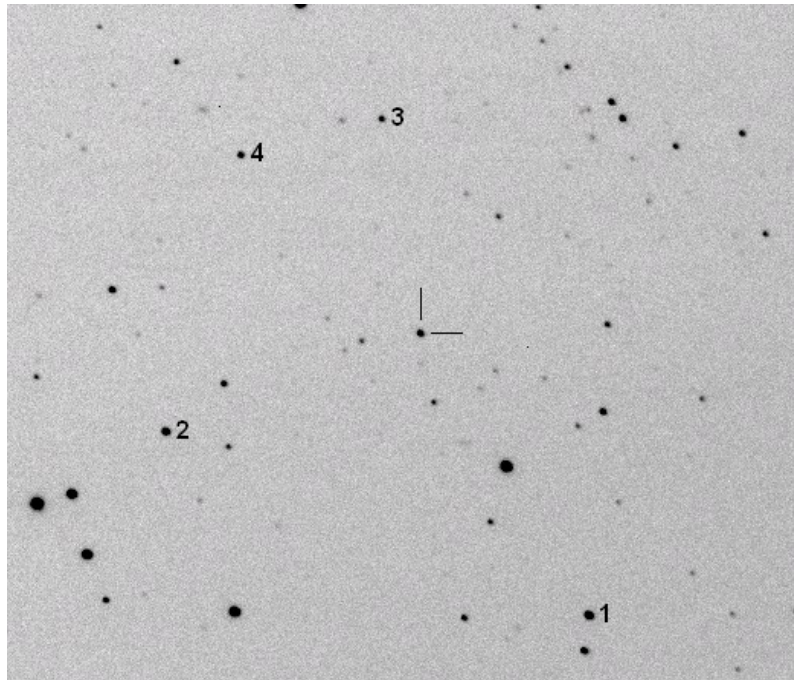


A NEW ELL VARIABLE STAR IN BOOTES

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We describe the discovery of a new variable star in the Bootes constellation, observed at the (IAU station 565) Bassano Bresciano Observatory on May 23th 2014, during the [VeSPA](#) Project (Variable star Search Project for Automated telescope). The star is cataloged as USNO-A2.0 1125-07128389 (14 59 15.780 +29 19 46.84). From light curve analysis the star should be an ELL type variable. We computed the epoch HJD 2456802.515076 and the period $P = 0.411748$ days. Magnitude is 15.40v with a amplitude = 0.11 (clear).



USNO-A2.0 1125-07128389 and comparison stars

Tab 1 Comparison stars

Catalog = 2MASS		Color band=V							
Num	Num.Cat.	RA J2000	DE J2000	Mag	B-V	V-R	R-I	J-H	
01	14585941+2925432	224.7475570	29.4286750	14.138	+0.59	+0.34	+0.33	+0.35	
02	14594067+2921498	224.9194830	29.3638530	14.429	+0.65	+0.37	+0.36	+0.33	
03	14591947+2915154	224.8311590	29.2543010	15.725	+0.72	+0.40	+0.39	+0.30	
04	14593323+2916006	224.8884880	29.2668590	15.549	+0.76	+0.43	+0.40	+0.37	

Tab 2. Cross identification of variable star

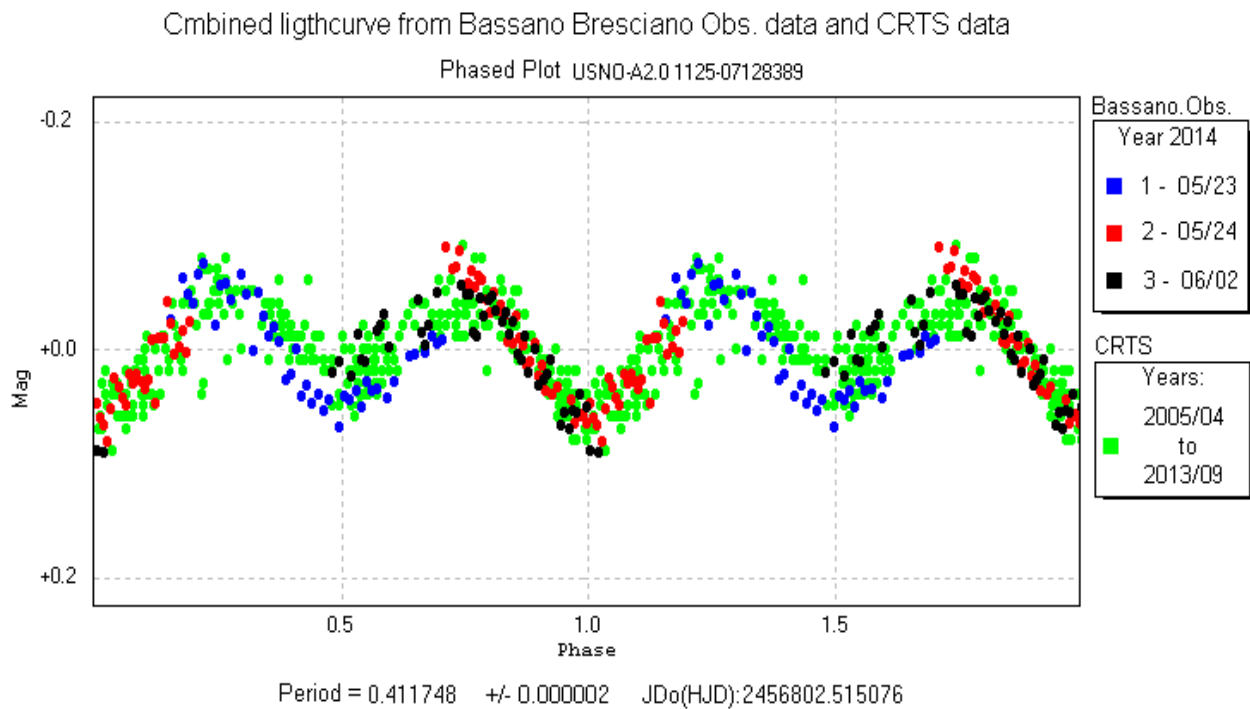
USNO-A2.0 1125-07128389 = 2MASS J14591576+2919465 = CSS_J145915.8+291946

Tab 3 Summary of the Bassano Bresciano observations:
 Session, Date of sessions, number of images/session, exposure times

Session number	UT Date of the observations		N.images	exp. time sec.
S1	2014-05-23/20:13:55	2014-05-24/02:25:26	44	240
S2	2014-05-24/21:29:14	2014-05-25/02:15:22	59	240
s3	2014-06-02/20:24:17	2014-06-03/01:56:56	47	240

PERIOD DETERMINATION

Period was performing combining Bassano Bresciano Observatory data and Catilina survey data (CRTS Identifier = CSS_J145915.8+291946). Following is the combined plot giving us the period of **0.411748** days.



EPOCH AND AMPLITUDE DETERMINATION

Using Peranso software was able to compute the minimum epoch = **HJD 2456802.515076** and amplitude = **0.11 mag** (clear)

Tab 4. Main characteristics of discovered star

Name	Type	Period (d)	Initial epoch (HJD)	V Mag	Amplitude Mag (Clear)
USNO-A2.0 1125-07128389	ELL	0.411748 +/- 0.000001	2456802.515076	15.40	0.11