

Building the SPT-3G 2019/2020 Likelihood

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The South Pole Telescope (SPT) is observing the CMB anisotropies with arcminute resolution using its state-of-the-art camera (SPT-3G). Constraints on cosmological parameters from the obtained data will be as tight as Planck's one, while remaining independent from the satellite experiment, thus allowing to test the consistency of the two dataset and investigate new physics. A reliable estimation of cosmological parameters requires accurate covariance matrices. In this talk, I will present my recent work on analytical pseudo-power spectrum covariance matrices for small survey area. First, I will introduce an efficient (but computationally expensive) exact calculation of such matrices. Then, using it as a reference, I estimate the accuracy of existing and new approximations of the covariance matrix. Finally, I will present solutions to mitigate the effect of point source masking.

Orateur: CAMPHUIS, Etienne