Small Deviations of Smooth Stationary Gaussian Processes

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We investigate the small deviation probabilities of a class of very smooth stationary Gaussian processes playing an important role in Bayesian statistical inference. Our calculations are based on the appropriate modification of the entropy method due to Kuelbs, Li, and Linde as well as on classical results about the entropy of classes of analytic functions. They also involve Tsirelson’s upper bound for small deviations and shed some light on the limits of sharpness for that estimate.