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Relativistic Images as Probe of Alternative Gravity AMITAI BIN-NUN, University of Pennsylvania — In this presentation I consider the effects of RS-braneworld geometry on gravitational lensing observables. Findings show that the resolution needed to distinguish RS lensing from Schwarzschild lensing is expected to be obtainable in the next generation of VLBI arrays, but the expected magnitudes of these images present great challenges. Several approaches to finding observables are explored: 1) A straightforward calculation of relativistic image properties in several proposed RS gravity metrics. 2) Femtolensing of gamma-ray bursts from tiny braneworld primordial black holes, including effects from microlensing of relativistic images. Results are obtained using numerical solutions of the Virbhadra-Ellis lens equation and are compared with results obtained from approximations of the lens equation frequently used in the literature, confirming the validity of the approximations.

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