The game chromatic number of sparse random graphs

Mikhail Lavrov

Abstract

Given a graph G and an integer k, two players play a game, taking turns properly coloring the vertices of G using k colors. The first player wins by successfully coloring all vertices of G. The game chromatic number $\chi_g(G)$ is the minimum k for which the first player has a winning strategy.

We present results regarding the asymptotic behavior of this parameter for random graphs with constant average degree and for random regular graphs.

Joint work with Alan Frieze and Simi Haber.