



ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 6 February 2014

17:00 -18:00

3rd Floor Seminar Room

“Relativistic Jet Astrophysics from Skinakas with a Unique Optical Polarimeter”

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Abstract

Blazars are the most active galaxies known. They are powered by supermassive black holes that eject relativistic jets of matter speeding towards us almost head-on at practically the speed of light. They emit radiation over the entire electromagnetic spectrum, exclusively through non-thermal processes. Blazar photons from radio to X-rays are generally produced by Synchrotron radiation, and as such can be highly polarised. The degree of polarisation, the polarisation angle, and the time variation of these quantities probe the magnetic field structure in the jet and the evolution of disturbances responsible for blazar outbursts. RoboPol is a massive program of optical polarimetric monitoring of over 100 blazars, using an innovative, specially-designed and built polarimeter mounted on the 1.3 m telescope at Skinakas Observatory. The program is a collaboration between the University of Crete and the Foundation for Research and Technology - Hellas in Greece, the Max-Planck Institute for Radioastronomy in Germany, Caltech in the US, the Nicolaus Copernicus University in Poland, and the Inter-University Centre for Astronomy and Astrophysics in India. In this talk we will review the RoboPol program, its potential for discovery in blazar astrophysics, and we will present results from its first six months of operation.