ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 19 February 2009
17:00-18:00

3rd Floor Seminar Room

"Fundamental properties of materials for solar cell and other applications: Thin films and nanostructures"

Prof. Panos Tzanetakis
Dept of Physics, UoC

Abstract

The evolution of solar cell operating principles and of the materials necessary to implement them has gone from single crystalline Silicon, since the dawn of solid state electronics, to thin semiconducting films on large area substrates and to nanocrystals and other structures in the nanometer scale holding promises for massive photovoltaic energy. After a brief survey of this evolution, the presentation focuses on two topics of experimental research in U.O.C and FO.R.T.H, the study of metastable changes in the lattice structure of Hydrogenated Amorphous Silicon resulting from exposure to light and deteriorating the performance of this material in photovoltaics and the study by scanning probe microscopy techniques of electron emission from metallic and semiconducting nanostructures.