

Mineral detectors on the moon

Friday 23 May 2025 13:30 (45 minutes)

Terrestrial mineral detector searches for signatures of new physics can be challenging due to the large backgrounds originating from cosmic ray interactions with the Earth's atmosphere. However, the Moon offers a reprieve from these backgrounds, since the conventional components of the cosmic-ray-induced fluxes of muons and neutrinos are significantly suppressed due to the Moon's lack of atmosphere. We discuss the physics potential of a futuristic mineral detector experiment on the Moon, particularly in the context of a search for proton decay signatures, given proton lifetimes which would not be possible to detect with a terrestrial mineral detector experiment and could possibly exceed the sensitivity of DUNE and Hyper-Kamiokande.

Do you plan to give the talk in person?

Yes

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