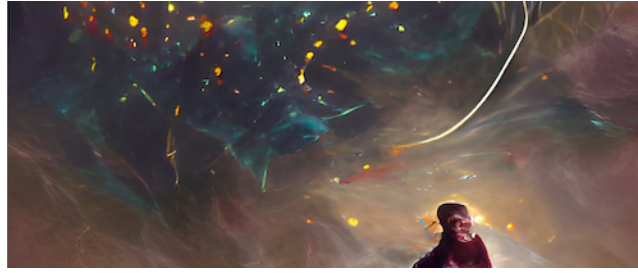


Cosmic Cartography 2022: Exploring the Cosmic Web and Large-Scale Structure



Contribution ID: 65

Type: **not specified**

Entangled in the cosmic web: probing the success of WEAVE in the extraction of cosmic filaments.

Friday, 11 March 2022 15:00 (20 minutes)

The outskirts and infall regions of galaxy clusters act as the points of contact linking the large-scale structure of the Universe to the dense virialized cores of the clusters. In these regions, the underlying dark matter density field manifests itself as the cosmic web, making them crucial in understanding the mass assembly processes of the Universe. Our work involves forecasting the feasibility of the detection of the cosmic web through next-generation spectroscopic surveys using cosmological simulations of cluster and galaxy formation. We provide a framework for creating mock observations mass-matched to the upcoming survey WEAVE, extract cosmic filaments and evaluate their connectivity. We can be confident that we will characterize the cosmic web with a high degree of accuracy.

Presenter: CORNWELL, Daniel (University of Nottingham)

Session Classification: Day 5 Afternoon