Astrophysics Seminar

Monday, October 31, 2016

HETDEX and the Star-Forming Galaxies of the z ~ 2 Universe

Robin Ciardullo

Penn State

In a few months, the Hobby Eberly Telescope Dark Energy Experiment will begin obtaining redshifts for roughly a million Ly-alpha emitting galaxies (LAEs) between $1.9 < z < 3.5$. While the main purpose of the project is to study the evolution of Dark Energy, the project will produce an incredible data base for studies of galaxy evolution.

In preparation for this, we have been investigating the physical and chemical properties of emission-line galaxies in the $z \sim 2$ universe, using LAEs discovered from the ground and samples of [O III]-emitting galaxies identified from space. We show that LAEs are not "low mass, dust-poor galaxies caught in the act of formation", but instead normal star-forming galaxies with stellar masses that span almost the entire galaxy mass range, from at least $7.5 < \log M/M_{sun} < 10.5$. We use our $z \sim 2$ galaxy samples to explore issues such as the relationship between stellar mass and metallicity, the systematics of star-formation rate indicators, the behavior of dust attenuation laws versus stellar mass, and the question of what makes an LAE an LAE.

3:30pm in CAS 502. *Refreshments served at 3:15pm in CAS 500.*

BOSTON UNIVERSITY

Institute for Astrophysical Research
725 Commonwealth Avenue
617-353-5990
http://www.bu.edu/iar/seminars

Next Week

Ori Fox
STScI