

Algebras for many-valued logic of quantum mechanics

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We involve an algebra satisfying similar axioms as MV-algebras except commutativity and associativity which turns out to be a lattice with an anti-tone involution. When it satisfies two more simple quasiidentities then every its commutative component is an MV-algebra and the additive idempotens form an orthomodular sublattice. Hence, it generalizes an MV-algebra to be an algebra for many-valued logic of quantum mechanics. We relate these algebras with lattice effect algebras and horizontal sums of MV-algebras.