

Looking for a blue tilted power spectrum in the dark ages

We investigate how the primordial power spectrum on small scales could be constrained using 21cm line intensity mapping in the dark ages. The focus is on models that imprint an increase of the matter spectrum at large angular multipoles.

We study a few specific models, including early matter domination, primordial black holes and vector dark matter, and then parameterize small scale features in a model-independent way.

Moreover, we explore the possibility of using the primordial power spectrum to search for signatures of the quantum to classical transition in the early Universe.

We present forecasts for measurements with the SKAO and a few possible future instruments, both Earth and Moon based.

Would you be interested in presenting a poster? (this will not impact the decision on your talk)

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