

## Characterizing Almost-planar Graphs

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A non-planar graph  $G$  is *almost-planar* if  $G \setminus e$  or  $G/e$  is planar for all edges  $e \in E(G)$ . This class of graphs is minor-closed so by the results of Robertson and Seymour in their Graph Minors project, the class can be described by a finite set of forbidden minors. Gubser provided a characterization of the 3-connected graphs in this class (*Combinatorics, Probability, and Computing*, 1996). In this talk, we prove a forbidden minor characterization for all almost-planar graphs. This work is joint with Emily Marshall and Guoli Ding.

Keywords: graphs, almost-planar, graph minors