

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



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Mapping and characterisation of filaments and filament galaxies feeding clusters

Friday, 11 March 2022 14:40 (20 minutes)

We used hydrodynamical zoom-in simulations to describe the geometry, collapse and feeding of clusters via filaments and groups, and to determine the histories of observed cluster galaxies. We created an inventory of galaxies in filaments feeding clusters; a combination of group-, backplash- and pure filament galaxies, to compare pre-processing signatures to. Almost all galaxy groups become unbound, many return as backplash galaxies via filaments. We further acted out several scenarios for new cluster programs with WEAVE and 4MOST, including testing the reliability of filament finding in redshift space where Fingers of God dominate. Finally, we compare our detailed cluster infall mapping to much larger-scaled cosmic web reconstructions to understand if and what information we lose.

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