

A Generalization of Line Graphs

Mohra Alqahtani, Western Michigan University

For a given graph G , a derived graph of G is a graph obtained from G by a graph operation of some type. The most familiar derived graphs are line graphs. The line graph $L(G)$ of a nonempty graph G has the set of edges in G as its vertex set and where two vertices of $L(G)$ are adjacent if the corresponding edges of G are adjacent. In this work, we describe another class of derived graphs, which is a generalization of line graphs, and report some recent results and problems on the structural properties of this class of generalized line graphs. This is joint work with Ping Zhang.

Keywords: derived graph, generalized line graph, graph structure.