Cycle-saturated graphs with minimum number of edges.

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(Joint work with Zoltán Füredi)

Abstract

A graph $G$ is called $F$-saturated if it does not contain any copy of $F$, but for any edge $e$ in the complement of $G$ the graph $G + e$ contains some $F$. The minimum size of an $n$-vertex $F$-saturated graph is denoted by $sat(n, F)$. We give almost exact asymptotics for $sat(n, C_k)$ as $k$ is fixed and $n \to \infty$ where $C_k$ is a cycle with length $k$. 

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