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LIGHT CURVE AND COLOR VARIATIONS OF V2101 Oph IN 1991

During observations of the variable stars IX and KK Oph using the 0.6m Zeiss reflector equipped with a pulse - counting photometer at Mt. Maidanak Expedition on 27 June 1991 we detected a rise in the light of the neighbouring U Gem-type star V2101 Oph (Khruzina and Shugarov, 1991). UBVR-monitoring of this star was continued with the same telescope up to September. The results of the photoelectric photometry are listed in Table I.

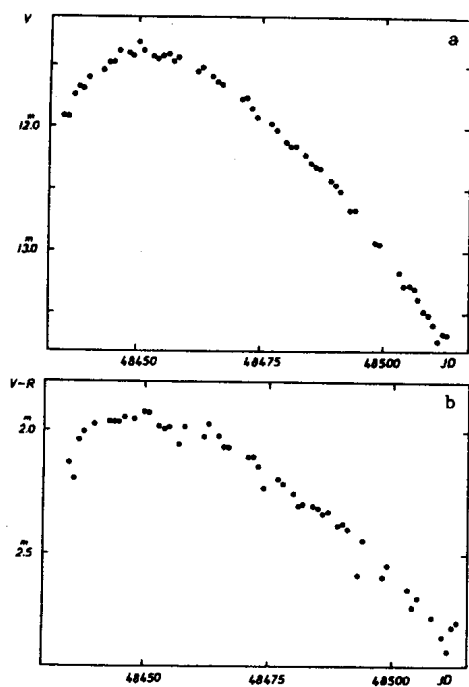


Figure 1

Table 1. UBV photometry of V2101 Oph in 1991

JD(2448..)	V	U-B	B-V	V-R	JD(2448..)	V	U-B	B-V	V-R
435.340	11.88	1.32	2.16	2.10	473.199	11.85		1.93	2.14
435.397	11.93		2.12	2.17	474.228	11.92		1.86	2.23
435.405	11.93			2.15	477.190	11.97	0.58	2.02	2.19
436.324	11.92			2.19	478.199	12.02	1.49	2.03	2.21
437.336	11.74		1.89	2.03	480.186	12.12		2.07	2.25
438.346	11.67		1.84	2.00	481.220	12.15		2.05	2.30
439.329	11.69		1.84		482.227	12.15		2.02	2.29
440.300	11.60	1.82	1.90	1.97	484.185	12.22		1.95	2.30
443.286	11.54		1.83	1.96	485.169	12.29		1.94	2.31
444.276	11.48	0.97	1.82	1.96	486.159	12.32		1.86	2.33
445.282	11.47		1.81	1.96	487.164	12.33		2.01	2.32
446.276	11.38	0.99	1.83	1.94	489.165	12.43		2.28	2.38
448.269	11.40	0.99	1.91	1.95	490.190	12.46		2.19	2.37
449.339	11.42		1.92		491.191	12.51		2.30	2.39
450.287	11.31		1.84	1.92	493.195	12.67:			2.58
451.253	11.38		1.90	1.92	494.191	12.67		2.36	2.44
453.267	11.43	1.01	1.89	1.98	498.199	12.93		2.14	2.59
454.283	11.45		1.87	1.99	499.157	12.94	0.43	2.08	2.54
455.313	11.42	1.25	1.91	1.98	503.162	13.17		1.95	2.64
456.313	11.41	1.20	1.91		504.159	13.28		1.76	2.71
457.312	11.47		1.93	2.05	505.147	13.27		2.07	2.67
458.269	11.43	0.83	1.77	1.98	506.158	13.30		2.11	
462.263	11.55		1.73	2.02	507.161	13.38		1.92	
463.230	11.51		1.86	1.97	508.160	13.48	0.52	1.89	2.75
465.202	11.59	0.90	1.88	2.02	509.161	13.51		2.01	
466.195	11.63	1.97	2.12	2.06	510.156	13.59		1.93	2.83
467.200	11.65		1.89	2.06	511.140	13.72		1.93	2.89
471.215	11.77		1.94	2.10	512.141	13.66		1.97	2.79
472.225	11.76		1.92	2.10	513.141	13.67		2.11	2.77

CoD-27⁰10844 was used as the comparison star (V=7.800, U-B=-0.07, B-V=0.415, V-R=0.423). The light curves of the variable in V and in color (V-R) are presented in Figure 1 a, b, V - (V-R) diagram is shown in Figure 2. The light maximum in V band corresponds to JD = 2448451.5.

Our photographic estimates of V2101 Oph for 1985-1988 obtained using the plates exposed on the Zeiss Double Astrograph with the limiting magnitude about 17 pg are collected in Table 2. One of the 8 plates shows the star of 13.8 pg (16 August 1987), but on the other plates the magnitude of the star varies near its minimum.

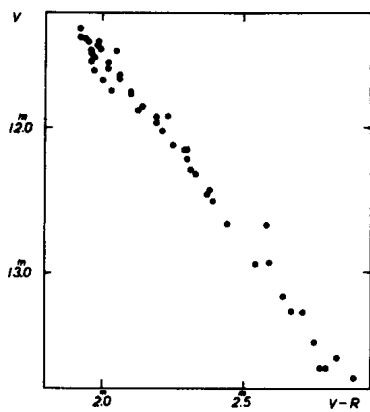


Figure 2

Table 2.

JD(244...)	m(pg)
6295.3	15.4
7024.3	13.8
7323.3	15.9
7327.3	16.0
7330.3	16.0
7331.3	16.1
7349.3	16.4
7354.3	>16.5

The shape of the light curve during the observational interval, color variations, as well as extremely red color of V2101 Oph are not typical of U Gem-type variables. Moreover, the brightness increase reaches its maximum in B and decreases to R. Therefore we suspect V2101 Oph to be a Mira-type or late type semiregular variable.

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Reference:

Khruzina, T.S., Shugarov, S.Yu.: 1991, Atlas of Cataclysmic U Gem-type variables, Part 2, Moscow St. Univ. Publ., Moscow