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New Light Elements for Seventeen Stars of Different Variability Types

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#	Name	Other	Coord (J2000)	Type	Max	Min	System	Period	Epoch (JD)	type	Sp	Comment	L.Curve	Find.Chart	Data
1	NSV 04959	2MASS J10442678-6011296	10 44 26.78 -60 11 29.7	EA	13.56	13.94	V	0.694435	2458148.704	min		Comm. 1	lc_NSV04959.png	ch_NSV04959.png	dat1.txt
2	NSV 05993	USNO-A2.0 0525-15510065	12 51 31.01 -34 23 50.2	RRC	15.14	15.53	V	0.383671	2457178.602	max		Comm. 2	lc_NSV05993.png	ch_NSV05993.png	dat2.txt
3		USNO-B1.0 0393-0700709	17 51 44.87 -50 38 25.4	EA	14.14	14.32	g	0.800048	2459454.488	min		Comm. 3	lc_175144-5038.png	ch_175144-5038.png	dat3.txt
4		USNO-B1.0 0567-0757493	18 02 40.31 -33 14 14.8	M	15.24	<17.5	V	279	2457851	max		Comm. 4	lc_180240-3314.png	ch_180240-3314.png	dat4.txt
5		GSC 6851-02230	18 11 33.20 -27 43 39.8	SR	13.33	15.8 :	g	178.8	2459502.3	max		Comm. 5	lc_181133-2743.png	ch_181133-2743.png	dat5.txt
6		USNO-A2.0 0525-33190845	18 12 33.09 -31 57 30.7	M	14.46	<16.9	V	299	2458022	max		Comm. 6	lc_181233-3157.png	ch_181233-3157.png	dat6.txt
7		GSC 6861-02553 N	18 33 13.12 -24 57 50.1	M	12.35	16.12	zr	203.0	2459511.5	max		Comm. 7	lc_183313-2457.png	ch_183313-2457.png	dat7.txt
8	NSV 13623	BD-20 6167	21 16 09.37 -20 11 33.9	ELL	11.22	11.25	g	1.34784	2459423.669	min		Comm. 8	lc_NSV13623.png	ch_NSV13623.png	dat8.txt
9		USNO-A2.0 1500-08569693	21 56 03.24 +61 05 51.9	EA	15.63	15.93	zg	25.584	2459047.781	min		Comm. 9	lc_215603_6105.png	ch_215603_6105.png	dat9.txt
10		USNO-A2.0 1500-08632491	21 59 12.23 +60 46 35.6	EA	14.35	14.78	zr	10.7097	2458761.708	min		Comm. 10	lc_215912_6046.png	ch_215912_6046.png	dat10.txt
11		USNO-B1.0 1497-0331994	22 00 44.42 +59 45 00.5	DCEP	15.25	15.90	zr	15.6336	2458593.924	max		Comm. 11	lc_220044_5945.png	ch_220044_5945.png	dat11.txt
12		USNO-A2.0 1425-13984635	22 44 41.22 +54 03 54.0	RCB:	14.42	15.77	zr			other		Comm. 12	lc_224441_5403.png	ch_224441_5403.png	dat12.txt
13		USNO-A2.0 1425-13999691	22 45 11.03 +54 55 51.4	EA	14.04	14.15	zr	3.40885	2458759.782	min		Comm. 13	lc_224511_5455.png	ch_224511_5455.png	dat13.txt
14		USNO-A2.0 1425-14036841	22 46 25.07 +54 16 55.7	EA	14.34	14.44	g	1.05038	2459443.837	min		Comm. 14	lc_224625_5416.png	ch_224625_5416.png	dat14.txt
15		USNO-A2.0 1425-14054431	22 47 00.98 +52 52 33.9	EA/RS	15.12	15.52	zr	7.3946	2458442.74	min		Comm. 15	lc_224701_5252.png	ch_224701_5252.png	dat15.txt
16		USNO-A2.0 1425-14158443	22 50 31.21 +53 51 34.2	EA	13.72	14.12	V	9.2254	2458762.825	min		Comm. 16	lc_225031_5351.png	ch_225031_5351.png	dat16.txt
17		USNO-A2.0 1425-14200222	22 51 58.54 +53 18 50.6	EA	15.52	15.77	zg	2.18156	2458819.616	min		Comm. 17	lc_225158_5318.png	ch_225158_5318.png	dat17.txt

Comments:

1. Min II = 13.69 V, D = 0.20 P. The star was included in ASAS-SN Variable Stars Database (Jayasinghe et al. 2018) with a type EA and P = 1.3888681 d.

2. M – m = 0.35 P. The star was included in ASAS-SN Variable Stars Database (Jayasinghe et al. 2018) with a type CWB and P = 1.1509774 d.

3. Min II = 14.24 g, D = 0.12 P. Variability was discovered by the author using the ASAS-SN photometric data.

4. = ASASSN-V J180240.32-331414.9 (see Iwanek et al. 2022). Variability of this star was independently discovered by the author using the STScI plates archive.

5. Variability of this star was discovered by the author using the STScI plates archive.

6. Variability of this star was discovered by the author using the STScI plates archive. The star was included in ASAS-SN Variable Stars Database (Jayasinghe et al. 2018) with the type YSO and no period. The ASAS-SN photometry in V- and g-bands in common was used for period determination. Magnitudes in g were adjusted by –1 mag.

7. N-comp. of 3" pair. Variability of this star was discovered by the author using the STScI plates archive. The ASAS-SN photometry in V- and g-bands, and ZTF photometry in zr-band in common were used for period determination. Magnitudes in g were adjusted by –1 mag.

8. Min II = 11.23 g. The star was suspected by Borrelly (1885) who did not publish a finding chart. Recovered by the author using the ASAS-SN photometric data.

9. Min II = 15.89 zg, D = 0.02 P. Min II – Min I = 0.785 P. The variability was discovered by Lapukhin et al. (2018a) who published an incorrect P = 4.16: d.

10. Min II = 14.55 zr, D = 0.02 P. Min II – Min I = 0.68 P. The variability was discovered by Lapukhin et al. (2018b) who published an incorrect P = 1.7708: d.

11. M – m = 0.40 P. Blazhko effect. The variability was discovered by Lapukhin et al. (2018a) who gave type BY and erroneous P = 16.24 d.

12. Pulsation cycle P ~ 73 d. The variability was discovered by Lapukhin et al. (2020) with a type LB. The star was included in the ZTF Catalog of Variable Stars (Chen et al. 2020) with a type SR and P = 70.4 d.

13. Min II = 14.06 zr, D = 0.04 P. The variability of 2MASS J22451103+5455516 was discovered by Lapukhin et al. (2020) with incorrect P = 1.4045: d.

14. Min II = 14.42 g, D = 0.08 P. The variability of 2MASS J22462507+5416558 was discovered by Lapukhin et al. (2020) with incorrect P = 0.68802 d and a type EW. There is a faint companion at 2".2 N. It is not excluded that the companion is the actual variable.

15. Min II = 15.22 zr, D = 0.08 P. Distortion wave P = 7.36 d. The variability of 2MASS J22470097+5252338 was discovered by Lapukhin et al. (2020) with incorrect P = 2.3786: d and a type EA.

16. Min II = 13.81 V, D = 0.03 P. Min II - Min I = 0.460. The variability of 2MASS J22503120+5351341 was discovered by Lapukhin et al. (2021) with incorrect P = 1.8013: d.

17. Min II = 15.62 zg, D = 0.05 P. The variability of 2MASS J22515854+5318505 was discovered by Lapukhin et al. (2021) with incorrect P = 0.727191 d.

Remarks:

While working on compiling of the next Name-List for Version 5.1 of the General Catalogue of Variable Stars (GSVS, Samus et al. 2017), I determined types, light elements and improved coordinates for 4 new variable stars, 3 more stars from the NSV catalogue (Kazarovets et al. 2022) and 10 new variables, discovered and published by other authors to transfer them to the GCVS. The study of the variables was made using the publicly available electronic archive of CCD observations of the Sky Patrol of the All-Sky Automated Survey for Supernovae (ASAS-SN) project (Shappee et al. 2014, Kochanek et al. 2017) and the Zwicky Transient Facility (ZTF) photometric data (Masci et al. 2019). For each star, I present archive observations. Information on the filter can be found in corresponding files.

To find periods I applied the WinEfk software provided by Dr. V.P. Goranskij and the on-line lightcurve analysis tool created by Dr. K.V. Sokolovsky.

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