

Optical Variability of the Seyfert Galaxy FBQS J161047.7+330337

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Star Name:	FBQS J161047.7+330337, [BFE95] 207, RX J1610.7+3303, 1RXS J161047.7+330329, FIRST J161047.7+330337, NVSS 161048+330343		
Coordinates (J2000):	16 10 47.7 +33 03 38		
Variability type:	GAL;	Limits, System:	14.1-15.0pg;
Period:		Epoch:	JD

Remarks:

The optical Variability of the Seyfert galaxy FBQS J161047.7+330337 was detected during investigation of scanned photographic plates of Moscow collection. To test the possibility of variable-star search on scanned photographic plates, we used 80 scans of photographic plates taken with the Crimean 40-cm astrograph. Just a small fraction of each 10x10 degree photographic plate (about 1.2x1.2 degrees, centered on the RR Lyrae variable VY CrB) was used for the test. The plates were scanned with a CREO EverSmart Supreme II scanner at the 2400 dpi resolution and examined with VAST software (Sokolovsky and Lebedev, 2005). As a result, we detected a previously unknown variable-star-like object, which was identified as the Seyfert galaxy FBQS J161047.7+330337 (16h10m47.7s +33d03m38s, J2000).

According to the NASA/IPAC Extragalactic Database (NED), it is a Seyfert 1.5 galaxy at $z=0.0973$. It was first identified as an AGN by Baade et al. (1995). The photographic light curve of FBQS J161047.7+330337 in 1973 - 1975 is presented in Fig. 2. It shows variations with a small amplitude (about 0.3mag) superposed on a 0.9mag trend. A 2MASS image of FBQS J161047.7+330337 is presented in Fig. 1. Images in J, H, and K bands are presented in this false-color figure as the B, G, and R colours respectively. An optical companion about 3" away from the galaxy at PA=226 deg. is visible. It has a slightly different color. It is not clear if the companion is related to the galaxy or not.

The finding chart for FBQS J161047.7+330337 is presented in Fig. 3.



Fig.1 A false-color infrared image of FBQS J161047.7+330337. The blue, green, and red colors correspond to the J, H and K bands respectively. This image was obtained as a part of the Two Micron All Sky Survey (2MASS), a joint project of the University of Massachusetts and the Infrared Processing and Analysis Center/California Institute of Technology, funded by the National Aeronautics and Space Administration and the National Science Foundation.

References:

- Baade, N., Fink, H.H., Engels, D. et al., 1995, A&AS, 110, 469.
- Monet, D. et al., 1998, USNO-A2.0, A Catalog of Astrometric Standards (U.S. Naval Observatory, Washington, DC)
- Sokolovsky, K., Lebedev, A., 2005, in 12th Young Scientists' Conference on Astronomy and Space Physics, Kyiv, Ukraine, April 19-23, 2005, eds.: Simon, A.; Golovin, A., p.79 (VAST: <http://saistud.sai.msu.ru/vast>)

Light Curve

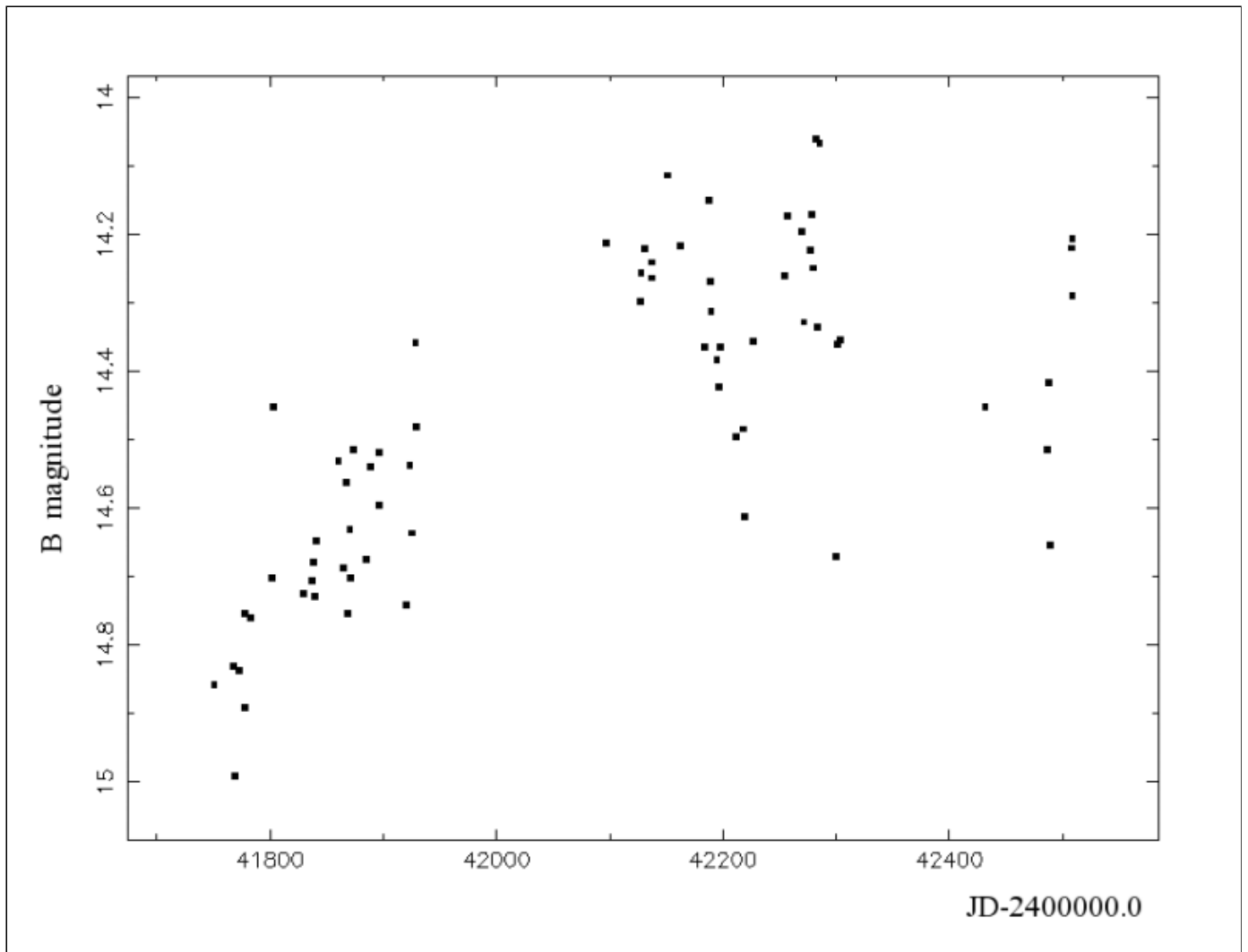


Fig. 2. The photographic light curve of FBQS J161047.7+330337. The magnitude scale was calibrated using photographic blue magnitudes of neighboring USNO-A2.0 stars (Monet et al., 1998).

Finding Chart

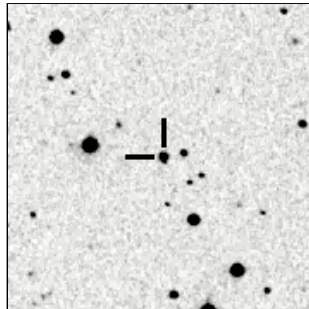


Fig. 3. A 5'x5' DSS1 image centered at FBQS J161047.7+330337.