

High intensity Voronoi percolation on manifolds

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Abstract: Hansen and Müller showed that the critical probability $p_c(\lambda, \mathbb{H}^2)$ for Voronoi percolation in the hyperbolic plane tends to $1/2$ as the intensity λ of the underlying Poisson process tends to ∞ . We extend this result to more general manifolds. More precisely, we determine conditions on a d -dimensional manifold M that ensure that the critical probability $p_c(\lambda, M)$ for Voronoi percolation on M with intensity λ tends to $p_c(\mathbb{R}^d)$ as $\lambda \rightarrow \infty$.

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