1113-05-105 **David Galvin***, Department of Mathematics, University of Notre Dame, Notre Dame, IN 46556.

Asymptotic normality of restricted Stirling numbers.

Harper showed that the Stirling numbers of the second kind exhibit asymptotic normality — the distribution of the number of classes in a uniformly chosen equivalence relation on $[n]$, appropriately normalized, approaches the standard normal as n grows.

Here we extend Harper's setting, considering equivalence relations that respect certain pair-restrictions. We encode the set of restrictions in a graph on vertex set $[n]$, with an edge between two vertices indicating that the corresponding two elements cannot be in the same class as each other. We extend Harper's result by exhibiting a class of restriction graphs, that includes all forests, for which asymptotic normality of the (now restricted) Stirling numbers continues to hold.

Our proof uses some of Harper's ideas, but takes a surprising detour into various old and new combinatorial approaches to the normal order problem for the Weyl algebra. (Received August 13, 2015)