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Spectroscopic Simulations for the Euclid Mission

Tuesday, September 27, 2022 3:50 PM (5 minutes)

Understanding the accelerated expansion of the Universe is one of the challenges of modern cosmology. The various existing cosmological models that can explain the accelerated expansion differ in small variations in experimental observations. Detecting such variations requires a precise astronomical survey capable of covering most of the sky. For this purpose, the Euclid space mission was designed, which will map large-scale structures over about one-third of the sky and over a cosmic time greater than 75% of the age of the Universe. During the survey, Euclid, will extract the spectroscopic redshift of about 20 million galaxies with great precision. My work consists of performing simulations and extracting the spectra of the sources, including possible systematic effects. This work allows both to validate the simulation and to study the performance of the instrument. Specifically, in this presentation I will describe my thesis work, where I performed simulations to find the best observational sequence to use during the in-flight calibration phase of the instrument.

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