

Beyond the PPN Formalism

S. Kopeikin (Dept. Physics & Astronomy, Univ. Missouri-Columbia, USA)

Dept. of Physics & Astronomy, Univ. of Missouri-Columbia, USA

(kopeikins@missouri.edu/15738824195)

Modern space laser technology demands drastic improvement of theoretical foundations for testing general theory of relativity and other alternative theories of gravity. The standard PPN formalism is not sufficient for adequate analysis of relativistic experiments beyond the first post-Newtonian approximation. We analyze discrepancies of the PPN formalism and present a new Lagrangian-based framework for experimental gravity satisfying demands of modern technological challenges.