

Asymptotic enumeration of Latin rectangles via random graphs

Nick Wormald

Monash University

Asymptotic formulae for the number of k by n Latin rectangles were obtained in a series of results, first by Riordan in 1946, with successive improvements in the value of k . The series culminated 30 years ago with the result of Godsil and McKay that applies for $k \ll n^{6/7}$. We obtain a further improvement. Our method considers appropriate random graphs and uses a recently discovered method of asymptotic enumeration of graphs with given degree sequence. This is joint work with Kevin Leckey and Anita Liebenau.