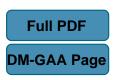
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DISTRIBUTIVE DIFFERENTIAL MODALS

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Abstract

A differential modal is an algebra with two binary operations such that one of the reducts is a differential groupoid and the other is a semilattice, and with the groupoid operation distributing over the semilattice operation. The aim of this paper is to show that the varieties of entropic and distributive differential modals coincide, and to describe the lattice of varieties of entropic differential modals.

Keywords: differential groupoid, mode, modal.

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References

- [1] K.A. Kearnes, Semilattice modes I: the associated semiring, Algebra Universalis **34** (1995), 220–272.
- [2] A. Romanowska, On some representations of groupoid modes satisfying the reduction law, Demonstratio Mathematica 21 (1988), 943–960.
- [3] A. Romanowska and B. Roszkowska, On some groupoid modes, Demonstratio Mathematica **20** (1987), 277–290.

- [4] A. Romanowska and B. Roszkowska, Representations of n-cyclic groupoids, Algebra Universalis 26 (1989), 7–15.
- [5] A.B. Romanowska and J.D.H. Smith, Modes, World Scientific, Singapore 2002.
- [6] A.B. Romanowska and J.D.H. Smith, Modal Theory an Algebraic Approach to Order, Geometry and Convexity, Heldermann Verlag, Berlin 1985.
- [7] A.B. Romanowska and J.D.H. Smith, *Differential groupoids*, Contribution to General Algebra 7 (1991), 283–290.

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