

Constraining cosmology with the summer fields of the South Pole Telescope

The South Pole Telescope (SPT) is observing the CMB with arcminutes resolution, with its third generation camera (SPT-3G). One of the main goals is to improve the current constraints on cosmological parameters. During the first observing season, SPT-3G observed its baseline sky patch (1500 deg²), and obtained cosmological constraints consistent with those from the Planck mission. Deeper observations of the SPT-3G baseline field are currently ongoing, as well as observations of additional 3000 deg² that are observed during the summer season (the “summer fields”). In this talk I will present the ongoing analysis of the SPT-3G summer fields, and forecasts of the cosmological parameters relying on the SPT-3G extended survey (baseline+summer fields). The inclusion of the SPT-3G summer fields in the combined analysis of the SPT-3G baseline field and Planck data is expected to improve the constraints by 20% for the Λ CDM model, and by up to 50% for Λ CDM extensions.

Orateur: GUIDI, Federica