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*Subgraphs of minimal degree  $k$ .* (In English)

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For  $k \geq 2$ , any graph  $G$  with  $n$  vertices and  $(k-1)(n-k+2) + \binom{k-2}{2}$  edges has a subgraph of minimum degree at least  $k$ ; however, this subgraph need not be proper. It is shown that if  $G$  has at least  $(k-1)(n-k+2) + \binom{k-2}{2} + 1$  edges, then there is a subgraph  $H$  of minimal degree  $k$  that has at most  $n - \sqrt{n}/\sqrt{6k^3}$  vertices. Also, conditions that insure the existence of smaller subgraphs of minimum degree  $k$  are given.

Classification:

05C35 Extremal problems (graph theory)

Keywords:

subgraph of minimum degree