ISOMORPHISM ON IRREGULAR FUZZY GRAPHS

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Abstract

In this paper a weak isomorphism, co-weak isomorphism and isomorphism of neighbourly irregular fuzzy graphs and highly irregular fuzzy graphs are defined. Some results on order, size and degrees of the nodes between isomorphic neighbourly irregular and isomorphic highly irregular fuzzy graphs are discussed. Isomorphisms between neighborly irregular and highly irregular fuzzy graphs are proved to be an equivalence relation. Also it is proved that weak isomorphism and co-weak isomorphism between neighbourly irregular fuzzy graphs and highly irregular fuzzy graphs satisfy partial order relation.

Key Words: Neighbourly irregular fuzzy graph, Highly irregular fuzzy graph, Weak isomorphism, Co-weak isomorphism, Equivalence relation.

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