Introduction to Self-Avoiding Walk

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Abstract

The lattice random walks were introduced by George Polya around 1920. Here, a random walker moves on a regular grid, usually taken to be the hypercubic lattice. A self-avoiding walk is a lattice random walk with one additional condition: no point may be revisited. Random walks and self-avoiding walks have considerable intrinsic mathematical interest, and their study involves a surprisingly broad range of areas of mathematics, biology, chemistry and physics. In this talk, I will introduce self-avoiding walk and present some open problems.