



SEMINAIRE régulier du Service d'Astrophysique

PROBING THE UNIVERSE WITH 21-CM TOMOGRAPHY

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11h00

Progress in detector, space and computer technology has triggered an avalanche of high-quality cosmological data, removing cosmology from the realm of philosophy and transforming it into a quantitative empirical science. Although cosmology has accumulated enough physical evidence to construct a reasonable model of the formation process of the universe, there are yet many exciting questions that remain unanswered. The 21-cm tomography, or three-dimensional tomographic maps of redshifted 21-cm emission, has emerged as one of the most promising cosmological probes. Although this signal has yet to be detected, it has the potential to constrain the nature of dark matter, dark energy, the early universe and the end of the cosmic dark ages with unprecedented accuracy. I will discuss some interesting challenges posed by upcoming 21-cm experiments.

Ce séminaire aura lieu au CEA Saclay – Orme des Merisiers –bâtiment 709, Salle 003.