

21 cm Dark Energy Cosmology with CHIME

Wednesday, 30 May 2018 17:10 (20 minutes)

The Canadian Hydrogen Intensity Mapping Experiment (CHIME) is a new radio transit interferometer now taking data at the Dominion Radio Astrophysical Observatory (DRAO) in Penticton, BC, Canada. We will use the 21 cm emission line of neutral hydrogen to map baryon acoustic oscillations between 400–800 MHz across 3/4 of the sky. These measurements will yield sensitive constraints on the dark energy equation of state between redshifts 0.8–2.5, a fascinating but poorly probed era corresponding to when dark energy began to impact the expansion history of the Universe. I will describe the CHIME instrument, the analysis challenges, the calibration requirements, and current status.

E-mail

laura.newburgh@yale.edu

Collaboration name

CHIME Collaboration

Primary author: Prof. NEWBURGH, Laura (Yale University)

Presenter: Prof. NEWBURGH, Laura (Yale University)

Session Classification: Cosmic Physics and Dark Energy, Inflation, and Strong-Field Gravity

Track Classification: CPDE