

PHYSICS DEPARTMENT COLLOQUIUM

“What It Takes to Catch Neutrinos”

BY

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Neutrinos are the nimble messengers of fundamental processes throughout the universe. Their small inclination to interact with things in their path makes them ideal carriers of information over long distances. Their small inclination to interact with things in their path makes it hard to intercept that information...

I will discuss in detail the search in the HiRes data for the "guaranteed" neutrino flux related to the Greisen-Zatsepin-Kuzmin cutoff and the interesting new limit on this flux that we derive from our non-observation of such neutrinos. How do you know that you do not see what you do not see? Let me show you.

Neutrino emission will also be the hallmark of the cosmic accelerator centers for ultra high energy protons. Finding such accelerators is the holy grail of cosmic ray physics. I will discuss an idea to specifically target promising sources with a low cost experiment.

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