

Implementation of a Space Microlensing Exoplanet Survey

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Abstract: A space-based exoplanet discovery microlensing mission can be accomplished with a modest sized, diffraction limited wide field of view telescope in space, preferably observing in the infrared. A telescope optimized for this mission is quite similar to missions proposed to study dark energy or for Galactic and extragalactic infrared imaging surveys. As a result, the Astro2010 Decadal survey recommended a combined mission, WFIRST, as its top priority to address all these goals. I explain the requirements for a space-based exoplanet microlensing survey and discuss various ways in which this exoplanet survey can be accomplished as a part of a larger mission that also studies dark energy and general astrophysics.