

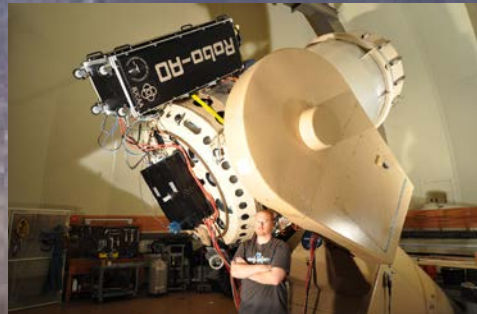
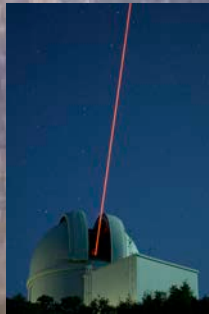
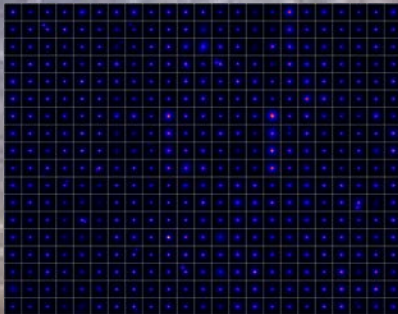
KECK

LUNCH LECTURE

Noon • September 26, 2013
Hualalai Lecture Room

Laser AO Imaging of Every Kepler Object with Robo-AO

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The Robo-AO Kepler survey is designed to observe every Kepler candidate exoplanet host star with laser-adaptive-optics imaging to search for blended stars, which may be physically associated companions and/or responsible for transit false positives. The Robo-AO laser adaptive optics system (<http://robo-ao.org>) is the first system capable of rapidly observing these thousands of faint targets at high resolution. We have taken images of more than 1,700 KOI hosts and performed multicolor photometry and common-proper-motion follow-up on more than 100 candidate companions. Additional infrared photometry from NIRC2/Keck II have been used to further complete our understanding of the discovered multiple systems.

Next year, Robo-AO will be augmented with an infrared avalanche-photodiode diode array to enable infrared tip-tilt guiding on the fainter and cooler Kepler objects - allowing the completion of the survey. The demonstration of this technology in a challenging environment will also be crucial for their deployment in future large telescope adaptive optics systems, e.g., NGAO.

W. M. KECK OBSERVATORY

On the summit of Mauna Kea, Island of Hawai'i