Cornell University

## Mathematics > Probability

## The Simple Random Walk Snake on Z^4 is Recurrent

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Consider the branching simple random walk on Z^d indexed by a critical geometric Galton-Watson tree conditioned to survive. Using the concept of unimodular random graphs, we show that the walk is recurrent if and only if $d$ is less than or equal to 4 .

Subjects: Probability (math.PR)
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