

**Jendrol', Stanislav; Madaras, Tomáš**

**On light subgraphs in plane graphs of minimum degree five.** (English) Zbl 0877.05050

Discuss. Math., Graph Theory 16, No. 2, 207-217 (1996).

Summary: A subgraph of a plane graph is light if the sum of the degrees of the vertices of the subgraph in the graph is small. It is well known that a plane graph of minimum degree five contains light edges and light triangles. In this paper we show that every plane graph of minimum degree five contains also light stars  $K_{1,3}$  and  $K_{1,4}$  and a light 4-path  $P_4$ . The results obtained for  $K_{1,3}$  and  $P_4$  are best possible.

**MSC:**

05C75 Structural characterization of families of graphs

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

52B10 Three-dimensional polytopes

Cited in **11** Reviews  
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**Keywords:**

triangulation; plane graph; subgraph; stars

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