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New results from Planck

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The Planck satellite has completed its mission to map the entire microwave sky at nine separate frequencies. A new data release was made in February 2015, based on the full mission, and including some polarization data for the first time. The Planck team has already produced more than 100 papers, covering many different aspects of the cosmic microwave background (CMB). We have been able to learn in detail about the physics of the interstellar medium in our Galaxy, and to remove this foreground emission in order to extract the cosmological information from the background radiation. Planck's measurements lead to an improved understanding of the basic model which describes the Universe on the very largest scales. In particular, a 6 parameter model fits the CMB data very well, with no strong evidence for extensions to that sceneraio. There are constraints on inflationary models, neutrino physics, dark energy and many other theoretical ideas. New cosmological probes include CMB lensing, CMB-extracted clusters of galaxies, the Cosmic Infrared Background and constraints on large-scale velocities. This talk will highlight some of the new results of the 2015 papers, including the improvements coming from the addition of polarization dimension.

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