Interplay between small ball probability and metric entropy

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We first provide an overview on fundamental roles of small ball probability in the theory of stochastic processes. We then present the precise connections between the small ball probability of Gaussian process/measure and the metric entropy of the associated operator. We also point out some technical advantages from both sides. Finally, we discuss some recent progress on the tensored Gaussian processes or equivalently, the tensored operators. Throughout, we use Brownian motion (integral operator) and Brownian sheets (tensored Brownian motion) as illustrating examples.