ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΡΗΤΗΣ

ΤΜΗΜΑ ΦΥΣΙΚΗΣ

ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday 29 November 2007
17:00-18:00

3rd Floor Seminar Room

"Type Ia Supernova Explosions: Energetics, Nucleosynthesis, and Cosmology"

Professor Jim Truran
University of Chicago &
Argonne National Laboratory

ABSTRACT

The inference drawn from studies of the Cosmological distance scale - including the use of Type Ia Supernovae as distance indicators - that the rate of expansion of the Universe is increasing, has generated greatly increased interest in Type IA supernova science. The standard model consists of the thermonuclear incineration of a carbon-oxygen white dwarf star which has grown in mass (via accretion) to the Chandrasekhar limit. We discuss questions concerning nuclear energetics and nucleosynthesis, emphasizing the crucial role played by ^{56}Ni. We then review recent three-dimensional simulations of the deflagration phase of the gravitationally confined detonation model of Type Ia supernovae.

Τ.Θ. 2208, 710 03 Ηράκλειο Κρήτης
Τηλ..: +30 2810 394300, + 30 2810 394200
Fax: +30 2810 394301, + 30 2810 394201