



Contribution ID: 99

Type: **not specified**

Detection of light-mass and ultralight dark matter particles with the TESSERACT experiment

Thursday 25 September 2025 15:00 (20 minutes)

Identifying dark matter particles remains a major goal in physics, with recent models suggesting masses below $1 \text{ GeV}/c^2$. The TESSERACT experiment will search for light and ultra-light dark matter using sub-eV threshold detectors, targeting masses down to 10 MeV via nuclear and electron recoils. It will combine multiple materials—superfluid helium, polar and scintillating crystals, and cryogenic silicon/germanium—for background rejection and recoil discrimination. Two shielded cryostats at the Laboratoire Souterrain de Modane will host the detectors, with underground operations starting in 2029. I will also present recent results from surface prototype tests.

Author: MCKINSEY, Daniel

Presenter: MCKINSEY, Daniel

Session Classification: Afternoon - 5