UCAC4 489-026986: A new variable star in the field of NGC 2254

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Star Name:	UCAC4 489-026986
Coordinates (J2000):	06 35 59.637, +07 45 27.72
Variability type:	DSCT; **Limits, System:** 12.328 (V), Amplitude +/-0.02;
Period:	0.06047 d; **Epoch(max):** JD 2456337.395

Remarks:

During observations of NGC 2254 in February and March 2013, we discovered short-term variability of UCAC4 489-026986. Our observations were carried out at the author's backyard observatory using a 235 mm f/8 SCT, equipped with a SBIG ST-7 and a set of Johnson–Cousins UBVRI filters. Each pixel of the CCD camera scales 1.067" on the sky, leading to a field of view of 13.6' × 9.1'. The gain and readout noise for the CCD used were taken to be 2.62 e-/ADU and 15.98 e- respectively. Basic data reduction has been performed with IRAF package ccdred and for aperture and psf photometry we used IRAF package daophot. The coordinates were derived with the software tool astrometry.net (Hogg et al. 2008). To search for periods and epochs we used IRAF task pdm, the starlink package task period and the software tool FAMIAS (Zima 2008). According to these data, UCAC4 489-026986 is likely a DSCT-type star.

A fourier analysis with the software tool FAMIAS yields f_0 = 16.778 c/d (P = $0^d.0596$), V-band semi-amplitude of $0^m.012$ (S/N = 7.625).

With the IRAF task pdm we found concurrent periods between $0^d.0590$ and $0^d.0635$.

Mean subtracted magnitudes for UCAC4 489-026986 can be found in the data file attached, and a phased light curve from this data with P = $0^d.06047$ is presented in the Figure. Also the Finding chart is given. The reference stars are UCAC4 489-027000 (R = 10.854) and UCAC4 488-026622 (R = 10.497).
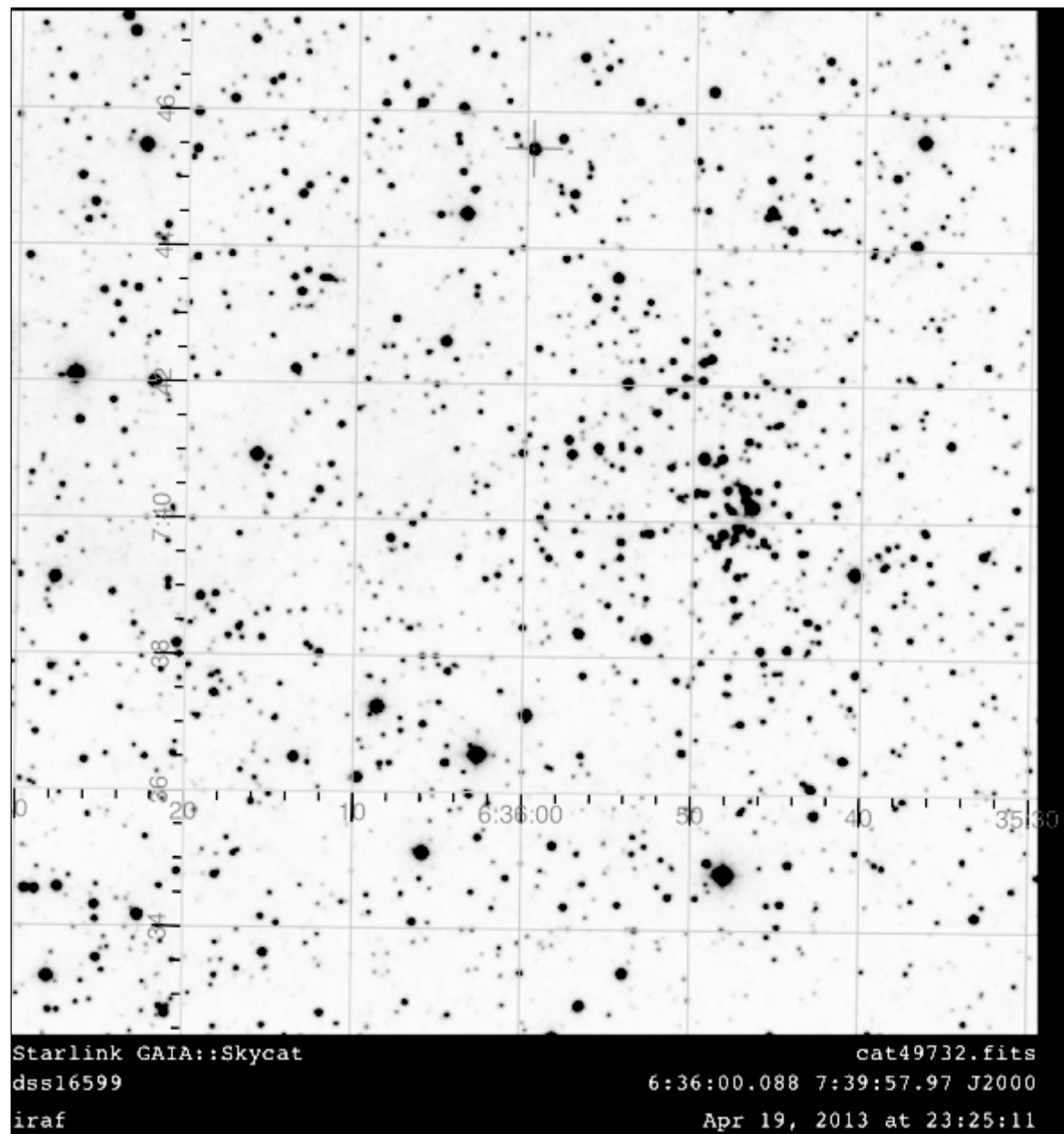
References:

Hogg, D. W., Blanton, M., Lang, D., et al., 2008, Automated Astrometry, Astronomical Data Analysis Software and Systems XVII, Argyle, R. W., Bunclark, P. S., and Lewis, J. R., eds., ASP Conference Series 394, 27
Ochsenbein, F., Bauer, P., Marcout, J., 2000, Astron. and Astrophys. Suppl. Series, 143, 23
Zima, W., 2008, Communications in Asteroseismology, 155

Light Curve
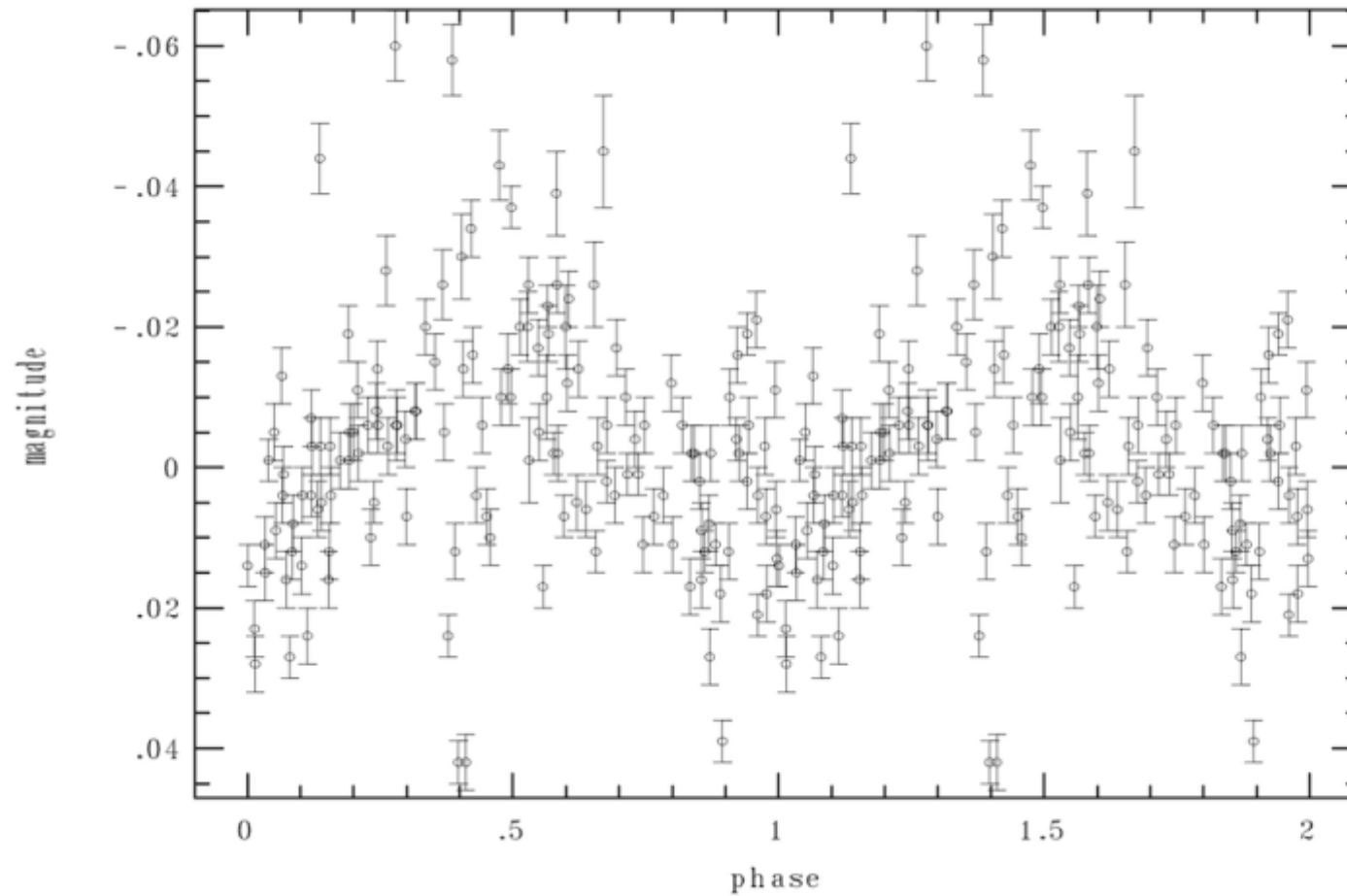
Finding Chart

Data Source
1. mon_ngc2254.76.r.mag.txt