Liu, Baoding
A survey of credibility theory. (English) ‖Zbl 1133.90426‖
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Summary: This paper provides a survey of credibility theory that is a new branch of mathematics for studying the behavior of fuzzy phenomena. Some basic concepts and fundamental theorems are introduced, including credibility measure, fuzzy variable, membership function, credibility distribution, expected value, variance, critical value, entropy, distance, credibility subadditivity theorem, credibility extension theorem, credibility semicontinuity law, product credibility theorem, and credibility inversion theorem. Recent developments and applications of credibility theory are summarized. A new idea on chance space and hybrid variable is also documented.

MSC:

90C70	Fuzzy and other nonstochastic uncertainty mathematical programming
03E72	Theory of fuzzy sets, etc.
60A05	Axioms; other general questions in probability
62A01	Foundations and philosophical topics in statistics
68T37	Reasoning under uncertainty in the context of artificial intelligence

Cited in **84** Documents

Keywords:

Fuzzy variable; Credibility measure; Credibility theory; Fuzzy random variable; Random fuzzy variable; Conditional credibility

Full Text: DOI

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