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Han Huang* (sthhan@umich.edu) and **Mark Rudelson**. *The size of Nodal Domain for an Erdős–Rényi Graph.*

Let A be the adjacency matrix of an Erdős–Rényi graph $G(n, p)$. A Nodal Domain D corresponding to an eigenvector $u=(u(1), \dots, u(n))$ of A is a maximal connected subgraph of $G(n, p)$ such $\text{sign}[u(i)]=\text{sign}[u(j)]$ whenever i, j lies in D . It was shown by Dekel, Lee and Linial that with high probability there are only two nodal domains. In this talk, we would like to show these two nodal domains have roughly the same size $n/2$. Based on a joint work with Mark Rudelson. (Received August 19, 2018)