

1143-05-544

Adam Logan (adam.m.logan@gmail.com), **Michael Molloy*** (molloy@cs.toronto.edu) and
Pawel Pralat (pralat@ryerson.ca). *A random graph process.*

We introduce a new variation on the Erdos-Renyi random graph process. We begin with n vertices and label k of them as special. We will construct a graph in which no component contains two special vertices. We repeatedly select a uniformly random edge, without replacement, and add it to the graph iff it does not join two components that each contain a special vertex. We run the process until there are exactly k components.

The main question we consider is whether one of the components will contain almost all of the vertices. It turns out that if k is smaller than roughly $n^{1/3}$ then w.h.p. the largest component will have $n - o(n)$ vertices, while if k is larger than roughly $n^{1/3}$ then the largest component will have $o(n)$ vertices. (Received August 21, 2018)