

## Degree of an edge and Platt number in signed networks

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### Abstract

Positive labelled edges play a vital role in network analysis. The degree of edges in signed graphs is introduced by giving importance to positive edges incident on the end vertices of that edge. The concept of Platt number of a graph, which is the sum of degrees of its edges, is extended to signed graphs based on the degree defined. Bounds of degree of an edge and Platt number in certain classes of signed graphs are determined. Some characterizations on Platt number of signed graphs are also established. A model to analyse social networks using degree of edges and Platt number is also proposed.

**Keywords:** Signed graph, positive edges, negative edges, networks, information diffusion, degree of an edge, Platt number

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