



Contribution ID: 231

Type: **Invited/Solicited talk in mini-symposium**

Reconstructing the formation history of the observed universe

Monday, December 11, 2023 3:50 PM (20 minutes)

ELUCID is a method to reconstruct the initial linear density field from an input nonlinear density field, employing the Hamiltonian Markov Chain Monte Carlo (HMC) algorithm combined with Particle-mesh (PM) dynamics.

My talk will describe its application and the constrained N-body and gas simulations in the SDSS volume. I will

show how to use the reconstruction to understand galaxies and gas in the cosmic web, as well as the underlying physics.

Primary author: MO, Houjun (University of Massachusetts)

Presenter: MO, Houjun (University of Massachusetts)

Session Classification: Cosmology with large-scale structure