

EXOPLANETARY SEARCHES WITH GRAVITATIONAL MICROLENSING: POLARIZATION ISSUES

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There are different methods for finding exoplanets such as radial spectral shifts, astrometrical measurements, transits, timing etc. Gravitational microlensing (including pixel-lensing) is among the most promising techniques with the potentiality of detecting Earth-like planets at distances about a few astronomical units from their host star. We emphasize the importance of polarization measurements which can help to resolve degeneracies in theoretical models. In particular, the polarization angle could give additional information about the relative position of the lens with respect to the source. Polarization can reach a few percent when a gravitational lens system consists of a star and an exoplanet while a source is a giant star in the Galactic bulge or in the Andromeda galaxy.