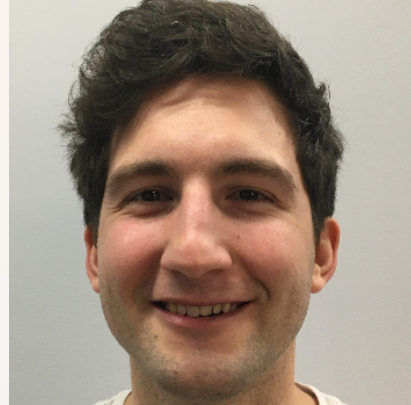


Searching for light dark matter with the DAMIC and DAMIC-M CCDs

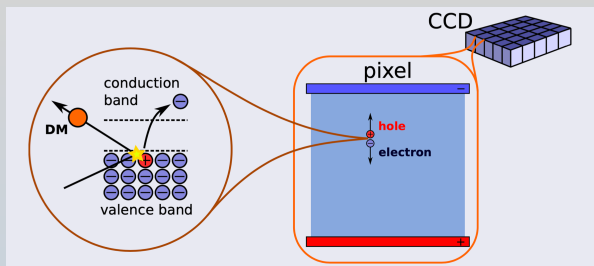
Michelangelo Traina

LPNHE Paris

Friday, June 24th, at 11h15



The science-grade Charge-Coupled Devices (CCD) of the Dark Matter In CCDs (DAMIC) experiments are set in two among the deepest underground laboratories internationally. DAMIC at SNOLAB sits beneath a 2070 m granite rock overburden in the Vale Creighton Mine in Canada. DAMIC-M will be hosted in the cleanroom facilities of the Laboratoire Souterrain de Modane (LSM), 1700 m below the Mount Fréjus peak in Modane, France. With an ambitious 0.1 dru (0.1 events per keV per kg per day) background goal, DAMIC-M is striving to go 100 times lower than its predecessor. The mitigation and rejection strategies developed in DAMIC at SNOLAB, along with the methodology used to construct its background model are crucial to achieve such goal. Further expedients DAMIC-M will leverage to close in on the dru fraction include higher-purity detector materials, optimized



fabrication and transportation protocols, and the potential to measure in-detector contaminants. This talk will detail the construction of the radioactive background model in DAMIC at SNOLAB, and report on the status of DAMIC-M and its running prototype detector, the Low Background Chamber (LBC).