A Characterization of Near Outer-Planar Graphs
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This talk focuses on graphs containing an edge whose removal results in an outer-planar graph. We present partial results towards the larger goal of describing the class of all such graphs by presenting the complete list XNOP of minimal graphs not in the class. This minimality is defined in terms of a modified topological minor relation, so that the elements of XNOP do not have vertices of degree two. We prove that no member of XNOP contains a subdivision of a five-spoke wheel, and give complete description of the members of XNOP that are not planar, or are not 2-connected, or do not contain a subdivision of a three-spoke wheel.

Keywords: outer-planar, near outer-planar, domination, excluded domination minor, wheel