

Planck 2015 results: XII. Full focal plane simulations

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Abstract

© 2016 ESO. We present the 8th full focal plane simulation set (FFP8), deployed in support of the Planck 2015 results. FFP8 consists of 10 fiducial mission realizations reduced to 18 144 maps, together with the most massive suite of Monte Carlo realizations of instrument noise and CMB ever generated, comprising 104 mission realizations reduced to about 106 maps. The resulting maps incorporate the dominant instrumental, scanning, and data analysis effects, and the remaining subdominant effects will be included in future updates. Generated at a cost of some 25 million CPU-hours spread across multiple high-performance-computing (HPC) platforms, FFP8 is used to validate and verify analysis algorithms and their implementations, and to remove biases from and quantify uncertainties in the results of analyses of the real data.

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Keywords

Cosmic background radiation, Methods: data analysis, Methods: numerical