



Contribution ID: 96

Type: **Oral presentation**

New gravity experiments

Friday 20 June 2025 09:00 (40 minutes)

The presentation consists of three parts: (i) new improved experiments of foundations of GR, (ii) proposals of new and improved experiments, and (iii) new theoretical frameworks to discuss these type of experiments.

We discuss new tests of the equivalence of inertial, passive gravitational, and active gravitational mass, of the gravitational redshift, and also will propose an improved test of the equivalence of active and passive masses. Regarding the theoretical framework we propose a covariant formulation of the Weak Equivalence Principle which then also naturally combines with an equivalence principle for rotational motion. Furthermore, the use of a pre-metric version of the Einstein equations allows new tests of GR and also leads to new metrological triangles allowing an improved method to determine GR effects.

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