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ON TREES AS STAR COMPLEMENTS IN REGULAR GRAPHS

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Abstract

Let G be a connected r-regular graph ($r > 3$) of order n with a tree of order t as a star complement for an eigenvalue $\mu \notin \{-1, 0\}$. It is shown that $n \leq \frac{1}{2}(r+1)t - 2$. Equality holds when G is the complement of the Clebsch graph (with $\mu = 1$, $r = 5$, $t = 6$, $n = 16$).

Keywords: eigenvalue, regular graph, star complement, tree.

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