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SuperCDMS SNOLAB Experiment and Active Neutron Veto YU CHEN, Syracuse University, SUPERCDMS COLLABORATION — The SuperCDMS SNOLAB experiment will attempt direct detection of the most promising candidate for dark matter, Weakly Interacting Massive Particles (WIMPs) using cryogenically cooled germanium and silicon semiconductors that provide sub-keV thresholds and excellent rejection of most radioactivity or cosmic-ray-induced backgrounds. An active neutron veto with high efficiency for tagging neutron-induced backgrounds will not only directly reduce the neutron background rate, but also provide an in-situ measurement of the neutron activity near the dark matter target. This active veto will consist of liquid scintillator doped with an isotope with high neutron-capture cross section. I will present a brief overview of the experiment, and report in detail on the current status of simulation and prototyping of this neutron veto.

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