Title: Chasing robbers on random geometric graphs
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Abstract: We study the vertex pursuit game of *Cops and Robbers*, in which cops try to capture a robber on the vertices of the graph. The minimum number of cops required to win on a given graph \( G \) is called the cop number of \( G \). We focus on \( G_d(n, r, p) \), a random subgraph of the random geometric graph in which \( n \) vertices are chosen uniformly at random and independently from \([0, 1]^d\), and two vertices are adjacent with probability \( p \) if the Euclidean distance between them is at most \( r \); \( T_d(n, r, p) \) is defined similarly with the only difference that the torus metric is used instead. We present asymptotic results for the game of Cops and Robber played on \( G_d(n, r, 1) \) and \( T_d(n, r, p) \) for a wide range of \( p = p(n) \) and \( r = r(n) \). (Joint work with Noga Alon.)