EXCESS22@IDM



Contribution ID: 9 Type: not specified

Heat-only background in the EDELWEISS detectors with NbSi TES sensor

Saturday 16 July 2022 13:55 (25 minutes)

The EDELWEISS collaboration has extensively studied the population of events with no ionization signal ("Heat-Only" events) in its cryogenic germanium detector equipped with Ge-NTD sensors. It recently developed and operated in an low-radioactivity underground environment a new generation of cryogenic germanium detectors equipped with NbSi thin-film sensors able to detect out-of-equilibirum phonons. The population of Heat-Only events in such a device has been measured, using the Neganov-Luke-Trofimov effect to resolve it from electron recoil events. Significant differences from the population observed in detectors equipped with Ge-NTD sensors have been observed.

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Session Classification: Session Block 2