



## Exoplanet searches with gravitational microlensing

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### Abstract

Different regimes of gravitational lensing depend on lens masses and roughly correspond to angular distance between images. If a gravitational lens has a typical stellar mass, this regime is named microlensing because the typical angular distance between images is about microarcseconds in the case for sources and lenses at cosmological distances. The angular distance depends on as a squared root of lens mass and therefore, for Earth-like planet mass lens ( $10^{-6} M_{\odot}$ ), such a regime is called nanolensing. So, one can name searches for exoplanets with gravitational lens method as gravitational nanolensing. 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 stars.

### References

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