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Burr, Stefan A.; Erdős, Paul; Faudree, Ralph J.; Rousseau, C.C.; Schelp, R.H.

*Ramsey numbers for the pair sparse graph-path or cycle.* (In English)

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Let  $G$  be a connected graph on  $n$  vertices with no more than  $n(1+\epsilon)$  edges, and  $P_k$  or  $C_k$  a path or cycle with  $k$  vertices. In this paper we will show that if  $n$  is sufficiently large and  $\epsilon$  is sufficiently small then for  $k$  odd  $r(G, C_k) = 2n - 1$ . Also, for  $k \geq 2$ ,  $r(G, P_k) = \max\{n + \lfloor k/2 \rfloor - 1, n + k - 2 - \alpha' - \delta\}$ , where  $\alpha'$  is the independence number of an appropriate subgraph of  $G$  and  $\delta$  is 0 or 1 depending upon  $n, k$  and  $\alpha'$ .

Classification:

05C55 Generalized Ramsey theory

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Ramsey numbers; independence number