

New Variable Stars in Cepheus: Area of $2^{\circ}.3 \times 2^{\circ}.3$, Centered at $\alpha=22^{\text{h}}00^{\text{m}}$, $\delta=60^{\circ}00'$ (2000.0). Part II

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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 1425-12419002	21 51 10.60, +59 49 45.0	EB	14.00	14.08		0.64539	2456560.175	min		Comm. 1	lc19873.png	19873.png	out19873.txt
2		USNO-A2.0 1425-12430984	21 51 42.66, +59 49 00.1	EA	15.69	16.12		1.5723	2456559.584	min			lc19564.png	19564.png	out19564.txt
3		USNO-A2.0 1500-08487539	21 51 53.40, +60 58 42.9	EA	13.09	13.29		2.8333	2456201.169	min		Comm. 3	lc27193.png	27193.png	out27193.txt
4		USNO-A2.0 1425-12449852	21 52 32.62, +59 59 34.1	LB	13.70	13.88				other		Comm. 4	lc22980.png	22980.png	out22980.txt
5		USNO-A2.0 1500-08501102	21 52 36.18, +60 53 53.0	HADS	15.64	16.13		0.082595	2456560.187	max		Comm. 5	lc28936.png	28936.png	out28936.txt
6		USNO-A2.0 1425-12469197	21 53 23.31, +59 33 54.0	EW	15.03	15.22		0.44054	2456183.166	max		Comm. 6	lc13821.png	13821.png	out13821.txt
7		USNO-A2.0 1500-08520020	21 53 33.15, +61 03 50.8	SR:	14.05	14.20		79.3	2456560	max		Comm. 7	lc25807.png	25807.png	out25807.txt
8		USNO-A2.0 1425-12476288	21 53 41.00, +59 37 18.2	EB	12.77	12.88		0.745596	2456205.387	min		Comm. 8	lc14870.png	14870.png	out14870.txt
9		USNO-A2.0 1500-08534189	21 54 16.40, +60 04 55.1	LB	12.52	12.61				other		Comm. 9	lc24319.png	24319.png	out24319.txt
10		USNO-A2.0 1425-12493277	21 54 24.15, +59 39 52.8	EW	15.20	15.75		0.333085	2456202.322	min		Comm. 10	lc15846.png	15846.png	out15846.txt
11		USNO-A2.0 1500-08560265	21 55 35.13, +60 02 12.7	LB	13.22	13.62				other		Comm. 11	lc23315.png	23315.png	out23315.txt
12		USNO-A2.0 1425-12533748	21 56 00.36, +59 44 42.1	EB	13.41	13.50		0.674898	2456197.242	max		Comm. 12	lc17167.png	17167.png	out17167.txt
13		USNO-A2.0 1500-08569693	21 56 03.29, +61 05 52.1	EA	14.99	15.25		4.16:	2456182.29	min			lc25590.png	25590.png	out25590.txt
14		USNO-A2.0 1425-12541482	21 56 18.45, +59 45 35.8	EB	15.11	15.42		0.422116	2456529.218	min		Comm. 14	lc17510.png	17510.png	out17510.txt
15		USNO-A2.0 1425-12542139	21 56 19.90, +59 57 44.2	LB	13.11	13.22				other		Comm. 15	lc21623.png	21623.png	out21623.txt
16		USNO-A2.0 1425-12542893	21 56 21.54, +59 53 16.0	RRC:	14.40	14.58		0.27400	2456560.155	max		Comm. 16	lc20108.png	20108.png	out20108.txt
17		USNO-A2.0 1500-08585288	21 56 50.65, +60 02 26.7	EA	15.01	15.49		0.77945	2456205.097	min		Comm. 17	lc23286.png	23286.png	out23286.txt
18		USNO-A2.0 1425-12569927	21 57 21.47, +59 32 50.3	EA	15.27	15.78		0.54284	2456545.493	min		Comm. 18	lc12688.png	12688.png	out12688.txt
19		USNO-A2.0 1425-12591277	21 58 10.06, +59 50 16.8	E	14.74	15.17		1.7581	2456624.361	min		Comm. 19	lc18762.png	18762.png	out18762.txt
20		USNO-A2.0 1425-12593267	21 58 14.58, +59 37 48.3	LB	12.38	12.64				other		Comm. 20	lc14233.png	14233.png	out14233.txt
21		USNO-A2.0 1500-08619438	21 58 32.64, +61 07 45.0	SR	13.93	14.16		93.9	2456580.5	max		Comm. 21	lc25316.png	25316.png	out25316.txt

22	USNO-A2.0 1425-12620885	21 59 16.80, +59 41 56.6	LB	12.85	13.09				other		Comm. 22	lc15580.png	15580.png	out15580.txt
23	USNO-B1.0 1500-0325085	22 00 13.07, +60 05 57.7	LB	15.20	15.44				other		Comm. 23	lc23982.png	23982.png	out23982.txt
24	USNO-A2.0 1500-08654458	22 00 18.42, +60 06 58.3	BY	14.14	14.33		5.2732	2456580.072	max		Comm. 24	lc24152.png	24152.png	out24152.txt
25	USNO-A2.0 1500-08657577	22 00 27.27, +60 07 43.4	GDOR	12.80	12.86		0.52585	2456561.402	min			lc24340.png	24340.png	out24340.txt
26	USNO-B1.0 1497-0331994	22 00 44.57, +59 44 59.7	BY	15.01	15.28		16.24	2456195.0	max			lc16638.png	16638.png	out16638.txt
27	USNO-B1.0 1501-0325418	22 01 43.03, +60 10 48.0	EW	12.69	12.73		0.34288	2456580.200	min		Comm. 27	lc25071.png	25071.png	out25071.txt
28	USNO-A2.0 1425-12680661	22 01 46.77, +59 45 32.8	EB	12.76	12.84		0.526879	2456227.127	max			lc16587.png	16587.png	out16587.txt
29	USNO-A2.0 1500-08700993	22 02 29.15, +61 02 05.1	DSCT	14.22	14.36		0.079433	2456228.084	max			lc27603.png	27603.png	out27603.txt
30	USNO-A2.0 1500-08701154	22 02 29.61, +60 56 50.6	LB	12.60	12.70				other		Comm. 30	lc29263.png	29263.png	out29263.txt
31	USNO-A2.0 1500-08707975	22 02 48.04, +60 08 02.2	EA	12.72	<12.95		4.1630	2456561.378	min		Comm. 31	lc24250.png	24250.png	out24250.txt
32	USNO-A2.0 1425-12715014	22 03 03.19, +59 48 21.3	L	12.89	13.10				other		Comm. 32	lc17467.png	17467.png	out17467.txt
33	USNO-A2.0 1500-08718856	22 03 17.38, +60 56 59.5	SR	12.83	13.21		153	2456528	max		Comm. 33	lc29308.png	29308.png	out29308.txt
34	USNO-A2.0 1425-12734318	22 03 43.14, +59 45 11.1	LB	11.91	12.38				other		Comm. 34	lc16077.png	16077.png	out16077.txt
35	USNO-A2.0 1425-12744434	22 04 04.37, +59 48 33.4	LB	13.01	13.28				other		Comm. 35	lc17451.png	17451.png	out17451.txt
36	USNO-A2.0 1500-08743076	22 04 26.46, +61 04 18.2	LB	12.93	13.05				other		Comm. 36	lc27015.png	27015.png	out27015.txt
37	USNO-A2.0 1500-08744628	22 04 31.01, +60 03 53.8	EA	14.71	14.98		2.25861	2456530.689	min		Comm. 37	lc22857.png	22857.png	out22857.txt
38	USNO-A2.0 1425-12770176	22 04 57.41, +59 52 10.1	LB	14.16	14.62				other		Comm. 38	lc18674.png	18674.png	out18674.txt
39	USNO-A2.0 1425-12776700	22 05 10.60, +59 51 52.0	LB	12.16	12.39				other		Comm. 39	lc18418.png	18418.png	out18418.txt
40	USNO-A2.0 1500-08778715	22 06 08.78, +60 12 04.1	EB	12.18	12.43		0.55317	2456560.205	min		Comm. 40	lc25195.png	25195.png	out25195.txt
41	USNO-A2.0 1500-08782278	22 06 19.19, +61 00 54.2	LB	14.19	14.39				other		Comm. 41	lc28263.png	28263.png	out28263.txt
42	USNO-A2.0 1425-12816829	22 06 33.43, +59 45 37.5	EA	13.92	14.12		3.8724	2456554.285	min		Comm. 42	lc16179.png	16179.png	out16179.txt
43	USNO-A2.0 1425-12838727	22 07 20.41, +59 43 15.5	EA	14.55	14.95		2.05577	2456580.705	min		Comm. 43	lc15382.png	15382.png	out15382.txt
44	USNO-A2.0 1425-12869458	22 08 22.34, +59 46 48.6	EA	15.30	16.53		2.8667	2456198.716	min		Comm. 44	lc16680.png	16680.png	out16680.txt
45	USNO-A2.0 1425-12884060	22 08 51.57, +59 55 35.6	LB	13.34	13.63				other		Comm. 45	lc19601.png	19601.png	out19601.txt
46	USNO-A2.0 1425-12891957	22 09 07.50, +59 51 43.9	SR	13.66	13.90		58.8	2456227.029	max		Comm. 46	lc18235.png	18235.png	out18235.txt

Comments:

1. MinII = 14^m.05.
3. MinII = 13^m.22.
4. J = 9^m.723, H = 8^m.569, K = 8^m.104 (2MASS).
5. M-m = 0.17 P.
6. MinII = 15^m.22.

7. $J = 11^m.806$, $H = 11^m.098$, $K = 10^m.847$ (2MASS).

8. $J = 11^m.243$, $H = 10^m.751$, $K = 10^m.64$ (2MASS).
IRXS J215522.8+593843, $r = 12.9431$ arcmin.

9. $J = 8^m.495$, $H = 7^m.428$, $K = 7^m.05$ (2MASS).
The star in the NSVS database: [NSVS ID 3422019](#) and [NSVS ID 3375758](#). The NSVS data confirm the star's type.

10. MinII = $15^m.64$.

11. $J = 8^m.622$, $H = 7^m.431$, $K = 6^m.966$ (2MASS).

12. MinII = $13^m.49$.

14. MinII = $15^m.31$.

15. $J = 8^m.878$, $H = 7^m.746$, $K = 7^m.35$ (2MASS).
The star in the NSVS database: [NSVS ID 3423367](#) and [NSVS ID 3377198](#). The NSVS data confirm the star's type.

16. The twice longer period is possible, then variability type is EW.

17. MinII = $15^m.16$. $D = 0.17$ P.

18. MinII = $15^m.53$. $D = 0.22$ P.

19. MinII = $15^m.15$.

20. $J = 7^m.663$, $H = 6^m.552$, $K = 6^m.055$ (2MASS).
The star in the NSVS database: [NSVS ID 3424540](#). The NSVS data confirm the star's type.

21. $J = 9^m.472$, $H = 8^m.29$, $K = 7^m.863$ (2MASS).

22. $J = 8^m.369$, $H = 7^m.196$, $K = 6^m.751$ (2MASS).
The star in the NSVS database: [NSVS ID 3425391](#). The NSVS data confirm the star's type.

23. $J = 10^m.349$, $H = 8^m.935$, $K = 8^m.337$ (2MASS).

24. $J = 10^m.746$, $H = 9^m.938$, $K = 9^m.588$ (2MASS).

27. MinII = $12^m.73$.

30. $J = 7^m.456$, $H = 6^m.428$, $K = 5^m.908$ (2MASS).
The star in the NSVS database: [NSVS ID 3382261](#). The NSVS data confirm the star's type.

31. MinII = $12^m.81$.

32. $J = 11^m.877$, $H = 11^m.686$, $K = 11^m.443$ (2MASS).
The star in the NSVS database: [NSVS ID 3428174](#). The NSVS data confirm the star's type.

33. $J = 8^m.464$, $H = 7^m.325$, $K = 6^m.86$ (2MASS).

The star in the NSVS database: [NSVS ID 3382875](#). The NSVS data confirm the star's type.

34. J = 7^m.647, H = 6^m.574, K = 6^m.093 (2MASS).

The star in the NSVS database: [NSVS ID 3428607](#). The NSVS data confirm the star's type.

35. J = 8^m.689, H = 7^m.268, K = 6^m.644 (2MASS).

36. J = 8^m.562, H = 7^m.407, K = 6^m.966 (2MASS).

The star in the NSVS database: [NSVS ID 3383833](#). The NSVS data confirm the star's type.

37. The period of 2^d.25147 is possible as well.

38. J = 13^m.155, H = 12^m.864, K = 12^m.668 (2MASS).

The star is not identical to its nearest neighbor [Mis V1308](#).

39. J = 7^m.511, H = 6^m.412, K = 6^m.015 (2MASS).

40. MinII = 12^m.30.

The star in the NSVS database: [NSVS ID 3384698](#) and [NSVS ID 3430508](#). The NSVS data confirm the star's type.

41. J = 9^m.429, H = 7^m.908, K = 7^m.094 (2MASS).

42. MinII = 13^m.99. MinII – MinI = 0.54 P.

43. MinII = 14^m.62.

44. MinII = 15^m.70.

45. J = 9^m.078, H = 7^m.866, K = 7^m.456 (2MASS).

46. J = 9^m.298, H = 8^m.145, K = 7^m.7 (2MASS).

Remarks:

We present the second part of our discoveries of variable stars in Cepheus. Our observations of an area in Cepheus were performed in the observatory of the Siberian State University of Science and Technologies with a Hamilton telescope (D = 400 mm, F = 915 mm) equipped with an FLI ML9000 CCD chip (3056×3056 pixels, pixel size 12 μm). We obtained unfiltered CCD observations during two time intervals from September to October 2012 and from August to November 2013. Exposure times were 30 seconds for all frames. The size of the field is 2°.3×2°.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 & Lebedev 2018) software to search for new variable stars. To find periods, we applied WinEfk software provided by Dr. V.P. Goranskij. Observations for several stars can also be found in the ROTSE-I/NSVS survey (Woźniak et al. 2004).

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