

Liftings of distributive lattices

Pavel Růžička

Contact: ruzicka@karlin.mff.cuni.cz, Charles university

Abstract: We study representations of distributive join-semilattices, by semilattices of finitely generated two-sided ideals of locally matricial algebras over a field, aiming to find a functorial solution of the problem. We find simple examples of subcategories of the category **bdLat** of bounded distributive lattices that cannot be lifted with respect to the Id_c functor (assigning to a ring the lattice of its two-sided ideals). On the other hand, we prove that there is such a lifting of every diagram in the category **bdLat** as well as the subcategory **bdLat*** of **bdLat** whose objects are bounded distributive lattices but all morphisms are one-to-one.