

Some properties of the weak product of graphs on lattices

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Abstract

Some properties of the weak product of graphs on lattices are studied. We consider the weak product of the atom-based graphs, the incomparability graphs and the zero-divisor graphs of lattices. The number of edges in the weak product of such graphs is found. It is shown that the weak direct product of the atom-based graphs of two lattices L_1 and L_2 cannot be an induced subgraph of the atom-based graph of $L_1 \times L_2$.

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