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Rotating-torsion-balance test of the weak equivalence principle - CANCELLED

Rotating-torsion-balance test of the weak equivalence principle

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The equivalence principle (EP) is the foundation of a wide class of gravitational theories including Einstein's theory of general relativity. However, the EP is suggested to be violated in most attempts to connect general relativity with the standard model. Here we present a test of the equivalence principle for the left and right-handed quartz crystals using a rotating a torsion balance. The result shows that their gravitational acceleration difference towards Earth
$\Delta a_{\text{left-right}} = [-1.7 \pm 4.1(\text{stat}) \pm 4.4(\text{syst})] \times 10^{-15}$ m ·s−2 (1-σ statistical uncertainty), correspondingly the Eötvös parameter $\eta = (-1.2 \pm 4.1) \times 10^{-13}$.

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