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Search for fractionally-charged particles with CDMSlite

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The Super Cryogenic Dark Matter Search experiment aims to directly detect the elusive Weakly Interacting Massive Particle (WIMP) by measuring ionization and phonons produced by WIMP-nucleon scattering. During its operation at the Soudan Underground Laboratory, germanium detectors were operated with a 70 Volt bias, a mode known as CDMS low ionization threshold experiment (CDMSlite), to search for low-mass WIMPs. The low energy threshold (~ 56 eVee) achieved by CDMSlite provides sensitivity to fractionally-charged particles (FCPs). This talk will discuss an analysis of the CDMSlite data in searching for FCPs with charge as small as $e/108$, over a range of particle masses and velocities, and will present an exclusion limit on intensities of the particles.

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