

### 基于后悔理论的多目标灰靶决策方法

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### Multi-objective grey target decision model based on regret theory

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摘要 图/表 参考文献(22) 相关文章(15)

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#### 摘要

针对属性值为区间灰数、权重信息不确定的多目标决策问题, 考虑决策者的心理行为, 提出一种基于后悔理论的多目标灰靶决策方法. 首先构造基于正负理想点的欣喜-后悔值函数, 建立正负靶心, 同时考虑方案与正负理想方案的接近性, 利用正负靶心距的空间投影距离构造一种新的靶心距函数, 并构建非线性优化模型来确定目标权重, 最终确定出方案的排序. 最后以城市应急实例验证了所提出方法的有效性和可行性.

关键词: 后悔理论, 灰靶决策, 区间灰数, 正负靶心, 综合靶心距

#### Abstract:

A multi-objective grey target decision model based on the regret theory is proposed for dealing with the decision problem when considering the psychological behavior of the decision makers, where the attribute values are interval grey numbers and the attribute weights are unknown. Firstly, the rejoice-regret value function based on the positive and negative ideal solution is constructed and the positive and negative ideal bull's eyes are obtained. A new comprehensive target-eyes distance is proposed by the proximity between the different situations to the positive and negative clouts. A non-linear optimization model is constructed to solve the optimal objective weights. Finally, an example of the city emergency instance is given to illustrate the effectiveness and practicality of the proposed model.

Key words: regret theory grey target decision interval grey number positive and negative clouts comprehensive target-eyes distance.

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