

ΑΡΙΣΤΟΤΕΛΕΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΕΣΣΑΛΟΝΙΚΗΣ ΤΜΗΜΑ ΦΥΣΙΚΗΣ

ΣΕΜΙΝΑΡΙΟ

ΤΟΜΕΑΣ ΑΣΤΡΟΦΥΣΙΚΗΣ, ΑΣΤΡΟΝΟΜΙΑΣ ΚΑΙ
ΜΗΧΑΝΙΚΗΣ

Θέμα: **“X-ray Binary Evolution Across Cosmic Time”**

Ομιλητής: **Δρ. Τάσσος Φράγκος**
*Harvard-Smithsonian Center for Astrophysics,
Institute of Theory and Computation,
Harvard University*

Ημερομηνία: **Τετάρτη 3-10-2012**

Τόπος: **Εργαστήριο Αστρονομίας, ΑΠΘ**

Ώρα: **13:00**

Περίληψη:

High redshift galaxies permit the study of the formation and evolution of X-ray binary populations on cosmological timescales, probing a wide range of metallicities and star-formation rates. Here, I will present results from a large scale population synthesis study that models the X-ray binary populations from the first galaxies of the Universe until today. We use as input to our modeling the Millennium II Cosmological Simulation and the updated semi-analytic galaxy catalog by Guo et al. (2011) to self-consistently account for the star formation history and metallicity evolution of the universe. Our modeling, which is constrained by the observed X-ray properties of local galaxies, gives predictions about the global scaling of emission from X-ray binary populations with properties such as star-formation rate and stellar mass, and the evolution of these relations with redshift, as well as the evolution of the galaxy X-ray luminosity function with redshift. Finally, I will discuss the possible energy feedback of XRBs in the re-ionization and thermal evolution of the Universe at early times.