Families of generalized effect algebras

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Abstract

Unbounded versions of effect algebras (mutually equivalent) are studied by Foulis and Bennett (cones), Kalmbach and Riečanová (abelian RI-semigroups), Hedlíková and Pulmannová (cancelative positive partial abelian semigroups). Important families of these unbounded structures are generalized prelattice effect algebras, generalized MV-effect algebras, some commutative BCK-algebras and others. Some families of generalized effect algebras can be characterized by properties of their blocks, centers, compatibility centers, sets of all sharp elements and so on. Every generalized effect algebra can be embedded into an effect algebra as a proper ideal (with a special property). We study which algebraic properties are and which are not inherited by this embedding.