

State of Cosmology

Thursday 13 April 2023 09:00 (35 minutes)

I'll review the current state of affairs in Cosmology. Data from Planck and from Stage III spectroscopic and photometric experiments have firmly established the flat Λ CDM as the standard cosmological model. Many parameters are now measured with the percent level precision. Nevertheless, some tensions remain, the strongest being the Hubble parameter tension between expansion rate of the Universe as constrained by cosmological probes and direct measurements. I will review the outcomes of community planning processes and describe the upcoming experiments such as CMB-S4 and MegaMapper. Finally, I will briefly discuss the new observation windows opened by gravitational waves, intensity mapping and lunar exploration.

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