



## Searching for Frozen Super Earth via Microlensing

V. Batista, J.P. Beaulieu, A. Cassan, C. Coutures, J. Donatowicz, P. Fouqué, D. Kubas, and J.B. Marquette  
(batista@iap.fr)

Microlensing planet hunt is a unique method to probe efficiently for frozen Super Earth orbiting the most common stars of our galaxy. It is nicely complementing the parameter space probed by very high accuracy radial velocity measurements and future space based detections of low mass transiting planets. In order to maximize the planet catch, the microlensing community is engaged in a total cooperation among the different groups (OGLE, MicroFUN, MOA, PLANET/RoboNET) by making the real time data available, and mutual informing/reporting about modeling efforts. Eight planets have been published so far by combinations of the different groups, 4 Jovian analogues, one Neptune and two Super Earth. Given the microlensing detection efficiency, it suggests that these Neptunes/Super Earths may be quite common. Using networks of dedicated 1-2m class telescopes, the microlensing community has entered a new phase of planet discoveries, and will be able to provide constraints on the abundance of frozen Super-Earths in the near future. Statistics about Mars to Earth mass planets, extending to the habitable zone will be achieved with space based wide field imagers (EUCLID) at the horizon 2017.