# Anti fuzzy line graphs

## ABSTRACT

In crisp graphs, if a graph G is given then we can define line graph L(G) of it. In a similar way, for a given fuzzy graph, we can determine its fuzzy line graph. A number of important results about fuzzy line graphs have been obtained. However, study of anti fuzzy line graphs is still open. Motivated by this, we are interested in studying anti fuzzy line graphs. In this paper, we define the concept of anti fuzzy line graphs. We derive a necessary and sufficient condition for an anti fuzzy graph to be isomorphic to its corresponding anti fuzzy line graph. We investigate when an isomorphism between two anti fuzzy graphs follows from an isomorphism of their corresponding anti fuzzy line graphs. We conjecture a necessary and sufficient condition for an anti fuzzy graph to be the anti fuzzy line graph of some anti fuzzy graph. In particular,we give some result related to regular anti fuzzy line graphs.