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Planck and the H0 tension

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The Planck mission found excellent agreement with a spatially flat Universe and fluctuations consistent with simple models of inflationary cosmology. The Planck data are well described by a six parameter model that has become known at the LCDM cosmology. Nevertheless, there have been claims of deviations (or tensions) with the LCDM cosmology both internally to the Planck data and with other astrophysical data. I will discuss an extensive reanalysis of Planck that makes use of more sky. The fit to the LCDM model is improved and there is no evidence for any internal inconsistencies within the Planck dataset. These results are consistent with the new results from ground based polarization experiments. I will then describe some aspects of the so called 'Hubble tension', i.e. the discrepancy between the LCDM value of H0 and the value inferred from the Cepheid distance ladder. I will point out three puzzling aspects of the distance ladder measurement.

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