An Estimation of Microlensing Event Rate from the Galactic-Plane Survey with Kiso Wide Field Camera

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Abstract: Kiso Wide Field Camera (KWFC) has recently been developed by the University of Tokyo to be mounted on the 1.05-m Schmidt telescope located at the Kiso Observatory in Japan. KWFC has eight 2k x 4k CCDs, providing a field of view of 2 deg x 2 deg. About 20% of the telescope time with KWFC will be devoted to a large area (~300 deg^2) survey along the Galactic plane for 3 years from Apr. 2012, aiming at studying the Galactic structure by probing pulsating variable stars.

In this poster, we present an estimation of microlensing event rate emerged in the fields to be monitored by the KWFC/Galactic-plane survey. Although the sampling rate of each field is small (~15/year), a real-time alert system and adequate photometric- and spectroscopicfollowup observations can identify real microlensing events from any other transient variable ones as well as determine the sources' distances. Such observations will enable us to estimate the microlensing optical depth as a function of Galactic longitude, and may detect exoplanets hosted by nearby lens stars.