

Maxima of empirical (asymptotically Gaussian) random fields

Yuval Nardi

The distribution of the maxima of an empirical random field, which is asymptotically Gaussian, is investigated. We develop an asymptotic expansion for the probability that the maxima of such field exceeds a high threshold. Our method is a direct probabilistic one, which involves a change of measure, and several localization arguments. The expansion relates the terms in the expansion to both the sample size and the threshold level.