

# 双论域上模糊关系的双量化粗糙集研究

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摘 要: 针对  $U$  到  $V$  型双论域双量化粗糙集模型不能处理模糊数据的不足, 本文引入  $U$  到  $V$  上二元模糊关系, 构造了  $U$  到  $V$  型基于模糊关系的双论域双量化“逻辑与”粗糙集模型, 并对其模型结构和数学特性进行了深入研究, 得到了在模糊关系下模型和性质的一些结论. 该模型使得双论域双量化粗糙集理论具有更广泛的应用领域, 为进一步揭示双论域双量化粗糙集模型的应用研究提供了理论依据.

关键词: 双论域; 变精度粗糙集; 程度粗糙集; 模糊关系; 逻辑与; 双量化

## Research on dual-quantization rough set of fuzzy relation over two universes

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Abstract: Aiming at the problem that  $U$ - $V$  dual-domain dual-quantization rough set model can't deal with fuzzy data, this paper introduces a binary fuzzy relation from  $U$  to  $V$  and constructs the  $U$ - $V$  dual-domain dual-quantization logical conjunction rough set model based on the binary fuzzy relation. By deeply studying of the model structure and mathematical characteristics, we have obtained some conclusions about the model and properties. This model makes the dual-domain dual-quantization rough set theory have a wider application field, which provides a theoretical basis for further revealing the application research of the dual-domain dual-quantization rough set model.

Key words: two universes; variable precision rough set; graded rough set; fuzzy relation; logical conjunction; dual-quantization

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