PHYSICS & ASTRONOMY SEMINAR



Sponsored by the Department of Physics & Astronomy East Tennessee State University, Johnson City, TN 37614

Mark Giroux

Department of Physics and Astronomy, ETSU

will speak on ...

Constraining the Metagalactic Ionizing Background

<u>Abstract</u>

One of the most important but poorest known parameters in studies of the intergalactic medium (IGM) is the intensity of the metagalactic ionizing ultraviolet background. This consists of electromagnetic radiation with wavelengths shorter than the 91.2 nm required to ionize neutral hydrogen from its ground state and reflects the sum total of contributions from quasars and star-forming galaxies. It directly affects the ionization state and temperature of the gas associated with the "Ly alpha forest" of absorption lines seen in the spectrum along the lines of sight to distant quasars. The properties of the lines in turn provide one of the most robust tests of cosmological hydrodynamic simulations of the growth of large scale structure in the Universe. I will review methods used to constrain this background, especially at lower redshifts associated with the present and focus on prospects for the "proximity effect" to improve these constraints.

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MONDAY, April 6, 2015, 4:00 p.m. Room 265 (D.M. Brown Hall)

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Refreshments will be served from 3:45-4:00 in Room 265