

New Results for Algebraic Lattices

Wieslaw Dziobiak (University of Puerto Rico, USA)

Abstract

Algebraic lattices with complete lattice homomorphisms as morphisms form a category. On the other hand, join semilattices with join preserving homomorphisms $f: S \rightarrow S'$ which satisfy the following condition also form a category:

For each $a \in S$, if $f(a) \leq b \vee c$ then there are $d, e \in S$ such that $a \leq d \vee e$ and $\{f(d), f(e)\}$ refines $\{b, c\}$ in terms of the partial order of S' .

The two categories are dually equivalent in the Category Theory sense. The goal of the talk is to show some benefits of this duality for Lattice Theory, mostly for algebraic lattices.