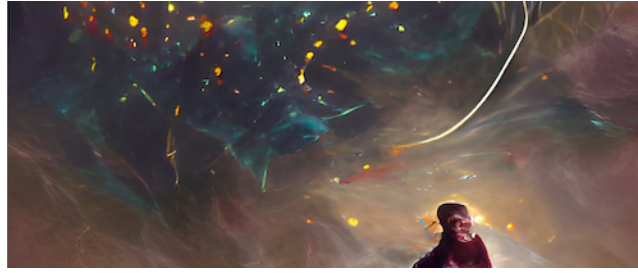


Cosmic Cartography 2022: Exploring the Cosmic Web and Large-Scale Structure



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Cross-Survey Cross-Correlation Cosmology with AI-Accelerated Forward Modeling of the Galaxy–Halo Connection

Friday, 11 March 2022 09:00 (30 minutes)

Cosmological survey data in the 2020s will be characterized by multi-wavelength information from thousands of square degrees of overlapping sky. This opens up the exciting prospect of a new era of multi-wavelength cosmological analyses that use all datasets simultaneously. I will refer to this ambitious program as Cross-Survey Cross-Correlation Cosmology (CSC3). The power of CSC3 will come from maximally utilizing information from multi-survey, same-sky observations across the full range of spatial scales. In this talk, I will give an overview of a new approach to cosmological inference that has potential to achieve the aims of CSC3 by unlocking the predictive power of the world's largest cosmological simulations through targeted application of AI.

Presenter: HEARIN, Andrew (Argonne National Lab)

Session Classification: Day 5 Morning