Contribution ID: **650** Type: **Parallel session talk**

Direct detection of dark matter at the CRESST III experiment

Tuesday 22 August 2023 09:30 (20 minutes)

Cryogenic Rare Event Search with Superconducting Thermometers (CRESST) is a direct detection dark matter (DM) search experiment located at Laboratori Nazionali del Gran Sasso (LNGS) in Italy. The experiment employs cryogenic and scintillating crystals to search for nuclear recoils from DM particles, and has repeatedly achieved thresholds below 100 eV in its third phase (CRESST III) for a wide range of target materials including $CaWO_4$, $LiAlO_2$, Al_2O_3, and Si. The sensitivity to measure small energy depositions makes CRESST one of the leading experiments in sub-GeV dark matter search. A major challenge for all low-mass dark matter searches is the presence of an unknown event population at very low energies, called the low energy excesses (LEE). The scientific effort at CRESST in the latest run has been primarily towards an understanding of the origin of this excess. However, we set also new limits on low-mass DM. We report dark matter search results as well as updates on the understanding of LEE from CRESST-III. We conclude the talk with our future plans.

Collaboration / Activity

CRESST Collaboration

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