FAKT Workshop 2024: Particle Physics Retreat



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Type: Experiment

## **COSINUS and CRESST status update**

Friday 23 February 2024 08:45 (20 minutes)

The CRESST (Cryogenic Rare Event Search with Superconducting Thermometers) and COSINUS (Cryogenic Observatory for SIgnatures seen in Next-generation Underground Searches) experiments are state-of-the-art initiatives in the field of dark matter direct detection research. Operating at millikelvin temperatures, both experiments employ a two-channel readout system utilizing transition edge sensors (TESs), allowing for effective particle discrimination. CRESST employs cryogenic detectors to search for WIMPs in the sub-GeV mass range, aiming to uncover the elusive nature of dark matter. On the other hand, COSINUS utilizes ultrapure NaI detectors to independently verify the DAMA/LIBRA dark matter signal. Both experiments, conducted at the Laboratori Nazionali del Gran Sasso in Italy, contribute crucial insights in the global pursuit of understanding dark matter's unknown properties. This talk will provide insights into the latest results, updates on ongoing efforts, and perspectives for the future.

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Session Classification: Talks