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“Searching for Extrasolar Planets
with Gravitational Microlensing”

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By ZOOM video webinar system
Contact: office@structures.uni-heidelberg.de



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ABSTRACT

Gravitational microlensing is a powerful method for the detection of extrasolar planets. In particular its sensitivity to low mass exoplanets and its potential for global statistical analyses are of high interest. The basics of microlensing and its current mode of operation will be explained with special emphasis on structures in the microlensing lightcurves and caustic structures. About 60 planets have been discovered so far by microlensing surveys. A couple of them will be reviewed in detail. A statistical analysis on the Galactic abundance of exoplanets will be presented and discussed, with particular emphasis on the result that “Planets are the rule, not the exception”: Abundance analyses show that on average every Milky Way star has at least one planet! In a brief outlook, the immense potential of gravitational microlensing for detections of Earth- and Mars-mass planets, of exomoons and of free-floating planets will be highlighted.

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