Correction for Blending Problem in Gravitational Microlensing Events by Using Hubble Space Telescope

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The biggest uncertainty in determining microlensing parameters comes from the blending of source star images because the current experiments are being carried out toward very dense star fields: the Galactic bulge and Magellanic Clouds. The experiments try to correct the blending effects for individual events by introducing an additional lensing parameter, the residual flux, but this method suffers from very large uncertainties in the derived lensing parameters due to the degeneracies among the parameters. In this paper, I propose to use the *Hubble Space Telescope (HST)* to correct blending effects. With the high resolving power of the *HST* combined with the color information from ground-based observations, one can uniquely identify the lensed source star in the blended seeing disk, and thus the uncertainty in the derived time scale can be significantly reduced.