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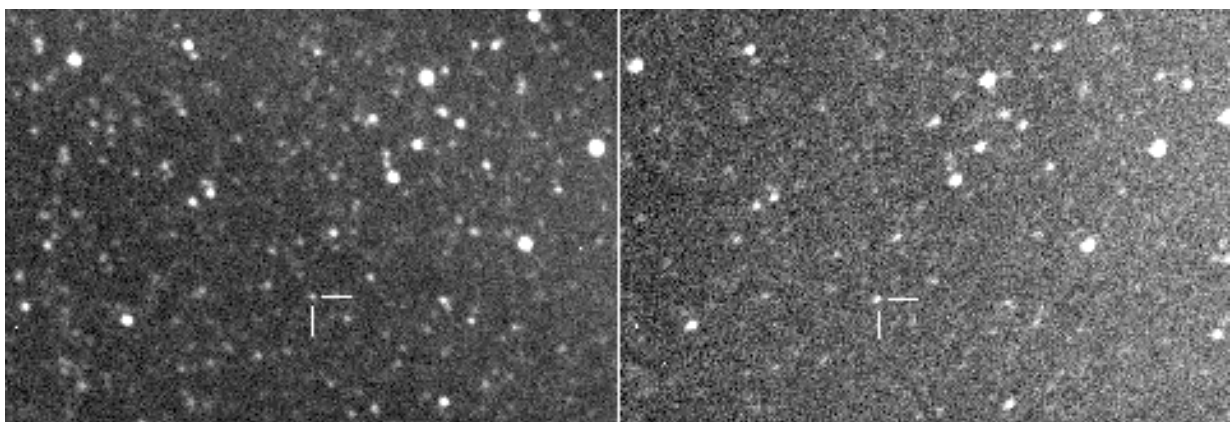
**IDENTIFICATION AND CCD PHOTOMETRY OF LUYTEN'S GM Sgr**

T. KATO, M. UEMURA

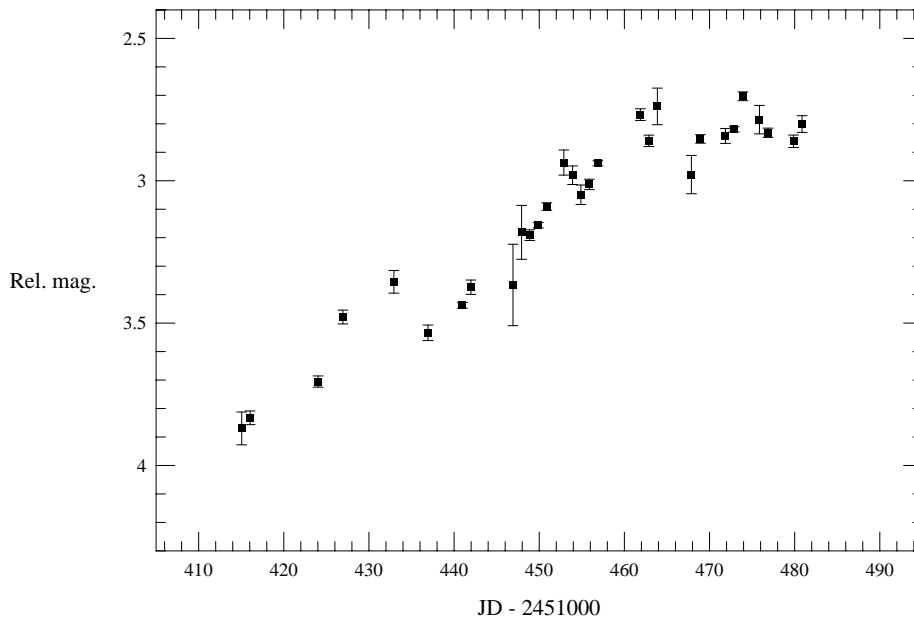
Dept. of Astronomy, Kyoto University, Kyoto 606-8502, Japan  
e-mail: tkato@kusastro.kyoto-u.ac.jp, uemura@kusastro.kyoto-u.ac.jp

There have been confusion in the correct identification of Luyten's variable (HV 4048), which was originally given the GCVS name, GM Sgr. Goranskij (1978, 1990) discovered an eruptive variable star in its close vicinity, which once took over the GCVS nomenclature, GM Sgr. The variable, the flaring X-ray transient, was later given a new variable star name, 'V4641 Sgr' (Samus 1999).

In this paper, we provide the identification chart and CCD photometry of 'Luyten's' GM Sgr = USNO-A1.0 0600.16547185 (Hazen 1999; Morel 1999), based on our CCD images used for photometry of V4641 Sgr (Kato et al. 1999). The CCD observations were done using an unfiltered ST-7 camera attached to a 25-cm Schmidt-Cassegrain telescope at Kyoto University. The exposure time was 10–30 s. The images were dark-subtracted, flat-fielded, and analyzed using the Java<sup>TM</sup>-based aperture photometry package developed by one of the authors (TK). The magnitudes of GM Sgr were determined using the GSC 6848.3882 (Tycho  $V = 9.30$ ,  $B - V = +0.49$ ), whose constancy was confirmed by comparison with GSC 6848.3606.



**Figure 1.** Identification chart of Luyten's GM Sgr



**Figure 2.** Light curve of GM Sgr

Figure 1 shows the comparison of CCD images taken on 1999 August 24 (left) and 1999 October 29 (right). North is approximately up. The object markedly brightened between these two exposures.

Figure 2 represents the light curve of GM Sgr. The magnitudes are shown relative to GSC 6848.3882. A monotonous rise of 1.0 mag during 65 d is evident. The object seems to have reached a maximum in late October. Using the estimated  $R_C$  magnitude 9.05 of the comparison, the observed range of GM Sgr becomes 11.9–12.9 ( $R_C$ ), though the actual minimum can be fainter. From the observed light variability, we have confirmed the Luyten's original classification as a long-period variable.

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