28th Texas Symposium on Relativistic Astrophysics



Contribution ID: 260

Type: Talk

Results on light dark matter particles with a low threshold CRESST-II detector

Monday 7 December 2015 14:25 (20 minutes)

CRESST-II is a direct dark matter search using cryogenic detectors based on calcium tungstate. Due to their light nuclei and low energy thresholds these detectors allow for a high sensitivity for dark-matter particles with low masses.

We present data corresponding to an exposure of 52 kg-days obtained by one single detector module with a very low energy threshold of 307 eV for nuclear recoils. A blind analysis was performed on the data set resulting in a significantly improved sensitivity for dark-matter particles with masses below 3 GeV/c^2 . Furthermore, this result extends the parameter space covered by direct dark matter searches to the sub-GeV/c² mass region.

Author: GÜTLEIN, Achim (Austrian Academy of Sciences)

Presenter: GÜTLEIN, Achim (Austrian Academy of Sciences)

Session Classification: 05 - Dark matter