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Torsion Balance and Remeasurement of the Eötvös Experiment

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Loránd Eötvös began his first gravity experiments using the Coulomb/Cavendish balance. This balance can measure the degree of deviation of the equipotential surface from the spherical shape. Eötvös had the great idea to place one of the masses at the ends of the torsion beam to a lower level by hanging it from a wire and thus making the instrument sensitive to the horizontal gradient of the gravity too. First, a brief history and base principle of the torsion balance will be overviewed and then the principle of the Eötvös experiment concerning to equivalence of the inertial and the gravitational masses will be discussed. We decided on the occasion of the “Eötvös year” to repeat the equivalence measurement under better conditions and using modern new technology. We give a brief overview of the preparations of the experiments.

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