



UNIVERSITY OF CRETE
DEPARTMENT OF PHYSICS



CCN

CRETE CENTER FOR
QUANTUM COMPLEXITY
AND NANOTECHNOLOGY

ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 12 November 2015

17:00 -18:00

3rd Floor Seminar Room

“The coming of age of X-ray polarimetry in astrophysics”

Prof. Giorgio Matt

Department of Mathematics & Physics, Roma Tre University, Italy

Abstract

X-ray astronomy is now a mature and consolidated field, as far as imaging, spectroscopy and timing are concerned. On the other hand, X-ray polarimetry is very much lagging behind, the only positive measurement dating back to the 70s. This is due to the combination of intrinsic difficulties (polarimetry is a photon hungry technique) and to technical limitations. The advent of a new type of detectors, based on the photoelectric effect, make it now possible to meaningfully search for polarization on hundreds of X-ray sources. I will review the main open astrophysical questions that will benefit from X-ray polarimetry (including the use of cosmic sources as laboratory for fundamental physics), and present XIPE, a mission selected by ESA for a phase A study (with the final selection expected in summer 2017).