

Planck review and lessons learned: LFI systematics/calibration challenge

Monday, 30 November 2020 18:00 (25 minutes)

In this presentation I review the lessons learned from measuring and analyzing the microwave polarized sky with Planck, to extract the information encoded in the cosmic microwave background (CMB). I focus, in particular, on the challenge to control instrumental effects and calibration at the sensitivity level. This is crucial especially on large angular scales, where the noise is small and the levels of foregrounds and long-term instrumental correlations compete with the CMB polarized signal. The main rule learned from our experience with Planck is simple: “know your instrument and know your sky”. Using Planck data I show how the knowledge of the instruments and the measurement of the polarized sky over more than a decade in frequency have been key in the production of Planck scientific results in polarization.

Presenter: Prof. MENNELLA, Aniello (University of Milan - INFN)

Session Classification: 1. Planck Heritage on systematics and calibration