

Asymmetric Ramsey properties of Random Graphs involving Cliques and Cycles

Jozef Skokan
London School of Economics

We prove that for every $\ell, r \geq 3$, there exists $c > 0$ such that for $p \leq cn^{-1/m_2(K_r, C_\ell)}$, with high probability there is a 2-edge-colouring of the random graph $G_{n,p}$ with no monochromatic copy of K_r of the first colour and no monochromatic copy of C_ℓ of the second colour. This is a progress on a conjecture of Kohayakawa and Kreuter.