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Type: Talk

## Weighing the vacuum with the Archimedes Experiment

*Wednesday, July 19, 2023 12:40 PM (20 minutes)*

The main objective of Archimedes is to weigh the vacuum, namely, to investigate the interaction of vacuum fluctuations with the gravity.

Precisely, the small weight variations induced in two high temperature superconductors will be measured using a high sensitivity balance.

These superconductors (YBCO or GdBCO) may “trap” or “expel” vacuum energy when their temperatures are greater or lower than their critical temperatures.

The radiative heat exchange mechanism is the only way to remove or add thermal energy to the sample so that it can be considered isolated from any external interaction that could add energy other than the vacuum one.

The status of the experiment will be illustrated together with the most recent results.

### Is this abstract from experiment?

Yes

### Name of experiment and experimental site

Archimedes experiment (SarGrav laboratory in the Sos Enattos mine, Sardinia, Italy)

### Is the speaker for that presentation defined?

Yes

### Details

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<https://www.roma1.infn.it/home.html>

<https://www.phys.uniroma1.it/fisica/>

### Internet talk

Maybe

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