

# Search for light dark matter with the CRESST experiment

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The CRESST (Cryogenic Rare Event Search with Superconducting Thermometers) experiment, located in the Gran Sasso underground laboratory (LNGS) in Italy, searches for nuclear recoil events induced by the elastic scattering of dark matter particles in cryogenic detectors. The use of scintillating  $\text{CaWO}_4$  crystals as absorbers allows the simultaneous measurement of a phonon and a light signal, which are used to discriminate radioactive backgrounds from a possible dark matter signal. The low energy thresholds achievable with these detectors make them especially suited to detect the tiny recoil energies produced by light dark matter particles.

We give a summary of the results from the recently completed phase 2 of CRESST-II, which provide the best limits at masses below  $\sim 1.7 \text{ GeV}/c^2$  obtained with a 300 g detector having an energy threshold for nuclear recoils of 307 eV. In CRESST-III, novel detectors with a reduced mass of 25 g each are used, which are designed for thresholds  $< 100 \text{ eV}$ . We present the status of the currently ongoing phase 1 of CRESST-III, which is taking data with 10 of these detectors, as well as the projected sensitivity of this phase 1 and of future upgrades.

## Summary

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