

عنوان مقاله:

Consistency fuzzy cross entropy based VIKOR approach for multi-criteria decision making

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خلاصه مقاله:

The primary aim of the notion of consistency fuzzy set (CFS) is to model the uncertain information given in a fuzzy multi environment and so to obtain meaningful data from the fuzzy multi-sets and to present this data in a compact form via some statistical tools. The data collected by fuzzy multi-sets are processed via CFSs and a sort of data science is done in the fuzzy environment. In this paper, we present a cross entropy measure and a sine entropy measure between CFSs to contribute to processing and modeling of data obtained by statistical methods. Also, we construct a new VlseKriterijumska Optimizacija I Kompromisno Resenje (VIKOR) method by using CFSs that is called CF-VIKOR to carry out decision process in multi-criteria decision making. We apply the proposed method to a multi-criteria decision making problem from the literature and give a comparison analysis between the obtained results and the existing results in literature. Finally, by using the Spearman's and Kendall's rank correlation coefficient measures and Wang and Triantaphyllou validity test we show the efficiency and rationality of the proposed CF-VIKOR method

کلمات کلیدی:

Consistency fuzzy set, fuzzy cross entropy measure, fuzzy sine entropy measure, VIKOR method, Multi-criteria Decision Making

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