Abstract Submitted
for the APR09 Meeting of
The American Physical Society

Modeling Inflation with CMB and 21 cm Anisotropy Measurements[1] JUSTIN FENG, ASANTHA COORAY, University of California, Irvine — The Cosmic Microwave Background is now a well-known probe of the early Universe. We study a way to further improve our understanding of inflation by combining CMB data with anisotropy measurements of the 21 cm background at high redshifts. It has been suggested previously that the mapping of the 21 cm line can be used to significantly improve the constraints on the inflationary slow roll parameters, and consequently the allowed models for inflation. We use a Monte Carlo reconstruction code to study the relationship between the cosmological parameters as calculated at the 21 cm scale and the CMB scale. We also study the effects of combining the uncertainties in the measurements of the scalar spectral index from the 21 cm line with the current and expected CMB measurements in WMAP and Planck, respectively, on the tensor to scalar ratio.

[1]Research supported by NSF CAREER AST-0645427

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Date submitted: 09 Jan 2009 Electronic form version 1.4