

国台学术报告 NAOC COLLOQUIUM

2013 年 第 17 次 / Number 17, 2013

TIME: Tuesday, 10:00 AM, Apr. 23, 2013 **LOCATION: A601 NAOC**

Studying the atmospheres of exoplanets using high precision ground-based observations



Dr. Ming Zhao (Pennsylvania State University)

Dr. Ming Zhao is currently a postdoctoral scholar in Astronomy & Astrophysics at the Pennsylvania State University. He received his bachelor's degree in Astronomy from Peking University in 2003. He pursued his graduate study at the University of Michigan and received his Ph. D. in Astronomy and Astrophysics in 2009. His Ph. D. work, focused on interferometric imaging of nearby stars with milli-arcsecond resolution, has led to the first images of main sequence stars other than the Sun and the first resolved images of an interacting binary system. His current research is focused on characterization of exoplanetary atmospheres using ground-based photometry and spectroscopy, and detection of exoplanets using high precision radial velocity.

Abstract

Observations of secondary eclipses, when a planet passes behind its host star, provide an unparalleled opportunity to study the emission spectra of extrasolar planets. They enable the study of planetary atmospheric temperature-pressure structure, chemical composition, heat recirculation, and also shed light on where and how these planets formed. I present our recent progress and results from observations of hot Jupiters' atmospheres using the Palomar Hale telescope and the WIRC instrument. We have improved the telescope's guiding precision and characterized the non-classical flux-dependent linearity of WIRC, allowing us to detect the thermal emission from a few hot Jupiters and demonstrating the telescope's capability of characterizing exoplanetary atmospheres in the near-IR. I will also outline the prospects for future improvements in photometry precision, and for spectroscopy of exoplanetary atmospheres.



All are welcome! Tea, coffee, biscuits will be served at 9:45 A.M.

You are welcome to nominate speakers to Weimin Yuan (wmy@nao.cas.cn), Mei Zhang (zhangmei@bao.ac.cn), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn), Shude Mao (smao@nao.cas.cn)