

THE AVERAGE CROSSING NUMBER OF
GAUSSIAN RANDOM WALKS AND POLYGONS

Yuanan Diao and Claus Ernst

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Abstract

In this paper, we extend results about the average crossing number of equilateral random walks and polygons to the average crossing number of the Gaussian random walks and polygons. We show that the asymptotical behavior of the ACN for the two models are very similar. More precisely, we show that the mean average crossing number $\langle \text{ACN} \rangle$ of Gaussian random walks and polygons of length n is of the form $\frac{1}{2\pi}n \ln n + O(n)$.

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