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Post-Newtonian Tests of Gravity with Lunar Laser Ranging¹ DANIEL HAVERT, Embry-Riddle Aeronautical University — The precision of lunar laser ranging makes it useful in studying post-Newtonian gravity. By introducing constant coefficients from the Standard Model Extension that account for Lorentz symmetry violations in the Lagrangian for gravity, perturbations appear in the acceleration components of the moon. The lunar distance as a function of time is calculated from these perturbations and grouped into the terms according to frequencies. These terms will then be fit to lunar laser ranging data to put restrictions of the SME coefficients.

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