

A Characterization of the Myerson and Position Values in Communication Situations

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ABSTRACT

In this work we consider communication situations (N,v,G) where (N,v) is a cooperative game and (N,G) is a graph which represents the possible communications between pairs of players.

Two allocation rules for communication situations widely referred in the literature are the Myerson Value and the Position Value.

Myerson (1977) was the first in analyzing communication situations. He introduced graph-restricted games and characterized the Shapley value in these games, the so-called Myerson value. Owen (1986) also studied communication situations for the case in which the graph is a tree. Meessen (1988) introduced another value, the position value, which was axiomatically characterized by Borm et al. (1992) in the case of graphs without cycles. They also gave a parallel axiomatization of the Myerson value.

In this work we propose two parallel characterizations for the Myerson value and position value. They are valid for general communication situations. The only restriction is that, in the case of the position value, the game must be zero-normalized.

References:

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