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EK And IS NOT A SEMI-REGULAR VARIABLE

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EK And is classified as a semi-regular late-type giant displaying persistent periodicity in the General Catalog of Variable Stars, with coordinates of R.A. $01^{\text{h}}16^{\text{m}}13^{\text{s}}.5$, Decl. $+41^{\circ}44'22''(2000.0)$, *V*-band brightness variations between 10.3 – 11.4 mag, and period of 185 days.

The variations and period were obtained by Zinner (1922) from 26 visual observations from JD 2419471 to 2422656. Zinner also noted EK And is a companion easy to misidentify with a Mira type variable UZ And. Petit (1961) confirmed the variability and type of EK And as a semi-regular late-type giant displaying persistent periodicity, from 22 visual observations, with coordinates of R.A. $01^{\text{h}}10^{\text{m}}30^{\text{s}}$, Decl. $+41^{\circ}12'8$ (1900.0), variations between 10.2 – 11.2 mag, and period of about 190 days.

However, evident brightness variations of EK And were not confirmed in recent CCD and visual observations.

Ohkura observed EK And for three months from September to December in 2000, with 0.16-m f/3.8 Wright-Schmidt reflector and SBIG ST-8 CCD. Figure 1 shows the light curve of the unfiltered CCD photometry. The observations covered a half of the period of EK And, but no variation larger than 0.18 mag was detected.

Smelcer observed EK And for about a half of a year twice, from September 1999 to February 2000, and from September 2000 to February 2001, with 0.12-m f/4.5 astrocamera and SBIG ST-7 CCD. Figure 2 shows the light curve of the *V*-band photometry. The observations covered the full period of EK And in both seasons, but no variation larger than 0.11 mag was detected.

Figure 3 shows the visual observations by three observers from 1995 to 2001, from the Variable Star Network (VSNET) database. All observations are within 11.2 ± 0.4 mag. No periodicity of 185 days was found.

In conclusion, EK And is not a semi-regular late-type giant with a brightness range of 1.1 magnitude. As EK And is close by another Mira type variable star UZ And, some misidentifications could occur in the old observations. Plaut (1977) gave the same identification for EK And and UZ And. The position and identification is definitely wrong for UZ And and is assumed to be correct for EK And.

We are grateful to the VSNET observers.

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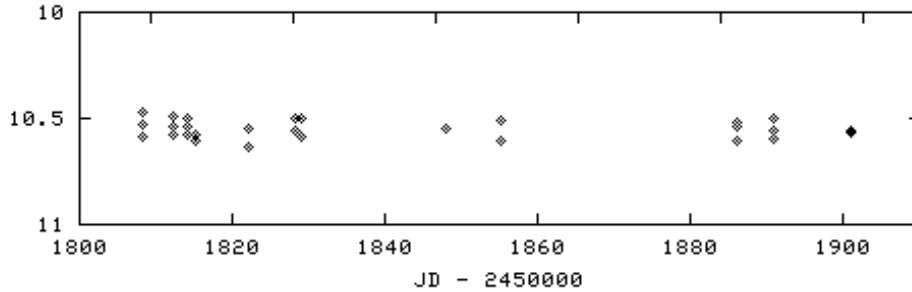


Figure 1. Unfiltered CCD observations by Ohkura

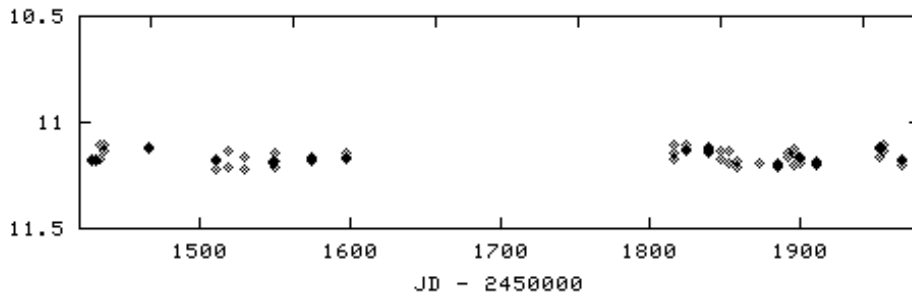


Figure 2. V-band observations by Smelcer

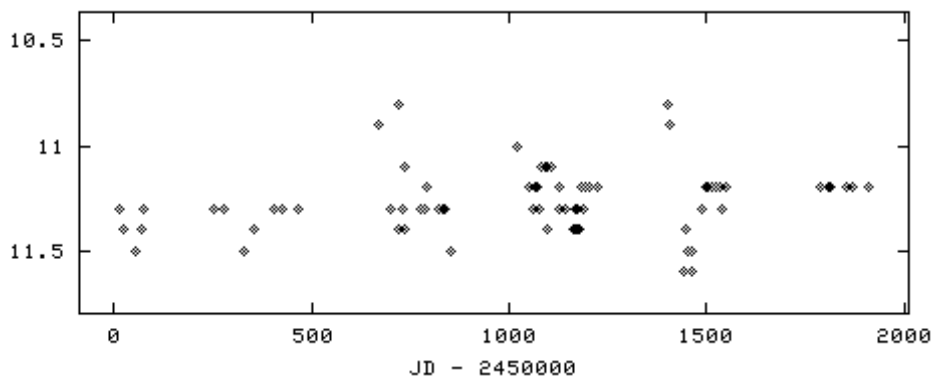


Figure 3. Visual observations by VSNET

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 Plaut, L., 1977, *Astron. Astrophys. Suppl.*, **28**, 169
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