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Rare event search with cryogenic calorimeters

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Cryogenic calorimeters have emerged as powerful tools in the search for rare events, such as neutrinoless double beta decay and dark matter interactions, due to their exceptional energy resolution, low-energy threshold and versatility.

This contribution will provide an overview of the latest results from leading experiments based on these detectors.

A particular focus will be placed on background reduction techniques, which are crucial to improving the sensitivity of these searches.

Key advancements, including material purification, shielding strategies, and advanced signal processing methods, will be discussed, highlighting their role in achieving unprecedented sensitivity in rare event detection.

The implications of these results for future experiments will also be addressed, highlighting the potential of cryogenic calorimeters in pushing the frontiers of low-background physics.

Primary author: PAGNANINI, Lorenzo (Gran Sasso Science Institute)

Presenter: PAGNANINI, Lorenzo (Gran Sasso Science Institute)

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