

SUBMIT TO: AM123

CONFERENCE: Techniques and Instrumentation for Detection of Exo-Planets

TITLE: 'Experimental Results from the Optical Planet Detector Interferometer'

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Presentation: Oral preferred, but poster acceptable

Abstract:

Optical Planet Detector has been previously proposed as a single-aperture interferometer that is capable of detecting Jupiter like planets orbiting around nearby, main-sequence stars. It is composed of two major subsystems: a dual-shearing interferometer and a single-mode fiber array. In this paper, we review the shearing interferometer subsystem. First, we review the design and implementation of the dynamic shear, pseudo-achromatic phase plates, laser metrology, and alignment/control system. Second, we summarize the recent experimental results with laser and visible, broadband light. With this experimental setup, we are well on our way to demonstrating the required levels of nulling that will make the proposed mission feasible.

Biography:

Kent Wallace received a M.S. in Optics from the University of Rochester Institute of Optics in 1992. At JPL, he has worked on ground-based stellar interferometry and adaptive optics. Recent work has included techniques for visible, broadband nulling for planet detection.