



PHYSICS AND ASTRONOMY SEMINAR

Prof. Alice Shapley

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“Direct Measurement of the Escape of Ionizing Radiation from Galaxies at High Redshift: So Hard, yet so Important”

Abstract

Determining the contribution of galaxies to the reionization of the universe is a fundamental goal for studies of the intergalactic medium (IGM), and galaxy formation and evolution. A direct measurement of ionizing Lyman-continuum radiation escaping from galaxies is not possible at the epoch of reionization, due to the high optical depth of the IGM, and therefore observations of this process at slightly lower redshift are crucial for understanding what happens at $z > 6$. For the past several years, we have been attempting direct imaging and spectroscopic observations of escaping ionizing radiation at $z \sim 3$, using both ground-based and HST data. These observations have uncovered many possible sources of Lyman-continuum radiation, but also reveal the challenges associated with low-redshift contamination. We highlight the current state of the field and promising upcoming methods for determining f_{esc} , the escape fraction of ionizing radiation.

Tuesday, March 15, 2016
2:00 p.m.
Elliott Building
Room 060