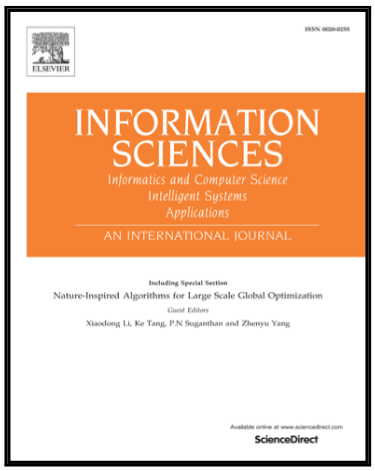

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Multicriteria decision making based on the TOPSIS method and similarity measures between intuitionistic fuzzy values

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Abstract

Multicriteria decision making (MCDM) in intuitionistic fuzzy environments is a very important research topic. In this paper, we propose a new MCDM method based on the TOPSIS method and similarity measures between intuitionistic fuzzy values (IFVs). First, the proposed method calculates the degree of indeterminacy of each evaluating IFV given by the decision maker. Then, it gets the relative positive ideal solution and the relative negative ideal solution for the criteria, respectively. Then, it calculates the degrees of indeterminacy of the relative positive ideal value and the relative negative ideal value for each criterion, respectively. Then, it calculates the positive similarity degrees and the negative similarity degrees between the evaluating IFVs and the relative positive ideal solutions and the relative negative ideal solutions