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Modeling Rogue and Wide Orbit Planets with Roman Space Telescope Data

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The identification and modeling of rogue or wide orbit planets has been a challenging task for gravitational microlensing surveys, in part because of difficulties due to systematic errors and false positive detections. Roman will not have the same systematic errors and false positive signals as ground-based microlensing surveys, but the small number of magnified images and large expected rate of false positive signals make this a challenge. The modeling of wide orbit planetary microlensing events with weak host star microlensing signals has also been challenging for ground-based microlensing surveys. I describe the planets for the Roman Galactic Exoplanet Survey team to identify rogue and wide orbit planetary microlensing events, reject false positive events, and model these microlensing light curves.

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