Abstract

The total irregularity of a simple undirected graph $G = (V; E)$ is defined as $\text{irrt}(G) = \frac{1}{2} \sum_{u, v \in V(G)} |d_G(u) - d_G(v)|$, where $d_G(u)$ is the degree of the vertex $u$. In this paper we investigate the change of the total irregularity of graphs under various subdivision operations. Also, we present exact expressions and upper bounds on the total irregularity of different composite graphs such as the double graph, the extended double cover of a graph, the generalized thorn graph, several variants of subdivision corona graphs, and the hierarchical product graphs.

References

- M. Albertson. The irregularity of a graph. Ars Comb., 46.

Index Terms

Computer Science
Software Engineering
Keywords
irregularity of a graph  total irregularity of a graph  graph invariants  composite graphs