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The Archimedes' prototype at SAR-GRAV laboratory

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As a prototype of the Archimedes experiment, a high sensitivity balance has been constructed. This balance can be used as a tiltmeter and nowadays it is installed at the SAR-GRAV laboratory in Sardinia. The laboratory is settled at the Sos-Enattos site (Lula, Nuoro), a former mine located in a region characterized by low seismic noise. The tiltmeter is a beam balance with an interferometric optical readout and it reaches a sub-picoradiant sensitivity in the frequency region between 2 and 20 Hz and therefore, the Archimedes prototype has the best sensitivity in the world. The result was obtained by a direct measurement of the ground tilt.

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