

New Variable Stars in Ophiuchus

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#	Name	Other	Coord (J2000)	Type	Max	Min	System	Period	Epoch (JD)	type	Sp	Comment	L.Curve	Find.Chart	Data
1		USNO-A2.0 0975-10463940	18 06 37.24, +10 07 11.4	SXPHE	15.76	16.31		0.11230	2454609.4646	max		Comm. 1	01.png	01ch.jpg	01.txt
2		USNO-A2.0 0975-10470619	18 06 45.53, +10 28 18.2	EW	15.95	16.27		0.46423	2454609.3814	min		Comm. 2	02.png	02ch.jpg	02.txt
3		USNO-A2.0 0975-10474898	18 06 50.92, +10 05 35.7	EB	13.84	14.35		0.63523	2454608.8902	min		Comm. 3	03.png	03ch.jpg	03.txt
4		USNO-A2.0 0975-10489654	18 07 09.37, +10 17 15.7	RRAB	>14.23	14.77		0.56750	2454608.5664	max			04.png	04ch.jpg	04.txt
5		USNO-A2.0 0975-10494729	18 07 15.69, +10 07 45.0	EW	16.46	17.40		0.30401	2454610.4603	min		Comm. 5	05.png	05ch.jpg	05.txt
6		USNO-A2.0 0975-10519700	18 07 46.59, +10 15 15.7	EW	15.13	15.61		0.37651	2454609.1348	min		Comm. 6	06.png	06ch.jpg	06.txt
7		USNO-A2.0 0975-10530282	18 07 59.52, +09 58 54.4	EB	16.34	16.90		0.77792	2454609.1939	min		Comm. 7	07.png	07ch.jpg	07.txt
8		USNO-A2.0 0975-10533449	18 08 03.32, +10 11 10.4	RRAB	16.64	18.0		0.58691	2454610.3279	max		Comm. 8	08.png	08ch.jpg	08.txt
9		USNO-A2.0 0975-10542525	18 08 14.18, +10 04 52.7	EW	16.75	17.28		0.36548	2454609.3880	min		Comm. 9	09.png	09ch.jpg	09.txt
10		USNO-A2.0 0975-10563466	18 08 38.67, +09 56 07.6	EA	13.74	14.34		0.89045	2454635.4642	min		Comm. 10	10.png	10ch.jpg	10.txt
11		USNO-A2.0 0975-10569358	18 08 45.59, +10 08 44.5	RRC	13.11	13.66		0.26384	2454610.4710	max		Comm. 11	11.png	11ch.jpg	11.txt
12		USNO-A2.0 0975-10586067	18 09 05.42, +09 57 11.0	EW	16.24	16.51		0.36950	2454609.3275	min		Comm. 12	12.png	12ch.jpg	12.txt
13		USNO-A2.0 0975-10587393	18 09 06.98, +10 15 23.0	EW	15.55	16.08		0.36984	2454609.4690	min		Comm. 13	13.png	13ch.jpg	13.txt
14		USNO-A2.0 0975-10589848	18 09 09.97, +10 18 23.6	RRAB	15.59	16.46		0.53679	2454635.4458	max		Comm. 14	14.png	14ch.jpg	14.txt
15		USNO-A2.0 0975-10594802	18 09 15.85, +10 18 56.7	RRC	15.83	16.29		0.32911	2454608.6721	max			15.png	15ch.jpg	15.txt
16		USNO-A2.0 0975-10609754	18 09 33.66, +10 21 04.1	EA	15.44	15.83		0.35184	2454608.5423	min		Comm. 16	16.png	16ch.jpg	16.txt
17		USNO-A2.0 0975-10619729	18 09 45.03, +10 24 57.1	EW	15.84	16.17		0.34854	2454610.3426	min		Comm. 17	17.png	17ch.jpg	17.txt
18		USNO-B1.0 1004-0317822	18 09 43.39, +10 25 48.8	RRAB	17.1	18.0		0.61722	2454611.0133	max		Comm. 18	18.png	18ch.jpg	18.txt

Comments:

1. Five observed maxima: HJD 2454608.4576, 2454609.3469, 2454609.4646, 2454610.3674, 2454631.4796. A 1-day alias, $P = 0.10096$, is also possible.
2. We observed one primary minimum, HJD 2454609.3814. Min II = 16.16.
3. Min II = 14.02.
5. Min II = 17.16.
6. Min II = 15.5. O'Connell effect.
7. Min II = 16.58.
8. One observed maximum, HJD 2454610.3279.
9. We observed one primary minimum, HJD 2454609.3880. Min II = 17.2. The coordinates are from the USNO-A2.0 catalogue.
10. We observed one primary minimum, HJD 2454635.4642. Min II = 13.92. The light curve shape varies from one maximum to another.
11. Two observed maxima: HJD 2454609.4208, 2454610.4710.
12. We observed one primary minimum, HJD 2454609.3275. Min II = 16.49.
13. We observed one primary minimum, HJD 2454609.4690. Min II = 15.97.
14. One observed maximum, HJD 2454635.4458.
16. Min II = 15.6. O'Connell effect.
17. We observed one primary minimum, HJD 2454610.3426. Min II = 16.14.
18. The coordinates are from the USNO-B1.0 catalogue.

Remarks:

During observations of the field of the cataclysmic variable star 1RXS J180834.7+101041 (Denisenko et al. 2008) we discovered 18 new variable stars. Our observations were carried out at Astrotel-Caucasus observatory using a 300-mm Ritchey-Chretien telescope, equipped with an unfiltered SBIG STL-11000 CCD camera. In total, 248 images with 5-minute exposures were obtained on JD 2454608-2454648. For basic reduction for dark current, flat fields, and bias, we used MaxIm DL software. For search and photometry of new variable stars, we applied VaST software by Sokolovsky and Lebedev (2005). The comparison star is USNO-B1.0 1001-0318048 (18:09:22.82, +10:06:29.2, (J2000), $R_1 = 14.62$, $R_2 = 14.97$). Unfiltered magnitudes were calibrated using the comparison star, assuming $R_{comp} = 14.795$. The coordinates were drawn from the 2MASS catalogue if a different source is not specified in the Comments.

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References:

- Denisenko, D.V., Kryachko, T.V., Satovskiy, B.L., 2008, The Astronomer's Telegram, #1640
Sokolovsky, K., Lebedev, A., 2005, in 12th Young Scientists' Conference on Astronomy and Space Physics, Kyiv, Ukraine, April 19-23, 2005, eds.: Simon, A.; Golovin, A., p.79