Title: Containment game played on random graphs: another zig-zag theorem

Abstract: We consider a variant of the game of Cops and Robbers, called Containment, in which cops move from edge to adjacent edge, the robber moves from vertex to adjacent vertex (but cannot move along an edge occupied by a cop). The cops win by "containing" the robber, that is, by occupying all edges incident with a vertex occupied by the robber. The minimum number of cops, $\xi(G)$, required to contain a robber played on a graph $G$ is called the containability number, a natural counterpart of the well-known cop number $c(G)$. By investigating expansion properties, we provide asymptotically almost sure bounds on the containability number of binomial random graphs $G(n,p)$ for a wide range of $p=p(n)$, showing that it forms an intriguing zigzag shape.