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Exploring low wimp masses with CRESST

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In recent years the hunt for the direct detection of Dark Matter has become one of the most challenging physic searches. While the presence of dark matter in the universe was verified by observations on various astronomical scales, the nature of dark matter still remains a puzzling question. CRESST-II (Cryogenic Rare Event Search with Superconducting Thermometers), located at the Gran Sasso underground laboratory, is a direct dark matter search experiment aiming to detect WIMPs scattering off nuclei in CaWO4 target crystals. Using cryogenic detectors the CRESST-II setup was able to reach extremely low energy threshold (~600 eV). Recent results from 29 kg-days of exposure acquired by a single 249 g CaWO4 detector are presented. A leading limit on the spin-independent IMP-nucleon cross section in the low-mass WIMPs region is reported together with the probe of a new region of parameter space for WIMP masses below 3GeV/c2.
Plans and status of the CRESST-III phase 1 with new upgraded detectors optimized towards the detection of low-mass WIMPs are also reported.

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