

A General Representation of Updating Capacities and Möbius Transform

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Abstract

Several updating methods for Choquet capacities are characterized by a unified approach, called *the G-updating rule*. The main axiom to characterize the rule implies the existence of a consistent counterfactual act for every certainty-equivalent binary act. The characterization forms the foundation of a class of update rules for capacities, including the full Bayesian update rule by Jaffray (1992). It is also shown that the Möbius transforms clarify some properties of updating capacities, especially generalized neo-additive capacities proposed by Eichberger, Grant, and Lefort (2012), which equate the core of the updated capacity and the set of belief-by-belief updated probabilities via the Bayes' rule.