# NSVS 15314262 - A new ACV variable discovered in Canis Major

*A new fairly bright ACV variable star has been discovered by Alexandr Ditkovsky recently. With the median nearly 10.42m, it is the sixth-brightest ACV variable in the constellation of Canis Major.*

| NSVS 15314262 (ACV) | |
|---|---|
| **AAVSO UID:** | 000-BKV-399 |
| **Constellation:** | Canis Major |
| **J2000.0:** | 07 15 31.92 -15 05 20.5 |
| **Mag. range:** | 10.38 - 10.47 V |
| **Epoch:** | HJD 2453077.00 (12 Mar 2004) |
| **Period:** | 63.29 days |

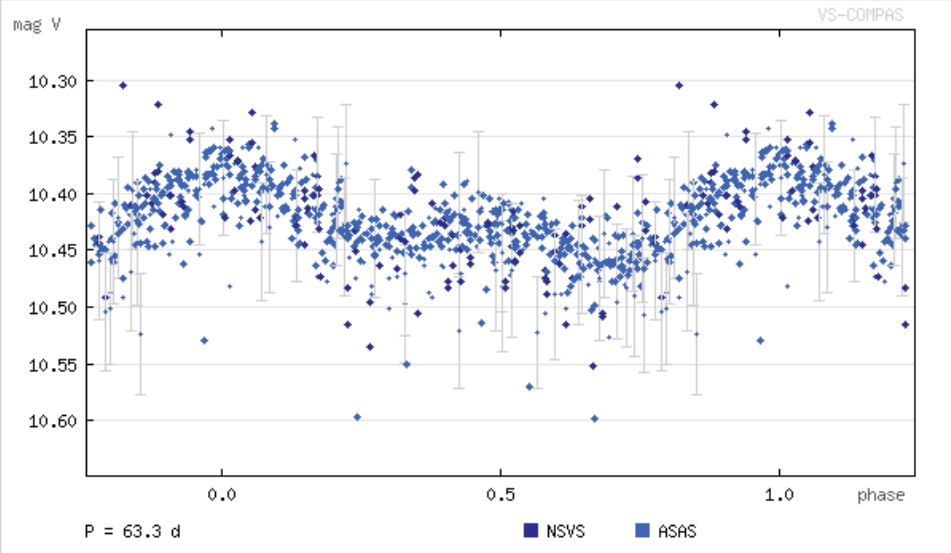
Preliminarily, ASAS-3 data shows the magnitude range of 10.37-10.47m with a period of 63.29 days. Due to peculiar physical properties of these variables one can see a very distinctive light curve with a bump. Available photometric data is quite clear with reasonable error value and covers full cycle many times, so the folded curve is complete and reliable at 63.29 days period.

It is believed the powerful magnetic field of an $\alpha^2$ CVn star gives rise to different compositions and brightness at different parts of the stellar surface. ACV is a type of rotating variable, also known as a spectrum *peculiar A* variable (Ap). Their magnetic activity was revealed in 1946, when Horace Babcock discovered a strong magnetic field in the Ap star 78 Virginis. Unlike the Sun, which magnetic field is produced by a dynamo effect in the convective outer layers of the star, in sun-spots area, Ap stars are mostly modeled using strong dipole magnetic field.

Currently there are more than 500 known ACV variables in the VSX database. Most of them are brighter than 10.5m.

**Alpha2 Canum Venaticorum** (ACV) variables

According to GCVS classification, ACVs are main-sequence stars with spectral types B8p-A7p and displaying strong magnetic fields. Spectra show abnormally strong lines of Si, Sr, Cr, and rare earths whose intensities vary with rotation.




**NSVS 15314262.** Folded light curve. M = *HJD* 2453077.0 + 63.29 * E.
by Alexandr Ditkovsky (VS-COMPAS)

ACVs exhibit magnetic field and brightness changes, periods of 0.5-160 days or more. The amplitudes of the brightness changes are usually within 0.01-0.1 mag in V. The type-star which this class is named after is $\alpha^2$ Canum Venaticorum, its brightness fluctuates by 0.14m with a period of 5.47 days.

*Ivan Adamin*