Abstract Submitted
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Newtonian Radiation GARY HUNTER, ALAN MARTINEZ, JAMES ESPINOSA, University of West Georgia — Einstein suggested three possible tests of his Theory of General Relativity: 1) bending of starlight by the Sun, 2) precession of Mercury's orbit, and 3) gravitational redshift of spectra. Experimental and observational results of these tests are in excellent agreement with GR. With the advent of alternative gravitational theories such as the Brans-Dicke model, other tests have been suggested including the Nordtvedt effect. We reinterpreted the three classical tests of Einstein and the Nordtvedt effect completely within the framework of Newtonian physics. We formulated a law of gravity that assumes this force travels at the speed of light and, when combined with Newton's second law, arrived at results identical to those of Einstein's theory: an angle of precession of 43.1" for the orbit of Mercury, a deflection angle of 1.75" arc seconds for light passing near the Sun, a gravitational redshift of $2.5\text{x}10^{-15}$ for the Pound-Rebka experiment, and a null result for the Nordtvedt effect. We apply this modified law of gravity to a binary system and compare our results to those of General Relativity. The amount of radiation predicted by our theory agrees with GR but differs in its polarization.

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