Abstract Submitted
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Hilbert Versus GEM Action Smackdown DOUG SWEETSER, None — In 1915, Hilbert wrote the action used for gravity:

$$S_{GR} = \int \sqrt{-g} d^4x R$$

As an amateur, I have worked on an alternative that unifies gravity and EM. Proposed in 2001, the action has been smacked down, only to come back with required alterations to its present form:

$$S_{GEM} = \int \sqrt{-g} d^4x (-J^u A_{u\perp} + J^u A_{u||}$$

$$-\frac{1}{4}(\nabla^u A^v - \nabla^v A^u)(\nabla_u A_v - \nabla_v A_u) - \frac{1}{4}(\nabla^u A^v + \nabla^v A^u)(\nabla_u A_v + \nabla_v A_u))$$

The two actions will be contrasted because they make different predictions for light bending around the Sun at second order PPN accuracy, and for the polarization of quadrapole moment gravity waves.

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None

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