An Axiomatic Approach to Constructing an Applied Theory of Possibility

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Abstract : The fundamental difference between randomness and vagueness is that the former requires statistical research. These issues were studied by Zadeh L, Dubois D., Prad A. The theory of possibility works with expert assessments, hypotheses, etc. gives an idea of the characteristics of the problem situation, the nature of the goals and real limitations. Possibility theory examines experiments that are not repeated. The article discusses issues related to the formalization of a fuzzy, uncertain idea of reality. The author proposes to expand the classical model of the theory of possibilities by introducing a measure of necessity. The proposed model of the theory of possibilities allows us to extend the measures of possibility and necessity onto a Boolean while preserving the properties of the measure. Thus, upper and lower estimates are obtained to describe the fact that the event will occur. Knowledge of the patterns that govern mass random, uncertain, fuzzy events allows us to predict how these events will proceed. The article proposed for publication quite fully reveals the essence of the construction and use of the theory of probability and the theory of possibility.

Keywords : possibility, artificial, modeling, axiomatics, intellectual approach
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