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The SuperCDMS Active Neutron Shielding Concept

Future large scale cryogenic dark matter experiments –such as EURECA or SuperCDMS - will focus on the exploration of low mass WIMPS reaching for unparalleled sensitivities for the cross section of spin-independent WIMP-nucleon interactions. This requires an unprecedented suppression of the background in the nuclear recoil band down to 1 event/ton/year in the region of interest. External and internal shielding together with an active veto system have to be installed to suppress multiple sources of background –an important of which being radiogenic and cosmogenic neutrons. In this poster, we will focus on the development of the SuperCDMS active neutron shied –a loaded scintillator in the vicinity of the detectors acting as a dedicated ambient neutron veto.

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