Recent results on conservative and symmetric n-ary semigroups

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(joint work with Jimmy Devillet and Jean-Luc Marichal)

We investigate associative, conservative, nondecreasing, symmetric n-ary operations $F : X^n \to X$. We give a characterization of such functions, where X is a totally ordered set. Particularly, we deal with the case when F has a neutral element. This generalizes the description of n-ary uninorms given in [2] for intervals. We show that associativity can be replaced with bisymmetry in the definition of this class for arbitrary set.

References

1. J. Devillet, G. Kiss, J-L. Marichal, Characterizations of quasitrivial symmetric nondecreasing associative operations, in preparation.
2. G. Kiss, G. Somlai, A characterization of n-associative, monotone, idempotent functions on an interval that have neutral elements. Accepted in *Semigroup Forum*. arXiv:1609.00279