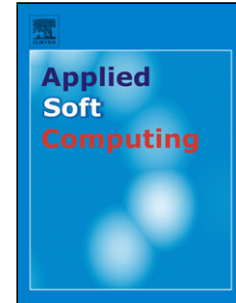


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Multi-criteria group decision-making based on quasi-order for dual hesitant fuzzy sets and professional degrees of decision makers

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Highlights

- A novel multi-criteria group decision-making approach is proposed in this manuscript under dual hesitant fuzzy information. The approach is used to solve the rural land conversion problem in China.
- The professional degrees of decision makers are considered in the process of decision-making. Several professional degree measures are proposed in this manuscript.
- We propose the quasi-order for dual hesitant fuzzy sets to distinguish different dual hesitant fuzzy information effectively.

Abstract

Dual hesitant fuzzy set (DHFS) is a useful tool that can assist the decision makers (DMs) to express their evaluation information more flexibly from two contrary points of view, which are the membership degrees and the non-membership degrees. In this paper, we mainly focus on the quasi-order for DHFSs and the professional degrees of the DMs in multi-criteria group decision-making (MCGDM) under dual hesitant fuzzy information. First, we define a quasi-order for DHFSs based on pairwise comparisons. The quasi-order could distinguish two different DHFSs more clearly and

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