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## Rogue Planet Host Search: A Keck AO Imaging Survey of Microlensing FFP Candidates

*Monday, December 15, 2025 12:00 PM (20 minutes)*

Free-floating planet (FFP) candidates detected via microlensing could also be bound planets on wide orbits ( $>5\text{--}10$  au). High resolution imaging may break this degeneracy via direct detection of the putative host stars. We are conducting a multi-year Keck AO imaging survey of a large number of microlensing FFP candidates detected over the past two decades. I present preliminary results on phase 1 of our survey consisting of six events. Notably, we report on the detection of candidate hosts for the terrestrial FFP candidate MOA-9y-5919L at projected separations of  $\sim 1000$  au. By comparison, no candidate hosts were detected within  $\sim 100$  au for all six events.

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