



Mathematics > Probability

# Extreme values for two-dimensional discrete Gaussian free field

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We consider in this paper the collection of near maxima of the discrete, two dimensional Gaussian free field in a box with Dirichlet boundary conditions. We provide a rough description of the geometry of the set of near maxima, estimates on the gap between the two largest maxima, and precise (in the exponential scale) estimate for the right tail on the law of the centered maximum.

Comments: 27 pages. Revision includes improving Theorem 1.4 and correcting a few minor mistakes

Subjects: **Probability (math.PR)**

MSC classes: 60G15, 60G60, 60G70

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