Seminario 215

Facultad de CC. Matemáticas, UCM

# Seminario de Estadística e Investigación Operativa

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# "Tree, web and average web value for cycle-free directed graph games"

**Abstract:** On the class of cycle-free directed graph games with transferable utility solution concepts, called web values, are introduced axiomatically, each one with respect to some specific choice of a management team of the graph. We provide their explicit formula representation and simple recursive algorithms to calculate them. Additionally the efficiency and stability of web values are studied. Web values may be considered as natural extensions of the tree and sink values as has been defined correspondingly for rooted and sink forest graph games. In case the management team consists of all sources (sinks) in the graph a kind of tree (sink) value is obtained. In general, at a web value each player receives the worth of this player together with his subordinates minus the total worths of these subordinates. It implies that every coalition of players consisting of a player with all his subordinates receives precisely its worth. We also define the average web value as the average of web values over all management teams in the graph. As application the water distribution problem of a river with multiple sources, a delta and possibly islands is considered.

Jueves, 24 de noviembre de 2011, 12:00 horas
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