



Diffuse Neutrinos and Gamma-rays from Galaxy and Cluster Mergers

Speaker: Peter Meszaros



Peter Meszaros is the Eberly Chair of Astronomy and Astrophysics and Professor of Physics at the Pennsylvania State University, where he is Director of the Center for Particle and Gravitational Astrophysics. He served as head of the Department of Astronomy and Astrophysics, as theory lead of the Swift satellite consortium, and as member of the IceCube experiment and the Fermi satellite teams, and is currently member of the AMON Astrophysical Multimessenger Observatory Network consortium. He is a Fellow of the American Academy of Arts and Sciences, an External Member of the Hungarian Academy of Sciences, and a Fellow of the American Physical Society.

Abstract

I review the recent observations of the diffuse neutrino background obtained by the IceCube Antarctic Cherenkov detector, and the data on the diffuse gamma-ray background obtained by the Fermi satellite. The process of large scale structure formation in the Universe involves continued mergers of galaxies and clusters of galaxies, resulting in shocks where particle acceleration can lead to both neutrinos and gammas, and I discuss how these can contribute a significant fraction of the observed backgrounds.

Time: Tuesday 12:00 AM, Mar, 27th

Place: Physics building 402