



**UNIVERSITÉ
DE GENÈVE**

FACULTÉ DES SCIENCES
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SÉMINAIRE DE PHYSIQUE CORPUSCULAIRE

SUJET: Dark Matter searches in IceCube

PAR: Dr Carlos De Los Heros
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RÉSUMÉ:

The IceCube Neutrino Observatory at the South Pole is the world's largest neutrino telescope. It instruments a kilometer cube of ice with more than 5000 optical sensors that detect the Cherenkov light emitted by secondary particles produced in neutrino-nucleon interactions in the ice. Covering a wide range of neutrino energies, from 10s of GeVs to PeVs, its physics program is extremely rich. The talk will focus on dark matter searches. In many models, dark matter gravitationally concentrated at the center of the Sun or the galactic center can self-annihilate to standard model particles, producing a flux of neutrinos from the decays of the annihilation products. IceCube can look for such neutrino flux, and competitive limits on the dark matter-nucleon cross section and on the dark matter self-annihilation cross sections have been obtained.

INFORMATION : <http://dpnc.unige.ch/seminaire/annonce.html>

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