0.1 Abstract

$Q$-perfect graphs were introduced by Lovász in 1983. $Q$-perfection extends the notion of perfection. A graph $G$ is called $q$-perfect if there exists for every induced subgraph $G'$ a clique cover $\mathcal{C} = (C_1, C_2, ..., C_k)$ of $G'$ and $q$ disjoint stable sets $S_1, S_2, ..., S_q$ of $G'$, each stable set representing a color 1, 2, ..., $q$, such that $\min(|C_i|, q)$ vertices of each clique are colored. Notice that for $q = 1$ we obtain the perfect graphs. Since June 2002 the graphs which are perfect are fully characterized by means of forbidden induced subgraphs. For $q \neq 1$ the characterization remains an open problem.