RAINBOW CYCLES IN CUBE GRAPHS

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A graph G is called rainbow with respect to an edge coloring if no two edges of G have the same color. Given a host graph H and a guest graph $G \subseteq H$, an edge coloring of H is called G-anti-Ramsey if no subgraph of H isomorphic to G is rainbow. The anti-Ramsey number $f(H,G)$ is the maximum number of colors for which there is a G-anti-Ramsey edge coloring of H. We consider cube graphs Q_n as host graphs and cycles C_k as guest graphs. We prove some general bounds for $f(Q_n, C_k)$ and give the exact values for $n \leq 4$.

Keywords: edge coloring, rainbow coloring, anti-Ramsey coloring, hypercube.

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References

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