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Kyle Luh* (kluh@cmsa.fas.harvard.edu), 20 Garden St., Cambridge, MA 02138. *Eigenvalue Gaps in Sparse Random Matrices.*

We discuss some recent developments in the smallest gap size of sparse random matrices. As an example, we show that the eigenvalues of the adjacency matrix of sparse Erdős-Rényi graphs are distinct. We also obtain quantitative tail bounds on the gap sizes. One consequence is that for sparse random graphs weak and strong nodal domains are the same, answering a question of Dekel, Lee and Linial. This is joint work with Van Vu and Patrick Lopatto. (Received September 14, 2019)