

New Variable Stars in Lyra: Area of $2^{\circ}.3 \times 2^{\circ}.3$, Centered at $\alpha=19^{\text{h}}25^{\text{m}}.0$, $\delta=42^{\circ}47'$ (2000.0)

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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 1275-11136370	19 19 09.11, +42 22 06.5	LB:	12.70	12.90				other		Comm. 1	lc29112.png	ch29112.jpg	out29112.txt
2		USNO-A2 1275-11137831	19 19 11.70, +43 19 18.4	BY	13.04	13.32		15.911	2455486.7	max			lc09619.png	ch09619.jpg	out09619.txt
3		USNO-A2 1275-11143146	19 19 21.08, +43 21 55.0	EB	14.81	15.05		0.770681	2455429.114	min		Comm. 3	lc08943.png	ch08943.jpg	out08943.txt
4		USNO-A2 1275-11147291	19 19 28.31, +42 37 52.7	EW	15.87	16.38		0.269030	2455485.031	min			lc22002.png	ch22002.jpg	out22002.txt
5		USNO-A2 1275-11147296	19 19 28.32, +42 05 39.3	RRC	15.49	15.82		0.291403	2455500.001	max			lc37171.png	ch37171.jpg	out37171.txt
6		USNO-A2 1275-11148370	19 19 30.15, +43 47 23.5	EW	14.58	15.39		0.267018	2455500.086	min		Comm. 6	lc01645.png	ch01645.jpg	out01645.txt
7		USNO-A2 1275-11155084	19 19 41.66, +43 13 09.1	EW	13.90	14.19		0.486717	2455429.337	min			lc11512.png	ch11512.jpg	out11512.txt
8		USNO-A2 1275-11156903	19 19 44.74, +43 09 26.7	EW	14.07	14.34		0.356624	2455499.934	min			lc12630.png	ch12630.jpg	out12630.txt
9		USNO-A2 1275-11170856	19 20 08.36, +43 51 12.3	EW	15.51	16.01		0.274483	2455429.350	min		Comm. 9	lc00684.png	ch00684.jpg	out00684.txt
10		USNO-A2 1275-11172043	19 20 10.39, +43 42 55.3	RRC	14.24	14.76		0.275345	2455485.033	max			lc03041.png	ch03041.jpg	out03041.txt
11		USNO-A2 1275-11176333	19 20 17.52, +42 51 40.9	EA	14.32	14.85		0.581320	2455429.297	min		Comm. 11	lc17920.png	ch17920.jpg	out17920.txt
12		USNO-A2 1275-11179205	19 20 22.28, +41 49 24.5	SR:	12.82	12.95		40.9	2455487	max		Comm. 12	lc32237.png	ch32237.jpg	out32237.txt
13		USNO-A2 1275-11181148	19 20 25.52, +42 46 26.0	EW	13.90	14.39		0.488515	2455438.161	min			lc19529.png	ch19529.jpg	out19529.txt
14		USNO-A2 1275-11195859	19 20 49.17, +42 25 51.0	RRC	15.25	15.73		0.302252	2455500.000	max			lc29772.png	ch29772.jpg	out29772.txt
15		USNO-A2 1275-11198092	19 20 52.74, +41 38 25.0	L:	12.75	13.61				other		Comm. 15	lc24035.png	ch24035.jpg	out24035.txt
16		USNO-A2 1275-11199489	19 20 55.00, +42 36 07.2	EW	13.05	13.77		0.356433	2455429.313	min		Comm. 16	lc22703.png	ch22703.jpg	out22703.txt
17		USNO-A2 1275-11201916	19 20 58.84, +42 09 19.3	EW	15.73	16.30		0.327233	2455438.371	min			lc37492.png	ch37492.jpg	out37492.txt
18		USNO-A2 1275-11208348	19 21 09.36, +42 10 54.5	DSCT	13.24	13.39		0.150781	2455500.002	max			lc38320.png	ch38320.jpg	out38320.txt
19		USNO-A2 1275-11208582	19 21 09.73, +42 58 58.1	EA	14.70	15.23		0.799162	2455467.448	min		Comm. 19	lc15922.png	ch15922.jpg	out15922.txt
20		USNO-A2 1275-11223914	19 21 35.36, +42 43 13.6	EW	14.13	14.26		0.541313	2455603.633	min			lc20659.png	ch20659.jpg	out20659.txt

21	USNO-A2 1275-11227284	19 21 41.20, +42 04 10.1	EW:	14.07	< 14.39		0.33131:	2455819.183	min			lc36657.png	ch36657.jpg	out36657.txt
22	USNO-A2 1275-11231733	19 21 49.08, +41 52 34.0	EW	14.94	15.64		0.371054	2455822.161	min			lc33204.png	ch33204.jpg	out33204.txt
23	USNO-A2 1275-11233880	19 21 52.83, +41 49 23.1	EW	12.99	13.45		0.448554	2455467.094	min			lc27528.png	ch27528.jpg	out27528.txt
24	USNO-A2 1275-11238358	19 22 00.71, +41 45 50.3	EW	15.56	16.07		0.301801	2455485.089	min			lc26339.png	ch26339.jpg	out26339.txt
25	USNO-A2 1275-11247417	19 22 16.70, +41 57 32.8	EW	15.38	15.70		0.422785	2455503.214	min			lc34594.png	ch34594.jpg	out34594.txt
26	USNO-A2 1275-11249328	19 22 20.06, +42 50 21.2	EW	13.46	13.69		0.406477	2455485.152	min			lc18590.png	ch18590.jpg	out18590.txt
27	USNO-A2 1275-11250248	19 22 21.57, +43 29 44.1	BY:	14.38	14.62		0.938045	2455484.911	max			lc07110.png	ch07110.jpg	out07110.txt
28	USNO-A2 1275-11255237	19 22 30.29, +43 10 29.3	EA	15.01	15.48		0.615817	2455467.374	min		Comm. 28	lc12745.png	ch12745.jpg	out12745.txt
29	USNO-A2 1275-11257822	19 22 34.87, +42 47 52.0	EA	14.36	14.72		0.88435	2455484.807	min			lc19388.png	ch19388.jpg	out19388.txt
30	USNO-A2 1275-11303138	19 23 52.88, +43 00 50.8	EA	12.65	<12.8		1.48979	2455483.568	min		Comm. 30	lc15702.png	ch15702.jpg	out15702.txt
31	USNO-A2 1275-11313504	19 24 10.54, +42 07 42.5	BY	13.86	14.12		12.76	2455503.101	max		Comm. 31	lc37415.png	ch37415.jpg	out37415.txt
32	USNO-A2 1275-11320279	19 24 21.81, +42 29 57.4	EW	15.18	15.80		0.346964	2455429.144	min			lc30556.png	ch30556.jpg	out30556.txt
33	USNO-A2 1275-11330419	19 24 38.55, +43 14 16.5	DSCT	14.37	14.47		0.130665	2455429.228	max		Comm. 33	lc11116.png	ch11116.jpg	out11116.txt
34	USNO-A2 1275-11356394	19 25 21.98, +43 17 22.8	EW:	14.39	14.49		0.422232:	2455802.169	min			lc11077.png	ch11077.jpg	out11077.txt
35	USNO-A2 1275-11356658	19 25 22.43, +42 19 48.2	SR:	12.61	12.85		85.6	2455438	max		Comm. 35	lc40253.png	ch40253.jpg	out40253.txt
36	USNO-A2 1275-11359601	19 25 27.25, +41 59 51.0	LB:	12.09	12.28				other		Comm. 36	lc34645.png	ch34645.jpg	out34645.txt
37	USNO-A2 1275-11380270	19 26 01.08, +43 00 44.3	EW	11.70	11.80		0.438117	2455499.945	min			lc15887.png	ch15887.jpg	out15887.txt
38	USNO-A2 1275-11386799	19 26 11.50, +43 26 01.2	BY:	12.15	12.24		4.938:	2455441.323	max			lc08631.png	ch08631.jpg	out08631.txt
39	USNO-A2 1275-11393577	19 26 22.26, +42 34 11.0	EW	15.72	16.01		0.296452	2455429.586	min			lc31855.png	ch31855.jpg	out31855.txt
40	USNO-A2 1275-11402135	19 26 35.99, +42 10 06.1	LB:	13.37	13.93				other		Comm. 40	lc37771.png	ch37771.jpg	out37771.txt
41	USNO-A2 1275-11411324	19 26 50.68, +42 05 27.5	LB:	11.23	11.44				other		Comm. 41	lc36317.png	ch36317.jpg	out36317.txt
42	USNO-A2 1275-11412325	19 26 52.28, +43 01 29.3	EW	14.42	14.7		0.364556	2455438.173	min		Comm. 42	lc15859.png	ch15859.jpg	out15859.txt
43	USNO-A2 1275-11437717	19 27 32.17, +42 54 37.6	EA	15.65	16.44		0.264537	2455429.268	min		Comm. 43	lc17994.png	ch17994.jpg	out17994.txt
44	USNO-A2 1275-11440836	19 27 37.00, +43 51 09.8	EB	14.36	14.76		0.651405	2455503.178	min		Comm. 44	lc01561.png	ch01561.jpg	out01561.txt
45	USNO-A2 1275-11471930	19 28 25.99, +43 32 52.9	EA	13.19	13.27		0.643734:	2455429.035	min			lc06863.png	ch06863.jpg	out06863.txt
46	USNO-A2 1275-11479604	19 28 37.88, +42 17 28.0	EW	14.18	14.46		0.394215	2455499.937	min			lc28310.png	ch28310.jpg	out28310.txt
47	USNO-A2 1275-11483647	19 28 44.25, +41 48 56.2	EW	14.75	15.16		0.269424	2455484.944	min			lc26463.png	ch26463.jpg	out26463.txt
48	USNO-A2 1275-11492538	19 28 58.51, +43 23 52.6	EA	13.16	13.25		0.470750	2455441.152	min		Comm. 48	lc09502.png	ch09502.jpg	out09502.txt
49	USNO-A2 1275-11498159	19 29 07.40, +42 37 54.8	BY:	13.74	13.86		1.13259	2455429.419	max			lc23140.png	ch23140.jpg	out23140.txt
50	USNO-A2 1275-11499451	19 29 09.57, +41 50 58.2	EW	15.09	16.13		0.294788	2455503.176	min			lc27138.png	ch27138.jpg	out27138.txt
51	USNO-A2 1275-11503512	19 29 15.88, +43 03 50.5	EW	15.77	16.17		0.401610	2455429.442	min		Comm. 51	lc15408.png	ch15408.jpg	out15408.txt
52	USNO-A2 1275-11509280	19 29 25.04, +41 44 32.9	EA	14.25	14.49:		1.06188	2455429.046	min		Comm. 52	lc24971.png	ch24971.jpg	out24971.txt
53	USNO-A2 1275-11510267	19 29 26.61, +42 36 09.9	LB:	13.23	13.58				other		Comm. 53	lc31935.png	ch31935.jpg	out31935.txt
54	USNO-A2 1275-11513011	19 29 30.97, +41 54 02.0	RRC	14.62	14.82		0.273192	2455503.055	max			lc27622.png	ch27622.jpg	out27622.txt

55	USNO-A2 1275-11513553	19 29 31.85, +41 42 09.6	EA	15.53	16.38		2.28694	2455429.866	min			lc24163.png	ch24163.jpg	out24163.txt
56	USNO-A2 1275-11515414	19 29 34.81, +41 50 53.8	LB:	12.05	12.2				other		Comm. 56	lc27023.png	ch27023.jpg	out27023.txt
57	USNO-A2 1275-11517362	19 29 38.01, +43 47 51.1	EW	13.22	13.53		0.399127	2455795.156	min			lc02648.png	ch02648.jpg	out02648.txt
58	USNO-A2 1275-11518280	19 29 39.52, +41 48 38.0	DSCT	14.01	14.14		0.165826	2455822.233	max			lc26315.png	ch26315.jpg	out26315.txt
59	USNO-A2 1275-11519428	19 29 41.28, +42 30 06.6	EW	14.87	15.34		0.453407	2455503.190	min			lc30172.png	ch30172.jpg	out30172.txt
60	USNO-A2 1275-11527410	19 29 53.62, +43 24 57.1	EW	14.68	15.12		0.269245	2455431.235	min		Comm. 60	lc09298.png	ch09298.jpg	out09298.txt
61	USNO-A2 1275-11529623	19 29 57.08, +43 18 43.7	EA	13.93	14.09		0.755514	2455448.094	min		Comm. 61	lc11023.png	ch11023.jpg	out11023.txt
62	USNO-A2 1275-11548792	19 30 27.41, +43 10 31.5	EB	13.99	<14.65		0.525574	2455499.912	min		Comm. 62	lc13488.png	ch13488.jpg	out13488.txt
63	USNO-A2 1275-11564872	19 30 52.33, +43 09 55.8	LB	14.05	14.48				other		Comm. 63	lc13720.png	ch13720.jpg	out13720.txt
64	USNO-A2 1275-11574600	19 31 07.28, +42 30 24.0	BY:	12.62	12.75		1.35771	2455441.439	max			lc29950.png	ch29950.jpg	out29950.txt

Comments:

1. USNO-A2.0: B=15^m.5, R=13^m.1.

2MASS: J=10^m.018, H=9^m.179, K=8^m.823.

3. MinII=14^m.93.

6. MinII=15^m.24. Sligh O`Connell effect.

9. 2XMMi-DR3 Catalog: 2XMM J192008.4+435106, HR1=0.817, HR2=-0.233, HR3=-0.439, HR4=0.369.

11. MinII=14^m.50.

12. USNO-A2.0: B=15^m.3, R=13^m.4.

2MASS: J=11^m.009, H=10^m.093, K=9^m.897.

15. USNO-A2.0: B=14^m.2, R=13^m.2.

2MASS: J=11^m.998, H=11^m.513, K=11^m.478.

The star shows no noticeable variability in NSVS data.

16. MinII=13^m.64.

19. MinII=14^m.80.

28. MinII=15^m.11.

30. MinII=12^m.74.

31. USNO-A2.0: B=15^m.0, R=13^m.8.

2MASS: J=12^m.577, H=12^m.021, K=11^m.907.

33. The twice longer period with EW type is also not excluded.

35. USNO-A2.0: B=15^m.0, R=13^m.0.
2MASS: J=11^m.669, H=11^m.084, K=10^m.919.

36. USNO-A2.0: B=14^m.8, R=12^m.5.
2MASS: J=9^m.988, H=9^m.057, K=8^m.805.

40. USNO-A2.0: B=16^m.2, R=14^m.0.
2MASS: J=11^m.224, H=10^m.294, K=10^m.070.

41. USNO-A2.0: B=14^m.0, R=12^m.1.
2MASS: J=8^m.752, H=7^m.844, K=7^m.541.

42. A close pair of two stars.

43. MinII=15^m.96.

44. MinII=14^m.56.

48. MinII=13^m.21.

51. The one-day alias, $P = 0^d.334285$, is also possible.

52. MinII=14^m.32.

53. USNO-A2.0: B=15^m.0, R=13^m.5.
2MASS: J=11^m.832, H=11^m.275, K=11^m.186.

56. USNO-A2.0: B=14^m.4, R=12^m.3.
2MASS: J=9^m.777, H=8^m.844, K=8^m.578.

60. MinII=15^m.02.

61. MinII=13^m.99. A close pair of two stars.

62. MinII=14^m.20.

63. USNO-A2.0: B=16^m.8, R=14^m.6.
2MASS: J=11^m.976, H=11^m.115, K=10^m.878.

Remarks:

Our observations of an area in Lyra (centered at $\alpha=19^h25^m.0$, $\delta=42^\circ47'$ J2000.0) were performed in the observatory of the Siberian State Aerospace University with a Hamilton telescope (D = 400 mm, F = 915 mm) equipped with an FLI ML9000 CCD chip (3056×3056 pixels, pixel size 12 μm). All our unfiltered CCD observations were obtained during two time intervals: August 21 – November 07, 2010 and August 21 – September 17, 2011. Exposure times of all frames were 30 seconds. The area of our CCD images is $2^\circ.3 \times 2^\circ.3$. The magnitudes were referred to red magnitudes of comparison stars from the USNO-A2.0 catalog (Monet et al. 1998). We used [VaST](#) (Sokolovsky and Lebedev, 2005) software to search for new variable stars. To determine periods, we applied WinEfk software created by Dr. V.P. Goranskij.

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