UNIVERSITY OF CRETE
DEPARTMENT OF PHYSICS

CRETE CENTER FOR
QUANTUM COMPLEXITY
AND NANOTECHNOLOGY

ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 06 March 2014

17:00 -18:00

3rd Floor Seminar Room

"Neutron Star Instabilities due to Rotation and/or Magnetic Fields "

Prof. Kostas Kokkotas

Institute of Astronomy and Astrophysics, Eberhard Karls University of Tübingen, Germany

Abstract

Neutron stars are the most compact massive objects in the universe with yet unknown equation of state. During their lifetime they undergo violent periods during which they are primary sources for gravitational wave, x-ray and gamma-ray astronomy. We will present recent results concerning the dynamics of fast rotating neutron stars and of magnetars (neutron stars with extreme magnetic fields). Our analysis suggests that the signals (electromagnetic or gravitational) during the violent phases carry information about the details of their interior, the crust, the spin period and the strength of the magnetic field.