Measuring Rogue Planets via Microlensing

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A January 2026 study in the journal *Science* detailed the direct mass measurement of a "Rogue Planet" using a rare cosmic alignment.

- **What is a Rogue Planet?** A planet-sized body that does not orbit a star. These "nomads" are likely ejected from young solar systems due to gravitational chaos.
- **The Technique (Gravitational Microlensing):** Based on Einstein’s General Relativity, the gravity of the rogue planet acts as a lens, magnifying the light of a distant background star.
- **The Breakthrough:** By using the **"Microlensing Parallax"**—observing the event simultaneously from Earth and the **Gaia Space Telescope**—scientists measured the planet (KMT-2024-BLG-0792) to be roughly the mass of **Saturn**.
- **Scientific Value:** Confirms that "starless" planets are common in the Milky Way and helps astronomers understand how planetary systems evolve and "lose" members.