



ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday 7 June 2007
17:00-18:00

3rd Floor Seminar Room

“ZEUS: Star Formation in the Early Universe”

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ABSTRACT:

We will discuss the design, construction and use of the redshift (z), and Early Universe Spectrometer (ZEUS). ZEUS is a long slit grating spectrometer designed for optimal detection of weak lines from distant galaxies in the submillimeter bands. Our primary spectral probes include the far-IR fine-structure lines from abundance atoms and ions. These lines cool much of the interstellar medium (enabling molecular cloud collapse and star formation) and are sensitive probes of the physical conditions of these clouds and the strength and hardness of the ambient interstellar radiation fields. ZEUS can detect the brightest of these lines to redshifts in excess of 3, or to within 1.7 billion years of the Big Bang. Therefore, through these lines, ZEUS investigates star formation in the epoch of galaxy formation. We will present the scientific motivation for ZEUS, and some of our recent results from the use of ZEUS on the Caltech Submillimeter Observatory.