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B2 1101+384: VARIABILITY AND COMPARISON STARS

Photoelectric UBV observations of the object B2 1101+384 have been carried out with the 60 cm reflector (Lyutyj, 1971) of the Sternberg Institute Crimean Station with the purpose of detecting a short time variability. BD+39°2407 (Klemola, 1962) was used as the comparison star, SSII-5 (Eggen, Sandage, 1965) - as the check star. The observed magnitudes were transformed to Johnson's system. The values of V, (B-V) and (U-B) for B2 1101+384 together with the dates are given in Table I. The accuracy of the observations (Tables I, II) is $\pm 0^m.02$ (for V and B-V) and $\pm 0^m.03$ (for U-B).

Continuous observations in B-band were made on Jan. 7 and Feb. 3, 1976 with integration time 40 sec. Considerable variability was not detected for 110 min. observation, although quasi-periodic fluctuations with amplitude $0^m.05$ and time scale about 20 min. are not impossible.

UBV magnitudes of six comparison stars (see Table II) were also obtained. Designations of the stars coincide with those in the work of Veron, Veron (1975). Nine plates were measured using this standard sequence. The photographic B values are listed in Table III with the dates, mean errors and telescopes used. The comparison of photographic and photoelectric observations shows a variability of B2 1101+384 about 1^m . The observations during JD 2442740-840 are of great interest. There was a flare with the change of brightness rate about $0^m.5$ in 3 days. Similar change was also found by Miller (1975).

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References:

- Eggen O.J., Sandage A.R., 1965, ApJ 141, 821.
Klemola A.R., 1962, AJ 67, 740.
Lyutyj V.M., 1971, Sternberg Inst. Reports, 182, 30.
Miller H.R., 1975, ApJ 201, L109.
Veron P., Veron M.P., 1975, Astron. and Astrophys. 39, 281.

Table I.

Date	JD	V	B-V	U-B
1975. Dec. 31	2442778.474	13 ^m .09	+0 ^m .53	-0 ^m .64
	.481	13.16	0.50	0.66
	.488	13.06	0.55	0.68
1976. Jan. 7	785.421	13.04	0.45	0.70
	.447	13.04	0.45	0.59
	.459	13.07	0.46	0.66
Feb. 3	812.419	13.20	0.50	0.66
	.451	13.22	0.55	0.69
	.583	13.20	0.51	0.57
	.633	13.26	0.47	0.57
Feb. 4	813.480	13.24	0.49	0.66
	.486	13.21	0.51	0.65

Table II.

No	V	B-V	U-B	Notes
1	14 ^m .39	+0 ^m .56	-0 ^m .04	
2	12.88	+0.71	+0.11	
3	13.57	+0.89	+0.24	var ?
4	11.86	+0.52	-0.17	
6	12.03	+0.89	+0.39	
7	12.69	+0.84	+0.30	

Table III.

JD	B	σ	Notes
2441739.198	13 ^m .35	+0 ^m .10	1
42424.427	12.63	0.10	1
432.328	12.75	0.09	1
487.358	13.04	0.15	2
749.490	13.43	0.07	3
.509	13.26	0.14	3
759.510	12.94	0.20	3
774.487	12.92	0.05	3
843.406	13.71	0.15	2

- 1 - 38 cm Schmidt telescope of the Engelhardt Observatory.
 2 - 35 cm meniscus telescope of the Engelhardt Observatory.
 3 - 50 cm meniscus telescope of the Sternberg Institute,
 Crimean Station.