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Title:
A Visible Light Terrestrial Planet Finder -- Planet Detection and Spectroscopy by Nulling Interferometry with a Single Aperture Telescope

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Abstract:
Planet detection around a bright star depends the resolution of the imaging system and the degree of light suppression of the star relative to the planet. We present a concept for a visible light Terrestrial Planet Finding (VTPF) mission. Its major feature is an imaging system for planet detection using a nulling interferometer behind a single aperture telescope. This configuration is capable of detecting earth-like planets with a 5m aperture using both imaging and spectroscopic imaging modes. We will describe the principles of the system, and show results of studies demonstrating its feasibility.

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