

Center For Neutrino Physics Seminar

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New physics in Supernovae and IceCube

Wednesday, November 9th, 2016

4:00 PM - 5:00 PM

304 Robeson Hall

Dark matter (DM) particles can be captured by stars via scattering on ordinary matter. As a benchmark model for s-wave and p-wave annihilation, we consider DM annihilation into dark photons and dark scalars, respectively. We trace DM capture and annihilation rates throughout the life of a massive star and show that this evolution ends in an observable gamma ray flash. In the remainder of the talk, I will discuss flavor ratios in IceCube in the 4-flavor scenario assuming the presence of eV sterile neutrino.