

Asymptotic behaviour of the cover time distribution in the Poisson cylinder model

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In this work we consider a Poisson cylinder process in \mathbb{R}^d indexed by a time parameter. We are interested in finding the asymptotic behaviour of the probability of a set being covered as a function of the size of the set as it increases. The smallest time where the set is covered is a random variable known as the real cover time. The strategy of the proof is to consider two slightly different cover times, one that dominates the real cover time and another that is dominated by it. Afterwards, we study the asymptotic behaviour of these bounding cover times.