

博士论坛

基于Markov随机过程的动态合作博弈的模糊稳定集

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摘要 利用模糊数学相关理论, 对具有可转移效用的动态合作博弈的区间模糊稳定集进行了研究。首先利用Markov随机过程对动态合作联盟的结构转移进行描述, 并考虑到支付函数是三角模糊数的情形, 构造了在不同置信度 α 下的合作博弈的截集取值区域, 进而结合动态联盟状态转移矩阵计算出不同时刻点的区间模糊稳定集。考虑到盟友在合作结束后需要对具体的联盟收益进行分配, 利用构造的区间模糊稳定集给出了盟友可行的收益分配势值区间。最后利用实例对该方法的有效性和可行性进行了说明。

关键词 [Markov随机过程](#) [动态合作博弈](#) [区间模糊稳定集](#)

分类号

Fuzzy stable set of dynamic cooperative games based on Markov stochastic processes

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Abstract

This paper researches the interval-valued fuzzy stable set of cooperative games based on TU dynamic alliance with relevant theory of fuzzy mathematics. At first, the structure transfer processes of dynamic cooperative alliance is described by using Markov stochastic processes. And then, the cut sets interval value is constructed based on different confidence α with the fuzzy characteristic of trigonometric payoff functions. Consequently at different moments, the interval-valued fuzzy stable set can be calculated with the help of transition matrix of dynamic alliance. Considered that the concrete benefit distribution can be realized at the end of cooperation, an interval potential value of payoff based on constructed interval-valued fuzzy stable set is proposed. Eventually, a practical example is provided to illustrate the validity and feasibility of this method.

Key words [Markov stochastic processes](#) [dynamic cooperative games](#) [interval-valued fuzzy stable set](#)

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