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NEXUS@FNAL Status and Plans

Monday, 20 July 2020 13:15 (15 minutes)

The Northwestern EXperimental Underground Site at Fermilab (NEXUS@FNAL) is an underground cryogenic detector testing facility located in a clean room near the NOVA near detector. It currently features a vibration-isolated dry dilution refrigerator which operates down to 10 mK. The 300 meter water equivalent depth, combined with lead shielding around the refrigerator, is expected to lead to a background rate of <100 events/keV/kg/day. We present the current status of the NEXUS facility and overview of recent runs operating SuperCDMS R&D detectors. We also describe near and far term plans which include dark matter searches, qubit studies, neutrino detector development, and deployment of a neutron generator and backing array for neutron scattering experiments.

Summary

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