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First Result on the Neutrinoless Double Beta Decay of 82Se with CUPID-0

Authorship annotation

for the CUPID-0 Collaboration

Session and Location

Monday Session, Poster Wall #47 (Auditorium Gallery Right)

Abstract content

CUPID-0 is the first large mass experiment based on cryogenic calorimeters (bolometers) which implements the dual read-out of light and heat for background rejection. The detector, consisting of 24 enriched Zn ^{82}Se crystals (5.28 kg of ^{82}Se), is taking data in the underground LNGS (Italy) from March 2017. In this poster we will present the analysis that allowed to set the most stringent limit on the half-life of neutrino-less double beta decay of ^{82}Se. We will show how the particle identification, enabled by the simultaneous read-out of heat and light, provides an unprecedented background level for cryogenic calorimeters of 3.6×10ˆ{−3} counts/keV/kg/y.

Poster included in proceedings:

yes

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