

Abstract

April 17, 2003

Paper for presentation at SPIE Optical Science and Technology, Aug 5-6 2003, San Diego CA

Title: System Design and Technology Development for the Terrestrial Planet Finder Infrared Interferometer

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This paper and oral presentation will describe the technology studies, the testbeds, and the architecture studies that will demonstrate the viability of an infrared interferometer mission architecture for the Terrestrial Planet Finder project. Formation-flying and a structurally-connected architectures will be presented. Topics to be described are: past years studies, relation of system performance requirements to science objectives, mission concept development and evaluation, formation-flying sensor and control testbeds, nulling interferometer technology development, and technology plans for cryogenic structures. The paper will describe how the planned technology and design activities will retire the key technical concerns for the formation-flying and structurally-connected interferometer concepts for the Terrestrial Planet Finder project.