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PHOTOGRAPHIC PHOTOMETRY OF V 1515 CYGNI

In the course of the programme to discover and investigate flare stars and other nonstable objects in the  $\gamma$  Cygni region, a great number of monitoring photographic plates have been obtained in u-, b- and v-bands in the period 1976-1982. The observations were made with the 20 in./28 in. Schmidt-telescope of National Astronomical Observatory of the Bulgarian Academy of Sciences at Rozhen and with the 40 in./52 in. Schmidt-telescope of Byurakan Astrophysical Observatory, of the Armenian Academy of Sciences, U.S.S.R.

On 120 plates the magnitudes of V 1515 Cygni - a member of the very interesting group of FUOrionis stars, the fuors - could be also measured.

The following telescopes and plate-filter combinations were used:

	for u- ORWO ZU2+UG1 or ZU21+UG1
40"/52"	for b- Kodak IIAO+GG385 or ZU21+GG385
Schmidt-telescope	for v- Kodak ID+GG495
	for u- ORWO ZU21+UG2
20"/28"	for b- ORWO ZU21+GG13
Schmidt-telescope	for v- RPI+GG11

The measurements were carried out with an Ascorecord type Ascoris (Carl Zeiss, Jena) photometer. To our photographic photometry we used 11 stars from UBV-photoelectric standard stars in Cyg OB2 association from the catalogue of Kazanassmas et al. (1981) and 3 photographic standard stars from the work of Reddish et al. (1966). The iris readings for V 1515 Cygni were corrected for inhomogeneous background according to the method of Argue (1960). The mean error of an individual measurement is  $0.12^m$ .

Table I gives our estimates of magnitudes of V 1515 Cygni. We have to note that the star sometimes changes its brightness with an amplitude of 0.5 mag during one hour.

J.D. 244....	v	b	u	J.D. 244....	v	b	u
3019.408		13.58		4570.205			16.20
3020.442		13.83		4570.251			16.14
3021.364		13.70		4703.584		14.31	
3399.183			15.52	4704.541		14.15	
3399.331			15.54	4708.559			15.52
3399.351			15.26	4726.534			15.70
3400.353		13.49		4728.522			16.19
3400.361		13.68		4735.503			15.32
3400.369	12.10			4756.551			15.44
3400.385	12.10			4759.444			15.40
4143.416		13.71		4761.551			15.53
4187.209			14.64	4764.542	12.34		
4187.250			14.56	4765.472			15.98
4187.337			14.75	4785.386			15.98
4188.196			14.46	4785.428			15.80
4217.190			14.50	4787.463			15.90
4407.526			15.14	4788.520			15.59
4408.476			15.31	4789.436			15.78
4409.452			15.35	4789.539		14.30	
4409.578			15.21	4817.420			15.83
4430.565			15.02	4818.395			15.18
4434.409			15.20	4818.549		14.23	
4434.509			15.46	4819.372			15.12
4435.396			15.58	4820.358			15.28
4435.445			15.08	4822.521			15.77
4435.500			15.40	4825.435			15.50
4435.560			15.59	4826.457			15.92
4436.455			15.18	4827.440			15.33
4437.365			15.01	4838.404			15.78
4438.539			15.12	4844.287			15.30
4459.411			15.80	4846.324			15.55
4463.365			16.01	4846.455			15.76
4464.397			15.09	4868.376			15.15
4464.444			15.40	4869.260			15.60
4466.380			15.82	4869.325			15.52
4466.432			15.60	4869.372			15.56
4466.530			15.87	4870.291			15.30
4468.476			15.61	4870.338			15.40
4483.365			15.69	4870.385			15.48
4488.361			15.76	4870.478			15.71
4489.302			15.98	4872.272			15.01
4492.236			15.90	4872.381			15.52
4492.264			15.93	4874.349			15.17
4492.292		14.47		4877.292			15.73
4492.304		14.63		4898.353			15.03
4493.309			15.92	4901.240			15.62
4493.335		14.50		4907.217			15.63
4493.348	12.79			4933.192			15.84
4494.264	12.64			5210.510			15.19
4494.278	12.76			5218.258			15.03
4494.294	12.77			5219.274			15.09
4495.270			16.07	5220.259			15.08
4496.342			16.11	5220.298		13.93	
4517.433			16.26	5228.298			14.96
4520.273			16.03	5228.320		14.02	
4521.360			16.26	5229.303			15.50
4524.292			15.78	5230.368			15.45
4542.276			15.99	5231.278			15.14
4543.291			16.34	5231.391		14.37	
4549.250			15.88	5232.408		14.40	

Figure 1 presents the light curve in u-, b- and v-bands in the period 1976-1982 according to our photographic photometry (denoted with dots) supplemented with photoelectric observations of Stone (Herbig, 1977), Landolt (1977), Kolotilov (1979), Kolotilov and Petrov (1981) (denoted with "x").

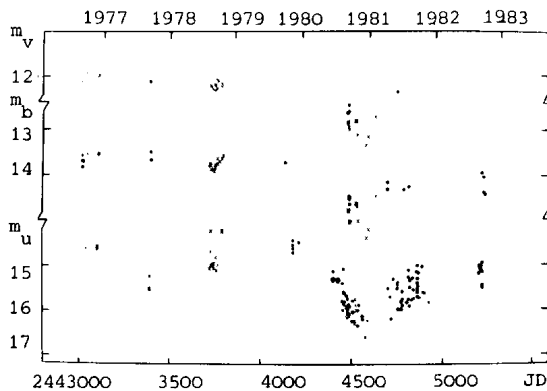


Figure 1

Kolotilov and Petrov (1981) noticed a brightness decrease in V 1515 Cygni. Recent observations of Kolotilov (private communication) and our ones showed that the star decreased its brightness with an amplitude of 1.8 mag in u-band from the beginning of 1980 to the beginning of 1981. Since that time its brightness has been increasing, although till the autumn 1982 V 1515 Cygni did not reach the magnitude it had at the end of 1979.

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