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# Mineral Detectors for Neutrinos

*Thursday, April 16, 2026 9:00 AM (45 minutes)*

Mineral detectors are a novel probe of neutrino physics. Low effective nuclear recoil energy detection thresholds allow mineral detectors to potentially measure coherent elastic neutrino–nucleus scattering. Mineral detectors are also envisioned to have exposures comparable to neutrino observatories and, thus, could probe the nuclear recoil signatures of astrophysical neutrino fluxes. While inaccessible to conventional neutrino observatories, mineral detectors could measure the evolution of solar neutrino fluxes over geological timescales, which could shed light on the solar composition problem. Mineral detectors could also measure changes in the flux of neutrinos from galactic core-collapse supernovae, probing associated changes in the supernova rate and, hence, the Milky Way's star formation history and the flavor content of supernova neutrino bursts. Atmospheric neutrinos interact with atomic nuclei predominantly via quasi-elastic and deep-inelastic scattering. Searching for the damage features produced by the corresponding nuclear recoil cascades may allow mineral detectors to probe the cosmic ray history of the Milky Way.

## Do you plan to give the talk in person?

Yes

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