
PÉTER CSIKVÁRI, Eötvös Loránd University

Evaluations of Tutte polynomials of large girth regular graphs

In this talk we study Tutte polynomials of regular graphs. Let $T_G(x, y)$ be the Tutte polynomial of a graph G with $v(G)$ vertices. Let $(G_n)_n$ be a sequence of d -regular graphs with girth $g(G_n) \rightarrow \infty$. (Girth is the length of the shortest cycle.) We determine the limit

$$\lim_{n \rightarrow \infty} T_{G_n}(x, y)^{1/v(G_n)}$$

for $0 \leq y \leq 1$ and $x \geq 1$. In particular, we determine the limit value for the number of spanning forests (the value of $T_G(2, 1)$) and for the number of acyclic orientations (the value of $T_G(2, 0)$). Joint work with Ferenc Bencs.