

## 广义不确定性下广义博弈中NS均衡的存在性

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## Existence of NS Equilibrium Points in Generalized Games Under Generalized Uncertainty

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**摘要** 把不确定性引入广义博弈的研究之中,在此博弈中,局中人策略之间存在相互影响,局中人的策略可以改变不确定参数的变化范围,而且局中人的支付函数和策略可行反应映射都受到不确定参数的作用,此类型博弈定义为广义不确定性下的广义博弈问题。进一步定义出此类型博弈中的NS均衡,并且凭借Fan-Glicksberg不动点定理,证明此均衡点的存在性。最后给出算例验证其可行性。

**关键词:** 广义博弈 广义不确定性 NS均衡 存在性

**Abstract:** Uncertainty is introduced in generalized games in this paper. In the game, people's strategies are characterized on each other, and can change the uncertain parameter variation range. What's more, payoff functions and feasible mappings of strategy are affected by uncertain parameters. This kind of game is defined by generalized games under generalized uncertainty. Further, NS equilibrium points in generalized games under generalized uncertainty are defined, and the existence theorem of NS equilibrium points is proved by mean of Fan-Glicksberg fixed point theorem. Finally, a numeric example is given to demonstrate the feasibility.

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