



ID de Contribution: 45

Type: Non spécifié

Cosmology from the Rubin Void Size Function

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Cosmic voids are a powerful tool to extract cosmological constraints and study galaxy properties' dependence on the environment. This project builds a pipeline for constraining cosmological parameters using the void size function. We will build the void catalogs from the Roman SkySim5000 galaxy catalogs using the publicly available VIDE void finder. The cosmological constraints' inference will rely on the state of the art theoretical model for the void size function, which accounts for the impact of tracer bias, redshift-space distortions and the Alcock-Paczynski effect. This project will be the first to confront theoretical models for the void size function to measurements made from voids obtained from photometric redshift tracer data. As such, it will investigate the impact of statistical and systematic photometric redshift uncertainties on void statistics. Extracted constraints will include (but will not be limited to) constraining the dark energy equation of state, σ_8 , the dark matter density, the content of the Universe and the sum of neutrino masses.

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