
MEHTAAB SAWHNEY, Massachusetts Institute of Technology

Friendly bisections of random graphs

We prove that with high probability, the random graph $G(n, \frac{1}{2})$ on an even number of vertices admits a partition of its vertex set into two parts of equal size in which $n - o(n)$ vertices have more neighbours on their own side than across. This settles an old conjecture of Füredi from 1988, which also appears as Problem 91 in Green's list of 100 open problems. This is joint work with Asaf Ferber, Matthew Kwan, Bhargav Narayanan and Ashwin Sah.