Nathalie Palanque-Delabrouille

Lawrence Berkeley National Laboratory

IJColloquium

Jeudi 13 juin 2024

10h30

Café accueil à 10h

Auditorium Pierre Lehmann-bât. 200

Is Dark Energy weakening?

One of the most fundamental questions in cosmology today is to understand the mysterious Dark Energy, which makes up 70% of the universe and is responsible for its accelerated expansion. A simple model, referred to as Lambda-CDM, explains most of the cosmological observations of the past 20 years. However, recent results are starting to challenge this model. The Dark Energy Spectroscopic Instrument (DESI) is building the largest 3D map of our universe to measure its expansion history over the past 11 billion years, and thereby, study dark energy. DESI just released the results from its first year of observation, and finds tantalizing hints that, if confirmed, would revolutionize the standard model of cosmology. I will introduce the experimental observations that led to our current understanding of cosmology. I will present DESI, explain how it tackles the question of Dark Energy, and describe the recent results and their implication.

Nathalie Palanque-Delabrouille

is an experimental cosmologist. She spent most of her career at CEA-Saclay, where her work spanned the EROS project to identify galactic dark matter using microlensing techniques, the SNLS experiment to investigate dark energy with supernovae, and more recently, BOSS, eBOSS, and DESI to explore large-scale structures to constrain dark energy and primordial inflation. Since 2018, she has been co-spokesperson for the DESI collaboration. In 2021, she moved to Berkeley Lab where she has since been Director of the Physics Division. She received several awards including the 2017 Irène Joliot-Curie Woman Scientist of the Year award, the Chevalier de la Légion d'Honneur in 2018, and was elected to the Académie des Sciences in 2020.

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