

1021-05-215

Kevin P Costello* (kcostell@math.rutgers.edu), Department of Mathematics - Hill Center, Rutgers, The State University of New Jersey, 110 Frelinghuysen Rd., Piscataway, NJ 08854, and **Van H Vu** (vanvu@math.rutgers.edu), Department of Mathematics - Hill Center, Rutgers, The State University of New Jersey, 110 Frelinghuysen Rd., Piscataway, NJ 08854. *The Rank of Random Graphs.*

We consider the adjacency matrix of a random graph, and in particular the following two questions:

1. Is the matrix almost surely (non)-singular?
2. If the matrix is singular, how close will it likely be to full rank?

We will discuss answers to the two questions for the Erdős-Rényi graph $G(n, p)$ with edge probability in the range $\frac{\ln n}{2n} < p < \frac{1}{2}$, as well as some conjectured answers for the case of random regular graphs. (Received September 06, 2006)