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On C_5 -saturated graphs with minimum size. (English) Zbl 0897.05050

Congr. Numerantium 112, 45-48 (1995).

Summary: A graph is C_5 -free if it does not contain a 5-cycle. A C_5 -free graph is C_5 -saturated if adding any edge creates a 5-cycle. Let $\text{sat}(C_5, n)$ be the minimum number of edges of an n -node C_5 -saturated graph. *Zs. Tuza* [*Acta Univ. Carol., Math. Phys.* 30, No. 2, 161-167 (1989; [Zbl 0719.05040](#))] speculated that $\text{sat}(C_5, n) = \frac{3}{2}n + O(1)$. We find $\text{sat}(C_5, n)$ for $n \leq 13$ and show that $\text{sat}(C_5, n) \leq \lceil 10(n-1)/7 \rceil$ for all $n \neq 4$.

MSC:

[05C35](#) Extremal problems in graph theory

Cited in **2** Documents

Keywords:

saturated graphs; minimum size