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The Archimedes Experiment

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Archimedes is an INFN funded pathfinder experiment aimed at verifying the feasibility of measuring the interaction of vacuum fluctuations with gravity. The final experiment will measure the force exerted by the gravitational field on a Casimir cavity whose vacuum energy is modulated with a superconductive transition, by using a balance as a small force detector. Archimedes is devoted to test the most critical experimental aspects, in particular the balance resonance frequency and quality factor, the thermal modulation efficiency and the superconductive sample realization.

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