

Abstract Submitted
for the CUWIP21 Meeting of
The American Physical Society

Detecting the 21cm Signal from EoR using HERA MINE GOKCEN,
University of California, Berkeley, HERA TEAM — Hydrogen Epoch of Reionization Array (HERA) is a radio telescope consisting of over 300 individual dishes with a collecting area of 150 square meters. It is the most sensitive radio telescope designed to measure the 21cm (HI) signal that characterises the Epoch of Reionization (EoR). The detection of HI signal is important to constrain the theoretical models of reionization and cosmic dawn. Parameters of these models -namely the star formation efficiency, circular velocity of star forming halos, and x-ray heating efficiency in the scope of this presentation- describe the formation of first stars and galaxies. By comparing the power spectra from simulations to the sensitivities of HERA, we determine the ranges of parameters that can be detected by HERA; thus, the extent to which HERA will contribute to our understanding of the cosmic history.

Mine Gokcen
University of California, Berkeley

Date submitted: 02 Jan 2021

Electronic form version 1.4