ID de Contribution: 108

Type: Invité

Cosmology with the final Planck data release (PR4)

lundi 6 novembre 2023 17:00 (30 minutes)

We present constraints on cosmological parameters using maps from the last Planck data release (PR4). In particular, we detail an upgraded version of the cosmic microwave background likelihood, HiLLiPoP, based on angular power spectra and relying on a physical modelling of the foreground residuals in the spectral domain. This new version of the likelihood retains a larger sky fraction (up to 75 %) and uses an extended multipole range. Using this likelihood, along with low-l measurements from LoLLiPoP, we derive constraints on ACDM parameters that are in good agreement with previous Planck 2018 results, but with 10 % to 20 % smaller uncertainties. We demonstrate that the foregrounds can be accurately described in the spectral domain with only negligible impact on ACDM parameters. We also derive constraints on single-parameter extensions to ACDM including AL , Ω K , Neff , and P mv . Noteworthy results from this updated analysis include a lensing amplitude value of AL = 1.036 \pm 0.051, which aligns more closely with theoretical expectations within the ACDM framework. Additionally, our curvature measurement, Ω K = -0.012 ± 0.010 , now demonstrates complete consistency with a flat universe, and our measurement of S8 is closer to the measurements derived from large-scale structure surveys (at the 1.6 σ level).

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Classification de Session: Review and contribution talks