

Detection efficiencies in high magnification events

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Since its pilot season in 1995, the PLANET (Probing Lensing Anomalies NETwork) collaboration has been active in nearly-continuous monitoring galactic microlensing events in order to detect extrasolar planets around the lens stars and to measure their abundance. For a number of observed events, it is however not clear whether a planet orbits the lens star, because the source trajectory might not probe any of the planetary caustics. Moreover, even in a favorable case, finite source effects might strongly affect and reduce a possible planetary signal. In such cases, one can compute the detection efficiency to planetary companion to the lens in order to estimate its probability.

We use the procedure underlined by Gaudi et al. 2002 to compute detection efficiencies of OGLE-2007-BLG-050, a single-lens-like microlensing event with showing strong finite source effects. In particular, we analyse the effect of the trajectory angle for a range of planet-star separation and mass ratio, which we use to characterize the sensitivity of this microlensing event to planetary companions.

Please find the poster in attachment.

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