



Wednesday

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Rm 118 NSH

Planck 2018; 'Legacy' data release and scientific impact of the mission

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Planck was originally proposed to conduct definitive multi-frequency measurement of the entire microwave sky on angular scales larger than ~ 5 arcmin with the goal to extract precise maps of the cosmic microwave background anisotropy in temperature and polarization. The mission launched in May 2009, the data and scientific results were presented previously in 2013, and 2015. In July 2018 the Planck Team released the "Legacy" data set, and the associated publications, mostly focused on improvements of the polarization sky maps, and the derived science. Overall, the Planck collaboration has produced about 150 scientific papers, half of them on cosmology, and these results have had a transformative impact on cosmology, e.g. Planck has measured Λ CDM fundamental parameters with a precision at the one percent level, setting the framework used in many other areas of physics and astronomy. Still, there remain big questions to answer regarding a number of CMB anomalies as well as tensions when other cosmological probes are analyzed assuming Λ CDM. I will highlight some of the main scientific achievements of Planck, relative to the initial objectives of the mission.