

## GDR CoPhy Episode 2



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# Cosmological parameters constraints from CMB data analysis with the South Pole Telescope

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Observations of the cosmic microwave background (CMB) anisotropies in temperature and polarization are one of the most powerful probes of cosmology. The ESA Planck satellite provided high precision measurements of cosmological parameters, nonetheless a huge quantity of cosmological information is waiting to be uncovered from the E and B modes of polarization and from the temperature at small angular scales. This data will be crucial to address contemporary tensions of cosmology, such as the Hubble tension. Thus, ground based telescopes aim to improve our knowledge of the universe composition and evolution. The South Pole Telescope (SPT) observes the CMB with its 10m primary mirror from the South Pole. Its third generation camera SPT-3G started collecting data in 2018 and the unprecedented resolution of the final maps will allow cosmological parameters constraints to rival Planck's. A new field of observation called the Wide Field has been recently defined and extends the survey region to cover 25% of the sky. In this talk, I will introduce this new field and how it complements current measurements of the CMB signal, and discuss how to best analyse it.

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