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Multi-Criteria Evaluation for the Selection Process of a Wind Power Plant's Location Using Choquet Integral

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Abstract : The objective of the present study is to select the most suitable location for a wind power plant station through Choquet integral method. The problem of selecting the location for a wind power station was considered as a multi-criteria decision-making problem. The essential and sub-criteria were specified and location selection was expressed in a hierarchic structure. Among the main criteria taken into account in this paper are wind potential, technical factors, social factors, transportation, and costs. The problem was solved by using different approaches of Choquet integral and the best location for a wind power station was determined. Then, the priority weights obtained from different Choquet integral approaches are compared and commented on.

Keywords : multi-criteria decision making, choquet integral, fuzzy sets, location of a wind power plant
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