Binucci, Carla; Didimo, Walter; Patrignani, Maurizio

Summary: Mixed graphs have both directed and undirected edges and have received considerable attention in the literature. We study two upward planarity testing problems for embedded mixed graphs, give some NP-hardness results, and describe integer linear programming techniques to solve them. Experiments show the efficiency of our approach.

MSC:
68R10 Graph theory (including graph drawing) in computer science
05C85 Graph algorithms (graph-theoretic aspects)
68Q17 Computational difficulty of problems (lower bounds, completeness, difficulty of approximation, etc.)
90C10 Integer programming

Keywords:
graph drawing; mixed graphs; upward planarity; quasi-upward planarity

Full Text: DOI

References:
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