ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΡΗΤΗΣ
ΤΜΗΜΑ ΦΥΣΙΚΗΣ

CRETE CENTER FOR QUANTUM COMPLEXITY AND NANOTECHNOLOGY

ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 24 October 2013

17:00 -18:00

3rd Floor Seminar Room

"Recent developments in neutrino astroparticle physics"

Prof. Spyros Tzamarias

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Abstract

Recent results from ICECUBE, the Southern neutrino telescope operating deep inside the ice of Antarctica, strongly indicate the observation of energetic neutrinos of extraterrestrial origin; probably emitted from around the Galactic plane. However, a northern neutrino telescope can follow any discovery by ICECUBE with improved angular resolution and larger statistics, having also the potential to observe unambiguously high-energy Galactic Neutrino Sources and to reveal the origin of the Galactic Cosmic Rays. The strong scientific case of a very large volume Mediterranean Neutrino Telescope (KM3NeT) has been recognized in European roadmaps, in particular those of ApPEC, ASTRONET and ESFRI. With a recent proposal we have requested to keep KM3NeT-Gr facilities, which is the KM3NeT infrastructure at the Greek Installation Site (IS), on the Hellenic Road Map for Large Scale Research Facilities, as a part of a National Research Infrastructure, the Deep Ionian Observatory for Neutrinos and Associated Sciences (DIONAS RI). The neutrino telescope facilities will be constructed, according to the results and technological solutions described in the Technical Design Report, delivered to the EC in the context of the KM3NeT Design Study. The KM3NeT-Gr installation will have the potential to achieve discoveries that will shape our understanding for the evolution of our Universe. Moreover, the proposed DIONAS RI will provide unique facilities for real time, continuous measurements of Geodynamic, Environmental, Oceanographic and Marine Biology parameters to the Earth and Sea Sciences.