

Extremal density for sparse minors and subdivisions

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Abstract: We prove an asymptotically tight bound on the extremal density guaranteeing subdivisions of bounded-degree bipartite graphs with a separability condition. As corollaries, we answered several questions of Reed and Wood on embedding sparse minors. In particular, we prove that a graph with average degree $(3/2 + o(1))t$ contains every t -vertex planar graph as a minor and this constant $3/2$ is best possible. This is joint work with John Haslegrave and Hong Liu.