

1077-05-2756

Fan Chung* (fan@ucsd.edu), 9500 Gilman Drive, La Jolla, CA 92093. *From random graphs to graph limits and graphlets*. Preliminary report.

We will discuss recent developments in the probabilistic and spectral approaches for graph limits. In particular, we will extend the notion of quasi-randomness, which concerns a class of equivalent properties that random graphs satisfy. For example, we will give several necessary and sufficient conditions for a graph to be the union of two or more quasi-random graphs. One of these characterizations involves eigenvalues and scalable eigenspaces, that we call "graphslets", which dictate the behavior of graph limits for both dense and sparse graphs. (Received September 22, 2011)