
Algebraic Graph-theoretic Measures of Conflict

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Résumé

In this talk, I present recent results on the measurement of conflict in signed social network. A signed social network is a network in which both positive and negative ties are present, for instance representing friendship and enmity, or trust and distrust. Such networks have long been studied under the aspect of balance theory, i.e., considering whether the individuals can be grouped into two groups, such that the sign of all ties reflects the partition, or equivalently in terms of the individual configuration of tryads. The failure of such a structure to be present in a signed social network is usually designated as conflict, and measuring the amount of conflict in a given signed social network is an open problem. In this work, I present a novel measure of conflict, based on algebraic graph theory, and considering a previously known variant of the Laplacian matrix for signed graphs. The talk will show both theoretical motivations for the measure, as well as an evaluation of its utility at signed social network analysis using multiple real-world signed social networks.

Article lié / related article : <http://arxiv.org/abs/1402.6865>

Fichier de présentation : <http://jgss.sciencesconf.org/conference/jgss/jkunegis.pdf>

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