A.= 20 ^h 46 ^m 38 ^s .66 DEC.= +60°38'03".6	2000

Observatory and telescope:
Crimean and Sonneberg 40-cm astrographs

Detector:	Photoplate
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Filter(s):	None
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Comparison star(s):	α (J2000)	δ (J2000)	B_{pg}
	20 ^h 46 ^m 37 ^s .4	+60°37'34"	14 ^m 59
	20 ^h 46 ^m 47 ^s .4	+60°39'40"	15 ^m 25
	20 ^h 46 ^m 14 ^s .7	+60°39'23"	15 ^m 40
	20 ^h 46 ^m 31 ^s .7	+60°39'41"	15 ^m 78
	20 ^h 46 ^m 14 ^s .5	+60°39'00"	15 ^m 99
	20 ^h 46 ^m 24 ^s .4	+60°38'49"	16 ^m 20
	20 ^h 46 ^m 13 ^s .5	+60°39'53"	16 ^m 87
	20 ^h 46 ^m 36 ^s .6	+60°38'12"	16 ^m 90
	20 ^h 46 ^m 43 ^s .5	+60°37'46"	17 ^m 2
	20 ^h 46 ^m 28 ^s .4	+60°38'54"	17 ^m 3
	20 ^h 46 ^m 29 ^s .8	+60°39'00"	17 ^m 5

Transformed to a standard system:	B_{pg}
Standard stars (field) used:	Calibrated using the blue magnitudes of neighboring stars from the USNO-A2.0 catalogue (Monet <i>et al.</i> , 1998)

Date(s) of the observation(s):
1939–1993

Availability of the data:
Upon request

Type of variability: UG

Remarks:

The variability of Var 75 Cep was discovered by one of the authors (S.V.A.) on plates of the Moscow archive. The star was in outburst on two plates only, which is not sufficient to classify the new variable definitively. One more brightening was found in our further study of Var 75 Cep on Sonneberg archive plates. Both the blue color in minimum brightness on Palomar prints (and in USNO-A2.0 catalogue) and the two outbursts that were found on archive plates permit us to consider Var 75 Cep as a new UG-type variable. The magnitudes of Var75 in minimum brightness in the USNO-A2.0 catalogue are $b=17^m6$ and $r=18^m1$. The outbursts on Sonneberg (S) and Moscow (M) plates:

#1	2445942.457	15.28	S	#2	47823.342	< 15.99	S
	2445942.471	15.32	S		47830.350	15.52	M
					47836.206	15.78	M

As a by-product of the study, we investigated FK Cep (S 7924) – a known eclipsing variable close in coordinates to Var 75 Cep – on the same plates (219 Sonneberg and Moscow plates taken on JD 2429376–49252) with the same comparison stars. The star was discovered by Hoffmeister (1963). But no light elements were published to the present. We found variations between the photographic magnitudes 15.8 and 16.9 with the following light elements:

$$JD_{\min} = 2448484.454 + 2^d39055 \times E.$$

The phased light curve is shown in Fig. 1.

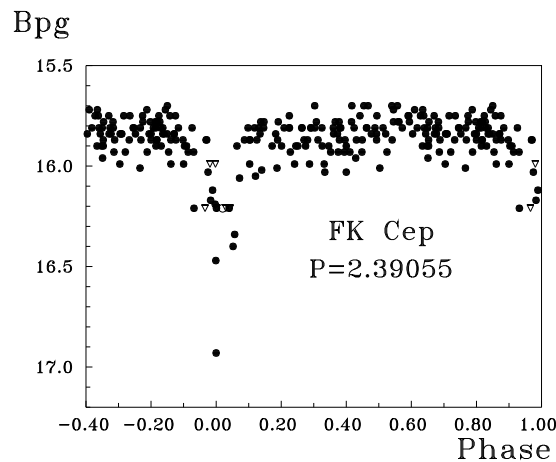


Figure 1. FK Cep. The phased light curve. Open triangles: brighter limits.

Name of the object:
Var 76 Cyg

Equatorial coordinates:	Equinox:
R.A. = 22 ^h 02 ^m 41 ^s .84 DEC. = +46°39'06".9	2000

Observatory and telescope:
Crimean and Sonneberg 40-cm astrographs

Detector:	Photoplate
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Filter(s):	None
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Comparison star(s):	α (J2000)	δ (J2000)	B_{pg}
	22 ^h 02 ^m 40 ^s .5	+46°40'25"	15 ^m 39
	22 ^h 02 ^m 42 ^s .2	+46°39'32"	15 ^m 71
	22 ^h 02 ^m 47 ^s .2	+46°39'47"	16 ^m 24
	22 ^h 02 ^m 46 ^s .7	+46°39'20"	16 ^m 61
	22 ^h 02 ^m 40 ^s .4	+46°39'19"	17 ^m 3
	22 ^h 02 ^m 38 ^s .7	+46°39'06"	17 ^m 8

Transformed to a standard system:	B_{pg}
Standard stars (field) used:	Calibrated using the photoelectric standard sequence in NGC 7209 (Hoag <i>et al.</i> , 1961)

Date(s) of the observation(s):
1950–1994

Availability of the data:
Upon request

Type of variability:	UG
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Remarks:

The new variable star was discovered by one of the authors (S.V.A.) on the plates of Moscow collection. Subsequently we estimated Var 76 Cyg by eye on 587 plates taken with Sonneberg and Crimean 40-cm astrographs for the interval JD24433483–49634. A total of seven outbursts have been revealed. The range of variability is $15^m7 - <17^m8$. Note that the new variable star is not present in minimum brightness on the POSS I and II plates. So, the photographic magnitude of Var 76 Cyg in minimum is fainter than 21^m0 . The accurate position of the dwarf nova was derived from one of the Moscow plates (in outburst) relative to 10 neighboring stars, their coordinates taken from the USNO-B1.0 catalogue (Monet et al., 2003). The long duration of one of the outbursts (#3, see below) – more than 11 days – permit us to consider Var 76 as a candidate to UGSU-subtype variables. The outbursts on Sonneberg (S) and Moscow (M) plates (JD24...):

#1	40145.387	< 16.6	M	#4	44167.292	< 16.6	S
	40153.415	16.43	M		44173.320	15.82	S
	40156.409	16.39	M		44173.333	15.68	S
					44173.347	15.76	S
#2	41177.479	16.70	M		44173.361	15.82	S
	41182.461	< 16.6	S		44173.375	15.87	S
					44173.389	15.71	S
#3	42286.409	< 17.3	M		44174.412	16.03:	S
	42300.333	15.82	M				
	42301.368	15.82	M	#5	45583.479	16.50	S
	42302.417	15.76	M		45583.504	16.19	S
	42303.377	15.92	M		45585.466	16.28	S
	42305.298	16.03	M				
	42308.447	16.21	M	#6	46706.426	16.31	S
	42309.411	16.43	M		46708.408	< 17.3	S
	42310.401	16.61	M				
	42311.466	16.61	S	#7	47421.366	16.68	M
	42311.530	16.50	S				
	42313.333	< 16.6	M				

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