“Measuring the expansion history of the Universe with CHIME”

Density variations in the early Universe travel as acoustic waves in the photon-baryon plasma and give rise to the features in the cosmic microwave background seen by WMAP and other probes.

When the Universe became transparent, these acoustic signals stopped propagating. The density variations associated with them have remained fixed in co-moving (expanding) coordinates. They are detectable as a slight enhancement in the number density of galaxies or the intensity of emission from neutral hydrogen on large scales. The Canadian Hydrogen Intensity Mapping Experiment, CHIME, is a novel radio telescope designed to study the expansion history of the Universe by measuring the apparent angular size of these features as a function redshift.

In this talk I will describe our motivation and the status of our experiment.

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