

Topology of Cosmic Microwave Background Anisotropy from QMAP and SASK Experiments

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We have studied topology of the cosmic microwave background (CMB) anisotropy from two medium scale CMB experiments, QMAP and SASK. The two-dimensional genus is measured from the noise-suppressed Wiener-filtered CMB maps at the angular scale of about $1^\circ.5$. To test the Gaussianity of the observed CMB anisotropy, we have made 50 Wiener-filtered mock survey maps for each experiment in a Gaussian Λ CDM cosmological model. We have found that the genus curves of two observed CMB maps are consistent with the Gaussian random phase field.