SEMPARIS – Séminaires en région parisienne

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Seminar of the theory group of APC

Mardi 7 Mars 2017, 14 :00
APC, 483 A - Malevitch
Domaines : hep-th

Titre : *Galactic sources : update information from gamma-rays experiments and implications for IceCube*

Orateur : **Viviana Niro (Institute for Theoretical Physics, University of Heidelberg)**

Résumé : *Air-Cherenkov telescopes have mapped the Galactic plane at TeV energies. Here we evaluate the prospects for detecting the neutrino emission from sources in the Galactic plane assuming that the highest energy photons originate from the decay of pions. Four promising sources are identified based on having a large flux and a flat spectrum. We subsequently evaluate the probability of their identification above the atmospheric neutrino background in IceCube data as a function of time. We show that observing them over the twenty-year lifetime of the instrumentation is likely, and that some should be observable at the 3 sigma level with six years of data. In the absence of positive results, we derive constraints on the spectral index and cut-off energy of the sources, assuming a hadronic acceleration mechanism.*