

## **The Sar-Grav Laboratory at the Sos Enattos site, one of the quietest site in the 2-10 Hz frequency range**

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Einstein Telescope (ET) will be the third generation of gravitational wave interferometer to be built in Europe. One of the sites candidates to host ET is located in Sardinia (Italy), near the Sos Enattos mine, where a seismometer's net already proves the quietness of the site. The Sar-Grav laboratory, a seed of ET, aims to host underground experiments, cryogenic payloads, low frequency and cryogenic sensor development that need low seismic and anthropogenic noise. On the surface there are a hangar of about 900 square meters, an optical laboratory and a control room; a 20 tons crane and cleaned rooms are planned to be installed. Underground, an area of 250 square meters and small experimental areas are planned to be built, while different stations at different depths are hosting sensors like seismometers and magnetometers. A fundamental physics experiment, Archimedes, is under installation in the surface area and will be moved underground in the future. The site will host the test of the preliminary seismic isolation system, currently under studies, that will be designed to improve seismic attenuation in the low frequency region (0.1-10 Hz) and reduce the frequency of mechanical resonances.

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