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## The Archimedes experiment at the Sar-Grav Laboratory

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The aim of the Archimedes experiment is the evaluation of the interactions between vacuum energy and gravity. The vacuum energy will be weighted by a very precise balance measuring the arm tilts by the mean of interferometric readout. The experiment needs a quiet place, for this reason, the final Archimedes balance is under construction directly at the Sar-Grav laboratory in Sardinia. The laboratory is located close to Lula town in the region of the Sos Enattos mine, an area so quiet that is under study to host the third generation of gravitational wave interferometer: Einstein Telescope (ET). The Archimedes balance and its prototype are presently inside the equipped rooms in a hangar on the surface. The status of the experiment will be discussed as well as its direct fallouts like extremely low noise tiltmeters and possible search for ultralight dark matter.

### Submitted on behalf of a Collaboration?

Yes

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