

Time: Tuesday May 3rd, 2011 3:00pm

Location: Buchanan A203

The growth constants of lattice trees and lattice animals in high dimensions

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Lattice trees and lattice animals are used to model branched polymers. They are of interest in combinatorics and in the study of critical phenomena in statistical mechanics. A lattice animal is a connected subgraph of the d dimensional integer lattice. Lattice trees are lattice animals without cycles. It is known that the number of distinct lattice trees and animals with n bonds grows exponentially in n . We prove that the growth constants for both models are asymptotic to $2de$ as the dimension goes to infinity.