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Double vertex graphs. (In English)

Articles of (and about)

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Let G be a (V, E) graph of order $p \ge 2$. The double vertex graph $V_2(G)$ of G is the graph whose vertex set consists of all 2-subsets of V such that two distinct vertices $\{x,y\}$ and $\{u,v\}$ are adjacent if and only if $|\{x,y\} \cap \{u,v\}| = 1$ and if x = u, then y and v are adjacent in G. For this class of graphs we develop basic properties and study regular, eulerian, bipartite graphs, as well as general structural properties of these graphs.

Classification:

05C75 Structural characterization of types of graphs

05C45 Eulerian and Hamiltonian graphs

05C40 Connectivity

Keywords:

regular graph; Eulerian graph; double vertex graph; bipartite graphs