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Test of local position invariance at the detector "Dulkyn-1"

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Abstract

We present the results of testing local position invariance in a "null" gravitational red-shift experiment, carried out in the framework of the Research and Engineering Project "Dulkyn." The experimental data, collected during the five-month operation of a double-cavity laser system, where one cavity operated in the free generation mode while the frequency of the second cavity was stabilized by the nonlinear supernarrow absorption resonance of the methane molecule, confirmed the universality of the gravitational redshift law at a level of 0.9%. © 2011 Pleiades Publishing, Ltd.

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