

Seven Algol Type Variables in the NGC 6755 Region

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ISSN 2221-0474

DOI: [10.24412/2221-0474-2026-1](https://doi.org/10.24412/2221-0474-2026-1)

Received: 29.07.2026; accepted: 4.09.2026
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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 0900-13933742	19 07 22.931 +04 11 56.19	EA	16.84	17.44	zr	78.4695	2460181.670	min		Comm. 1	lc_v1.png	ch_v1.png	v1.txt
2		USNO-A2.0 0900-13934771	19 07 24.046 +04 12 25.96	EA	15.52	15.67	zr	6.17227	2460610.659	min		Comm. 2	lc_v2.png	ch_v2.png	v2.txt
3		GSC 2.4 N1OA176567	19 07 24.327 +04 12 23.93	EA	16.83	17.24	zr	5.67556	2460504.900	min		Comm. 3	lc_v3.png	ch_v3.png	v3.txt
4		USNO-A2.0 0900-13936709	19 07 26.376 +04 15 11.94	EA	16.30	16.52	zr	5.60906	2460485.880	min		Comm. 4	lc_v4.png	ch_v4.png	v4.txt
5		USNO-A2.0 0900-13945847	19 07 37.704 +04 11 23.93	EA	18.39	18.58	zr	5.3453	2459301.015	min		Comm. 5	lc_v5.png	ch_v5.png	v5.txt
6		USNO-A2.0 0900-13945902	19 07 37.729 +04 11 10.17	EA	15.26	15.86	zr	18.7462	2460604.605	min		Comm. 6	lc_v6.png	ch_v6.png	v6.txt
7		GSC 2.4 N1OA091166	19 08 11.096 +04 18 45.01	EA	18.06	18.40	zr	2.96819	2460547.774	min		Comm. 7	lc_v7.png	ch_v7.png	v7.txt

Comments:

1. = Gaia DR3 4269354073883004032. MinII = 17.37 zr, D = 0.01 P; eccentric orbit: MinII–MinI = 0.634 P. zg = 18.04–<18.30, MinII = 18.46 zg. Combined photometry in r- and g-band ZTF and in G-band Gaia was used for period determination. Magnitudes in G-band were adjusted by +0.02 mag, in zg-band - by –1.2 mag. The variable is included in the Gaia DR3 catalogue of variable stars (Gaia Collaboration, 2022) with the type E and erroneous P = 4.60582 d.
2. = Gaia DR3 4269377541614536832. MinII = 15.66 zr, D = 0.04 P. zg = 16.69–16.89, MinII = 16.86 zg. Twice shorter period is not excluded. The variability of EA type was discovered by Ciechanowska et al. (2007) for their star V4 in the NGC 6755 field, without any period or magnitude range.
3. = Gaia DR3 4269377541614535936. MinII = 17.20 zr, D = 0.05 P. zg = 18.20–18.60, MinII = 18.57 zg. The variable is included in the Gaia DR3 catalogue of variable stars (Gaia Collaboration, 2022) with the type E and twice shorter P = 2.83771 d.
4. = Gaia DR3 4269378538047204736. MinII = 16.46 zr, D = 0.04 P. zg = 17.48–17.70, MinII = 17.62 zg. The variability of EA type was discovered by Ciechanowska et al. (2007) for their star V3 in the NGC 6755 field, without any period or magnitude range.
5. = Gaia DR3 4269330296973424128. MinII = 18.49: zr, D = 0.03 P; eccentric orbit: MinII–MinI = 0.464 P. The variable is included in the Gaia DR3 catalogue of variable stars (Gaia Collaboration, 2022) with the type E and incorrect P = 5.0095 d.
6. = Gaia DR3 4269330296973416704. MinII = 15.40 zr, D = 0.03 P; eccentric orbit: MinII - MinI = 0.316 P. zg = 16.11–16.77, MinII = 16.22 zg. The variable is included in the Gaia DR3 catalogue of variable stars (Gaia Collaboration, 2022) with the type E and erroneous P = 5.4212 d.
7. = Gaia DR3 4269333217551363840. MinII = 18.37 zr, D = 0.07 P. The variable is included in the Gaia DR3 catalogue of variable stars (Gaia Collaboration, 2022) with the type E and twice shorter P = 1.48406 d.

Remarks:

I checked two Algol type stars from my archive of suspected variables, discovered by Ciechanowska et al. (2007) in the field of the open cluster NGC 6755, and five eclipsing variables from the Gaia DR3 catalogue of variable stars (Gaia Collaboration, 2022) near around. I confirmed variability types and determined new light elements for these objects, to transfer them to the [General Catalogue of Variable Stars](#) (GSVS, Samus et al. 2017). The study of the presented seven variables was made using the publicly available electronic archive of CCD observations of the Zwicky Transient Facility (ZTF) photometric data (Bellm et al., 2019; Masci et al., 2019) via the [SNAD ZTF viewer](#) (Malanchev et al., 2023). To find periods, I applied the WinEfk software provided by Dr. V.P. Goranskij and the [online light curve analysis tool](#) developed by Dr. K.V. Sokolovsky. The coordinates of the stars were drawn from the Gaia DR3 catalogue (Gaia Collaboration, 2023). The study was conducted under the state assignment of Institute of Astronomy of Russian Academy of Sciences.

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