

## Multiplication, Distributivity and Fuzzy-integral I

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*Abstract:* The main purpose is the introduction of an integral which covers most of the recent integrals which use fuzzy measures instead of measures. Before we give our framework for a fuzzy integral we motivate and present in a first part structure- and representation theorems for generalized additions and generalized multiplications which are connected by a strong and a weak distributivity law, respectively.

*Keywords:* fuzzy measures; distributivity law; restricted domain; pseudo-addition; pseudo-multiplication; Choquet integral; Sugeno integral;

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