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Last Passage Percolation on a Torus

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Abstract

We consider the problem of Poissonian last passage percolation on a torus. Given a torus of area n equipped with a Poisson point process, we are interested in the maximal number of points τ_n that can be collected by an oriented path on this torus. We study the asymptotic behavior of τ_n when the number of points on the torus goes to infinity, and we derive upper and lower bounds on the expected value of τ_n.

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