

MEDIA RELEASE

NEWS FROM THE UNIVERSITY OF TASMANIA

DATE: FRIDAY 15 FEBRUARY 2008

ATTENTION: Chiefs of Staff, News Directors



Discovery of first planetary system like our Solar System

University of Tasmania astronomers have played an important role in the discovery of the first planetary system with similarities to our Solar System.

Dr John Greenhill and Dr Stefan Dieters, from the UTAS School of Mathematics and Physics, are the Australian contributors to an international collaboration, led by Dr Scott Gaudi of Ohio State University, which has uncovered the system and reported its results today (Friday, February 15) in the prestigious international journal, *Science*.

The collaboration used a technique known as gravitational microlensing* with photometric data (brightness measurements) from telescopes in Chile, USA, New Zealand, Israel, the Canary Islands and Tasmania.

The Tasmanian observations were made by Dr Greenhill and Dr Dieters from April 4-8, 2006, using the UTAS Mt Canopus 1 metre telescope, based near Hobart.

The newly discovered system, which is code-named OGLE-2006-BLG-109L, contains two planets orbiting a cooler star half the mass of our Sun, about 5000 light years from Earth.

It resembles a scaled down version of our Solar System with the two planets having mass ratios (as compared with their star), orbital separations and surface temperatures similar to those of Jupiter and Saturn.

Dr Greenhill said the discovery was particularly important because it demonstrated that, using microlensing, we will be able to estimate how many Solar System analogues there are in the Galaxy.

“The technique used does not necessarily detect all planets in the system, so it is possible that OGLE-2006-BLG-109L may contain other planets – even ones like Earth,” he said.

Dr Dieters said hunting for planets in this way was exciting: “On each night, with each observation, there is the chance to discover a whole new world”.

* In gravitational microlensing, the light of a background star is magnified by the effect of gravity from an (often unseen) foreground star as it passes. This causes the background star to brighten and fade smoothly as the alignment between the two stars changes as each moves through space.

If the foreground star has a planet, it can cause distortions to this smooth process, which appear as short-lived brightenings and fadings. It is the analysis of these changes that may lead to the discovery of new planets.

Contacts:

Dr John Greenhill: (03) 6226 2429 or home **after 8am Friday** (03) 6234 1516

Mobile 0409 382 224 (Mobile available Friday only)

Dr Stefan Dieters: (03) 6222 7202 or home after **8am Friday** (03) 6225 0656

Information Released by:

Media Office, University of Tasmania
Phone: 6226 2124 Mobile: 0417 517 291
Email: Media.Office@utas.edu.au