



Contribution ID: 6

Type: **Talk**

Direct Dark Matter search with the CRESST-III experiment

Monday, 16 September 2024 11:50 (20 minutes)

CRESST-III (Cryogenic Rare Event Search with Superconducting Thermometers) is an experiment located at the LNGS underground laboratories in Italy, focused on the direct detection of low-mass dark matter particles via their scattering off nuclei in cryogenic detectors, using multi-target materials such as CaWO_4 , Al_2O_3 , LiAlO_2 , and Si.

CRESST-III has the best sensitive calorimeters with a threshold below 100 eV, and it is currently one of the leading experiments in probing sub-GeV dark matter masses. However, an unexplained events population at very low energies (< 200 eV), the so-called “Low Energy Excess”, is at the moment limiting the sensitivity of several dark matter experiments in the low mass region.

In this contribution, we present an overview of CRESST-III, highlighting its recent results and the plans for the future.

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Session Classification: Morning 1