

Title of Project: Gravitational Microlensing

Project Number: 277

University Project Leaders/Departments: Michael Albrow; Physics and Astronomy

Brief outline of project

In the last 15 years, the number of known extrasolar planets has gone from zero up to more than 300. The majority of these are "hot Jupiters", massive planets orbiting close to their parent stars. This apparently high fraction is almost certainly a selection effect, since such planets are most easily detected by radial-velocity and transit techniques.

An alternative method, gravitational microlensing, has resulted in a handful of planet detections, but importantly these are planets located outside Earth's orbital radius. We have an active ongoing programme of observation and analyses of gravitational microlensing events searching for extrasolar planets (the PLANET/microFUN collaborations).

For this project, the student will work on either the theoretical modelling of binary/planetary lensing or on the analysis of CCD imaging data.

Specific student requirements:

Please indicate below any specific academic requirements you have for the summer scholarship student (e.g., specific level; specific courses, or equivalents, completed)

Mathematics and Astronomy/physics to at least level 2. Good computing and mathematical skills.

Special condition:

n/a