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The Sandpile Group of Erdos Renyi Graphs

Erik Slivken, University of Washington

The abelian sandpile model first arose in the analysis of dissipative behavior on a lattice. This model extends to a generic graph $G = (V, E)$ and has a group structure whose order is equal to the number of spanning trees of G . In this talk we will define the sandpile group and look at some specific examples. Then, shifting our focus in more probabilistic direction, we ask for an Erdős-Rényi random graph, what is the probability that the sandpile group is cyclic? Does this probability converge to a limit as n increases? If so, does the limit depend on the edge probability p ? We will show the probability is bounded away from 1 and give a conjecture the value of the limit for $p = 1/2$.