

Low-mass Dark Matter search with EDELWEISS: latest results and outlook

Tuesday, September 13, 2016 2:00 PM (20 minutes)

EDELWEISS experiment performs direct dark matter search by means of Ge heat-and-ionization bolometers operated at 18 mK in the underground laboratory of Modane (LSM, France). The third phase of the experiment is accumulating data using an array of twenty-four 800-g detectors with improved resolution and rejection capabilities relative to EDELWEISS-II. The performance of these detectors and the reduction of the external gamma-ray background made it possible for the first time to measure the intensity of the tritium background in Ge detectors, which will be shown. The recent results on the spin-independent WIMP-nucleon cross-section for WIMP mass below 30 GeV from a fiducial exposure of 582 kg-d will be presented. Prospects for further improvements of the experiment, including our studies on the Neganov-Luke amplification technique, will be discussed as well.

Summary

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