

A REDUCTION OF THE GRAPH RECONSTRUCTION CONJECTURE

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Abstract

A graph is said to be *reconstructible* if it is determined up to isomorphism from the collection of all its one-vertex deleted unlabeled subgraphs. Reconstruction Conjecture (RC) asserts that all graphs on at least three vertices are reconstructible. In this paper, we prove that interval-regular graphs and some new classes of graphs are reconstructible and show that RC is true if and only if all non-geodetic and non-interval-regular blocks G with $\text{diam}(G) = 2$ or $\text{diam}(G) = \text{diam}(\bar{G}) = 3$ are reconstructible.

Keywords: reconstruction, diameter, geodetic graph, interval-regular graph.

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