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Building the SPT-3G 19/20 likelihood

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The South Pole Telescope (SPT) observes 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 us to test the consistency of the two data sets and investigate new physics. Reliable cosmological parameters necessitate an accurate covariance matrix. In recent work, we introduced a framework for computing accurate analytical covariance matrices for small survey areas. In this talk, I will present how we adapted this framework to the specific case of SPT-3G. First, we mitigate the point source contamination with Gaussian-constrained signal realization, assert the robustness of this method, and propagate the impact on the final covariance matrix. Then, we consider the impact of data anisotropies and propose an adequate renormalization of the covariance matrix.

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