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The structure of 1-planar graphs. (English) Zbl 1111.05026
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Summary: A graph is called 1-planar if it can be drawn in the plane so that each of its edges is crossed by at most one other edge. In the paper, we study the existence of subgraphs of bounded degrees in 1-planar graphs. It is shown that each 1-planar graph contains a vertex of degree at most 7; we also prove that each 3-connected 1-planar graph contains an edge with both endvertices of degree at most 20, and we present similar results concerning bigger structures in 1-planar graphs with additional constraints.

MSC:

05C10 Planar graphs; geometric and topological aspects of graph theory

Cited in **2** Reviews
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Keywords:

light graph; crossing

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