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Variable Stars in Cygnus Discovered with Kourovka Planet Search. Part II: Eclipsing binaries of Beta Lyrae and W Ursae Majoris type

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#	Name	Other	Coord (J2000)	Type	Max	Min	System	Period	Epoch (JD)	type	Sp	Comment	L.Curve	Find.Chart	Data
1		2MASS 20243193+4949184	20 24 31.93 +49 49 18.4	EB	14.99	15.25	R	0.40120	2456149.30	min			TF1-00316_lc.png	TF1-00316_fc.png	TF1-00316.txt
2		2MASS 20244014+5012182	20 24 40.15 +50 12 18.2	EW	15.08	15.20	R	0.59745	2456524.44	min		Comm. 2	TF1-00563_lc.png	TF1-00563_fc.png	TF1-00563.txt
3		2MASS 20244506+5052076	20 24 45.07 +50 52 07.7	EB	11.67	11.76	R	1.00255	2456162.32	min		Comm. 3	TF1-00721_lc.png	TF1-00721_fc.png	TF1-00721.txt
4		2MASS 20244568+4941487	20 24 45.69 +49 41 48.7	EW	12.25	12.49	R	0.88714	2456154.29	min			TF1-00740_lc.png	TF1-00740_fc.png	TF1-00740.txt
5		2MASS 20245751+5018139	20 24 57.52 +50 18 13.9	EW	15.73	15.91	R	0.26410	2456160.30	min			TF1-01123_lc.png	TF1-01123_fc.png	TF1-01123.txt
6		2MASS 20251753+4941433	20 25 17.53 +49 41 43.4	EB	16.00	16.21	R	0.70310	2456160.24	min			TF1-01754_lc.png	TF1-01754_fc.png	TF1-01754.txt
7		2MASS 20252932+4948319	20 25 29.32 +49 48 32.0	EB	11.68	11.90	R	2.21363	2456124.39	min		Comm. 7	TF1-02126_lc.png	TF1-02126_fc.png	TF1-02126.txt
8		2MASS 20253646+5027193	20 25 36.47 +50 27 19.4	EB	14.25	14.41	R	0.55120	2456272.06	min			TF1-02336_lc.png	TF1-02336_fc.png	TF1-02336.txt
9		2MASS 20254624+5048321	20 25 46.25 +50 48 32.1	EW	15.31	15.70	R	0.21970	2456134.31	min			TF1-02669_lc.png	TF1-02669_fc.png	TF1-02669.txt
10		2MASS 20255687+5016381	20 25 56.87 +50 16 38.2	EW	12.66	12.72	R	0.837	2456167.38	min			TF1-03003_lc.png	TF1-03003_fc.png	TF1-03003.txt
11		2MASS 20255884+5010221	20 25 58.85 +50 10 22.2	EW	15.42	15.71	R	0.48570	2456154.33	min			TF1-03067_lc.png	TF1-03067_fc.png	TF1-03067.txt
12		2MASS 20262321+5012039	20 26 23.21 +50 12 04.0	EW	13.51	13.55	R	0.34742	2456149.36	min			TF1-03824_lc.png	TF1-03824_fc.png	TF1-03824.txt
13		2MASS 20263168+5013305	20 26 31.68 +50 13 30.5	EW	13.30	13.39	R	0.28202	2456148.37	min			TF1-04079_lc.png	TF1-04079_fc.png	TF1-04079.txt
14		2MASS 20264159+5021072	20 26 41.59 +50 21 07.2	EW	15.79	16.17	R	0.42954	2456154.35	min			TF1-04369_lc.png	TF1-04369_fc.png	TF1-04369.txt
15		2MASS 20270531+5007537	20 27 05.32 +50 07 53.7	EA	15.42	15.55	R	0.57563	2456149.36	min			TF1-05079_lc.png	TF1-05079_fc.png	TF1-05079.txt
16		2MASS 20274474+5119012	20 27 44.75 +51 19 01.2	EW	14.29	14.40	R	0.28980	2456160.41	min			TF1-06353_lc.png	TF1-06353_fc.png	TF1-06353.txt
17		2MASS 20275473+5106589	20 27 54.74 +51 06 58.9	EB	15.39	15.51	R	0.31766	2456160.41	min		Comm. 17	TF1-06674_lc.png	TF1-06674_fc.png	TF1-06674.txt
18		2MASS 20280498+5108575	20 28 04.99 +51 08 57.5	EB	14.34	14.64	R	0.41766	2456124.34	min			TF1-07010_lc.png	TF1-07010_fc.png	TF1-07010.txt
19		2MASS 20282807+5126288	20 28 28.08 +51 26 28.8	EB	15.64	16.38	R	0.5569	2456160.35	min		Comm. 19	TF1-07749_lc.png	TF1-07749_fc.png	TF1-07749.txt
20		2MASS 20282827+5110235	20 28 28.27 +51 10 23.6	EW	15.04	15.17	R	0.59564	2456131.36	min		Comm. 20	TF1-07757_lc.png	TF1-07757_fc.png	TF1-07757.txt

21		2MASS 20291062+5011231	20 29 10.63 +50 11 23.2	EW	13.45	13.59	R	0.48880	2456148.27	min		Comm. 21	TF1-09066_lc.png	TF1-09066_fc.png	TF1-09066.txt
22		2MASS 20291221+5024025	20 29 12.21 +50 24 02.5	EW	15.36	15.52	R	0.48603	2456524.34	min		Comm. 22	TF1-09114_lc.png	TF1-09114_fc.png	TF1-09114.txt
23		2MASS 20293029+5039323	20 29 30.30 +50 39 32.4	EW	15.61	15.84	R	0.35478	2456131.33	min			TF1-09674_lc.png	TF1-09674_fc.png	TF1-09674.txt
24		2MASS 20293112+5049525	20 29 31.13 +50 49 52.5	EW	14.07	14.16	R	0.45704	2456131.35	min			TF1-09703_lc.png	TF1-09703_fc.png	TF1-09703.txt
25		2MASS 20300508+4943538	20 30 05.09 +49 43 53.9	EW	13.50	13.63	R	0.58002	2456161.39	min		Comm. 25	TF1-10862_lc.png	TF1-10862_fc.png	TF1-10862.txt
26		2MASS 20301886+5018127	20 30 18.87 +50 18 12.7	EB	12.52	12.75	R	4.0984	2456167.27	min		Comm. 26	TF1-11351_lc.png	TF1-11351_fc.png	TF1-11351.txt
27		2MASS 20302853+5004226	20 30 28.53 +50 04 22.7	EW	15.32	15.46	R	0.33294	2456131.34	min			TF1-11668_lc.png	TF1-11668_fc.png	TF1-11668.txt
28		2MASS 20305536+5102057	20 30 55.37 +51 02 05.8	EW	13.75	13.83	R	0.5910	2456134.35	min			TF1-12603_lc.png	TF1-12603_fc.png	TF1-12603.txt
29		2MASS 20310334+5106539	20 31 03.35 +51 06 53.9	EW	15.27	15.56	R	0.32165	2456148.33	min			TF1-12876_lc.png	TF1-12876_fc.png	TF1-12876.txt
30		2MASS 20312058+5031044	20 31 20.58 +50 31 04.5	EW	15.48	15.75	R	0.37813	2456133.34	min			TF1-13455_lc.png	TF1-13455_fc.png	TF1-13455.txt
31		2MASS 20313470+5120009	20 31 34.70 +51 20 01.0	EB	14.73	15.05	R	0.46872	2456167.33	min		Comm. 31	TF1-13916_lc.png	TF1-13916_fc.png	TF1-13916.txt
32		2MASS 20314329+5033042	20 31 43.29 +50 33 04.2	EW	14.34	14.77	R	0.30312	2456124.35	min			TF1-14178_lc.png	TF1-14178_fc.png	TF1-14178.txt
33		2MASS 20321168+5113126	20 32 11.68 +51 13 12.7	EW	15.24	15.33	R	0.35391	2456148.41	min			TF1-15120_lc.png	TF1-15120_fc.png	TF1-15120.txt
34		2MASS 20324009+5016573	20 32 40.10 +50 16 57.4	EA	10.32	10.40	R	1.14751	2456160.36	min		Comm. 34	TF1-16031_lc.png	TF1-16031_fc.png	TF1-16031.txt
35		2MASS 20325160+4937568	20 32 51.61 +49 37 56.9	EB	13.12	13.70	R	0.48500	2456134.36	min			TF1-16409_lc.png	TF1-16409_fc.png	TF1-16409.txt
36		2MASS 20325347+5119435	20 32 53.48 +51 19 43.6	EB	13.13	13.20	R	1.3825	2456161.37	min			TF1-16463_lc.png	TF1-16463_fc.png	TF1-16463.txt
37		2MASS 20330184+5046066	20 33 01.85 +50 46 06.7	EB	13.44	13.73	R	0.44106	2456131.33	min		Comm. 37	TF1-16769_lc.png	TF1-16769_fc.png	TF1-16769.txt
38		2MASS 20332492+4933103	20 33 24.93 +49 33 10.4	EW	12.52	12.55	R	0.31649	2456161.23	min			TF1-17510_lc.png	TF1-17510_fc.png	TF1-17510.txt
39		2MASS 20332852+5020464	20 33 28.52 +50 20 46.5	EW	14.52	14.59	R	0.26224	2456148.36	min			TF1-17624_lc.png	TF1-17624_fc.png	TF1-17624.txt
40		2MASS 20333559+5123536	20 33 35.59 +51 23 53.7	EB	12.38	12.50	R	9.32	2456167.39	min			TF1-17859_lc.png	TF1-17859_fc.png	TF1-17859.txt
41		2MASS 20340593+4933437	20 34 05.94 +49 33 43.7	EW	12.65	12.76	R	0.37391	2456131.33	min			TF1-18882_lc.png	TF1-18882_fc.png	TF1-18882.txt
42		2MASS 20340882+5109306	20 34 08.82 +51 09 30.7	EB	15.31	16.30	R	0.37810	2456140.31	min			TF1-18993_lc.png	TF1-18993_fc.png	TF1-18993.txt
43		2MASS 20342391+4951135	20 34 23.91 +49 51 13.6	EW	14.64	14.81	R	0.39436	2456131.31	min			TF1-19514_lc.png	TF1-19514_fc.png	TF1-19514.txt
44		2MASS 20343038+5113554	20 34 30.38 +51 13 55.5	EW	13.75	13.86	R	0.30256	2456149.30	min			TF1-19735_lc.png	TF1-19735_fc.png	TF1-19735.txt
45		2MASS 20345022+5014133	20 34 50.23 +50 14 13.3	EB	14.43	14.55	R	0.58597	2456148.31	min		Comm. 45	TF1-20407_lc.png	TF1-20407_fc.png	TF1-20407.txt
46		2MASS 20345434+4953110	20 34 54.34 +49 53 11.0	EW	14.45	14.50	R	0.28117	2456160.29	min			TF1-20561_lc.png	TF1-20561_fc.png	TF1-20561.txt
47		2MASS 20353999+5003065	20 35 40.00 +50 03 06.6	EW	15.44	15.60	R	0.23176	2456133.34	min			TF1-21536_lc.png	TF1-21536_fc.png	TF1-21536.txt
48		2MASS 20361488+5116000	20 36 14.88 +51 16 00.0	EB	15.42	15.87	R	0.7902	2456403.43	min			TF1-21543_lc.png	TF1-21543_fc.png	TF1-21543.txt

Comments:

2. Light O'Connell effect.

3. light O'Connell effect.

7. Variable star NSVS 5781098 was discovered by the Northern Sky Variability Survey (Woźniak, 2004). Orbital period is provided in VSX catalogue and equals to 2.212737 d. Our observations allowed us to refine the period and define epoch of observations: MinI = HJD 2456124.38847 + 2.2136333× E.

17. Light O'Connell effect.

19. Light O'Connell effect.

20. Light O'Connell effect.

21. Light O'Connell effect.

22. Light O'Connell effect.

25. Light O'Connell effect.

26. O'Connell effect.

31. O'Connell effect.

34. Light O'Connell effect.

37. Light O'Connell effect.

45. Light O'Connell effect.

Remarks:

In the previous paper (Popov et al. 2015) we presented a list of 46 newly discovered eclipsing binary stars of Algol type from KPS (Kourovka Planet Search), where detailed information on observations and data reduction is given. This paper is dedicated to the next portion of eclipsing binaries – 17 β Lyrae type stars and 29 W Ursae Majoris type stars. Also two Algol type stars are included.

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