

Large-Scale Structure Cosmology in the Systematics-Limited Regime

mercredi 9 novembre 2022 11:00 (45 minutes)

Over the next decade, large galaxy surveys will map billions of galaxies and probe cosmic structure formation with high statistical precision. This talk will outline opportunities and challenges of cosmological analyses in the presence of complex systematic effects using recent results from the Dark Energy Survey as pathfinder examples. In particular, I will describe different cosmological probes measured from photometric data and summarize the recent progress on combining galaxy clustering, weak lensing, cluster clustering and cluster abundances, as well as constraints on baryons and galaxy biasing from small scales. I will conclude with an outlook on cosmology analysis plans and challenges for future, much larger experiments such as Rubin Observatory's LSST, Roman Space Telescope and overlapping Cosmic Microwave Background surveys.

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