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Low-mass Dark Matter Search with the CRESST-III Experiment

Saturday 28 March 2020 08:30 (15 minutes)

CRESST (Cryogenic Rare Event Search with Superconducting Thermometers) is a direct dark matter search experiment located at the Gran Sasso underground Laboratory (LNGS, Italy). Scintillating CaWO4 crystals, operated as cryogenic calorimeters at millikelvin temperature, are used as target material for elastic DM-nucleus scattering. The experiment, optimized for low-energy nuclear recoil detection, reached an unprecedented threshold of 30 eV for nuclear recoil energies and it is currently leading the field of low-mass dark matter search, for values below 1.6 GeV/cˆ2.
In this contribution, the current stage of the CRESST-III experiment, together with the most recent dark matter results will be presented. The perspective for the next phase of the experiment will be also discussed.

Author: Dr CANONICA, Lucia (Max-Planck-Institut für Physik)

Presenter: Dr CANONICA, Lucia (Max-Planck-Institut für Physik)

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