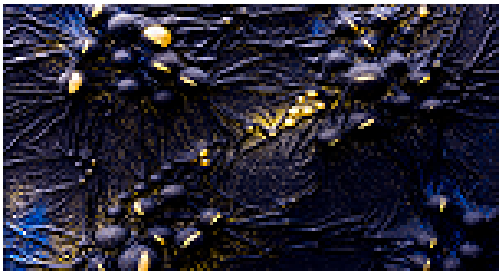

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The Archimedes Experiment

Archimedes is an experiment conceived to shed light on one of the most intriguing topics of the modern physics: the interaction between the gravitational field and the vacuum fluctuations. The 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 an INFN six-year project that will be installed in the SARGRAV laboratory placed in an old mine located the Sardinia italian region. This site is characterized by a very low seismic noise so it is the ideal environment for null force experiments and for third-generation gravitational waves interferometers like ET.

Summary

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