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On cycle-complete graph Ramsey numbers. (In English)

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Given graphs G_1 and G_2 , there exists an integer r such that if q is any integer greater than or equal to r, if E_1, E_2 is any partition of the edge set of K_q (the complete graph on q vertices) and if H_1 and H_2 are the subgraphs of K_q with these edge sets, then either H_1 contains a subgraph isomorphic to G_1 or H_2 contains a subgraph isomorphic to G_2 . The Ramsey number $r(G_1, G_2)$ is the smallest integer with the obove property. In this paper the authors consider the case where G_1 is C_m , a circuit of length m, and G_2 is K_n . The main result is: for all $m \geq 3$ and $n \geq 2$, $r(C_m, K_n) \leq \{(m-2)(n^{1/k}+2)+1\}(n-1)$, where $\{x\}$ denotes the least inter $\geq x$ and k denotes the integer part of (m-1)/2. Additional results are given for special values of m or n.

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Classification:

05C55 Generalized Ramsey theory