

Article Abstract

Title:	Fuzzy comprehensive evaluation method of F statistics weighting in identifying mine water inrush source
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Abstract:	In order to rapidly identify the source of water inrush in coal mine, and provide the theoretical basis for mine water damage prevention and control, fuzzy comprehensive evaluation model was established. The F statistics of water samples was normalized as the weight of fuzzy comprehensive evaluation for determining the source of water inrush in coal mine. The determination result of F statistics weighting method to 47 water samples was compared with that of over standard weighting method, and the former accuracy rate is 93.6%, the later accuracy rate is 74.5%. The result shows that F statistics reflects the identification ability of various indicators with higher accuracy than the common over standard weighting method. F statistics weighting method allocates weights according to the distinguish abilities of the evaluation factors, being more suitable for seeking an objective evaluation and discrimination from the differences of the statistical samples themselves.
Keywords:	F statistics, fuzzy comprehensive evaluation, water inrush source, coal mine