

Indirect searches for Dark Matter with the ANTARES neutrino telescope

jeudi 21 juillet 2011 17:30 (15 minutes)

Using the ANTARES neutrino telescope, the largest neutrino telescope in the Northern hemisphere, with its first configuration with 5 lines of photodetectors to the actual nominal one corresponding to a total of 12 lines, we have studied our ability to search indirectly for an evidence of Dark Matter annihilations in heavy astrophysical objects as the Sun and the Galactic centre. First results have been obtained using the data recorded by ANTARES in 2007 and 2008, and compared with neutrino fluxes predicted within a minimal supersymmetric extension of the Standard Model with supersymmetry-breaking scalar and gaugino masses constrained to be universal at the GUT scale, the CMSSM, as well as a minimal Universal Extra-Dimensions scenario with one extra compact dimension where all the Standard Model fields propagate into the bulk, the UED.

The current limits over the neutrino/muon fluxes coming from Dark Matter annihilations, and the spin-dependent cross-section with protons, as well as the expected sensitivities predicted after several years of data taking with ANTARES will be presented for each source.

Auteur principal: Dr LAMBARD, Guillaume (IFIC)

Orateur: Dr LAMBARD, Guillaume (IFIC)

Classification de Session: Astroparticle Physics

Classification de thématique: Astroparticle Physics