

Editorial
Planck 2015 results

In this volume, we proudly present a special feature on the results from the ESA *Planck* mission, based on data released by ESA and the Planck Collaboration between February and August 2015. This *Planck* data release is both the first to include the data gathered over the full length of the mission and the first to contain polarization information. The all-sky polarization maps at high frequencies offer a new view of the sky, and the overall dataset constitutes a very important probe for both cosmology and foreground astrophysics.

The 28 articles in the special feature describe the released data products and present the scientific results extracted by the Planck Collaboration from this data. The polarization anisotropies constrain the cosmological parameters independently of the temperature data, and the very good consistency of these two lines of analysis gives high confidence in the reliability of the *Planck* data. This combined analysis confirms and improves the basic six-parameter model determined by *Planck* in 2013, finding neither compelling evidence for any extensions to the six-parameter model, nor any need for new physics. The newly obtained polarized information constrains the parameters of the model with the highest accuracy ever, notably the optical depth to the epoch of reionization. Foreground astrophysics also greatly benefits from the *Planck* data, with the polarization maps at high frequencies tracing the thermal emission of dust particles aligned by the interstellar magnetic field.

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Joao Alves, Françoise Combes, Andrea Ferrara,
Thierry Forveille, Steve Shore
Astronomy & Astrophysics Editors