

The Duchet conjecture

ABSTRACT

In this paper, we investigate a conjecture of Duchet that $r(G) \leq h(G)+1$, where $r(G)$ is the Radon number and $h(G)$ is the Hadwiger number of a graph G . In this paper, we give a class of counter examples for which $rg(G) = h(G)+2$, where $rg(G)$ is the Radon number for the g -convexity structure. On the positive side, we prove the conjecture for some special classes of graphs like cycles and chordal graphs.

Keyword: Duchet conjecture; Graphs; Hadwiger number; Radon number