Contribution ID: **29** Type: **not specified**

A Large Scale Structure Void Identifier for Galaxy Surveys Based on the Beta-Skeleton Graph Method

Thursday 30 May 2019 14:45 (15 minutes)

Large underdense regions in the Large Scale Structure (LSS) of the Universe, also known as voids, are a prominent features of the cosmic web that can also be used as a cosmological probe. In this talk, I will present a new void-finding algorithm that can be applied to both observational and simulated data. The algorithm is based on the β-Skeleton, an algorithm widely used on machine learning, optimization and image recognition; recently it has been introduced as a LSS analysis tool. The analysis we have performed, on observational and simulated data, considers voids as ellipsoids. We study their statistical properties such as volumes and shape finding a good agreement with other void finders. We finalize by exploring possible applications of this void finder to constrain cosmological parameters based on data from the Dark Energy Spectroscopic Instrument.

Authors: Mr GÓMEZ-CORTÉS, Felipe (Universidad de los Andes); FORERO-ROMERO, Jaime (Universidad de los Andes)

Presenter: Mr GÓMEZ-CORTÉS, Felipe (Universidad de los Andes)

Session Classification: Cosmology