CHARACTERIZATIONS OF SOME PERFECT GRAPHS

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Given two types of graph theoretical parameters $\rho$ and $\sigma$, we say that a graph $G$ is ($\sigma - \rho$)-perfect if $\sigma(H) = \rho(H)$ for every non-trivial connected induced subgraph $H$ of $G$. In this talk we characterize ($\gamma_w - \tau$)-perfect graphs, ($\gamma_w - \alpha'$)-perfect graphs, and ($\alpha' - \tau$)-perfect graphs, where $\gamma_w(G)$, $\tau(G)$ and $\alpha'(G)$ denote the weakly connected domination number, the vertex cover number and the matching number of $G$, respectively. Moreover, we give conditions on a graph to have equalities between these three parameters.

Keywords: perfect graphs, weakly connected domination, matching, vertex cover.

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