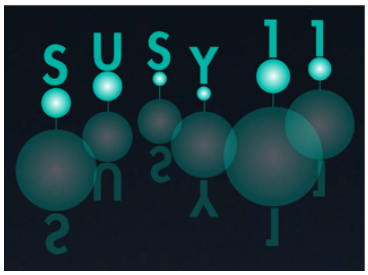


Contribution ID: **337** Type: **not specified**

# Observing a light dark matter beam at neutrino experiments

*Sunday, 28 August 2011 15:00 (25 minutes)*

I'll discuss the sensitivity of neutrino experiments at the luminosity frontier to light MeV-GeV scale dark matter. A thermal relic abundance implies annihilation channels via light mediators, providing a portal for access to the dark matter state in colliders or fixed targets. In particular, this framework endows the neutrino beams produced at a fixed target with an additional 'dark matter beam', which can mimic neutrino scattering on electrons or nuclei in the (near-)detector. I'll discuss the ensuing sensitivity at facilities such as LSND and MiniBooNE, MINOS, etc. One implication is that MeV-scale dark matter scenarios motivated by an explanation of the galactic 511 keV line are strongly constrained. This is work in progress with Brian Batell, Patrick deNiverville and Maxim Pospelov.

**Presenter:** Dr RITZ, Adam (University of Victoria)

**Session Classification:** Parallel Session 2