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Lavinia Ciungu*, 1575 Foster Rd, Iowa City, IA 52245. *Monadic operators on quantum B-algebras.*

In this presentation we define the monadic quantum B-algebras and investigate their properties. Given a monadic quantum B-algebra (X, \exists, \forall) where the quantifiers are isotone, we show that (\exists, \forall) is a residuated pair. Moreover, \exists is a closure operator, while \forall is an interior operator on the poset $(X \leq)$. If one of the two quantifiers is surjective, then we prove that it is the identity map. Special properties are studied for the particular case of monadic quantum B-algebras with pseudo-product. The monadic filters of monadic quantum B-algebras are defined and their properties are studied. We prove that there is an isomorphism between the lattice of all filters of a monadic quantum B-algebra and the lattice of all filters of its subalgebra of fixed elements. Another main result consists of proving that there is a one-to-one correspondence between the set of all monadic operators on a monadic quantum B(pP)-algebra X and the set of all relative complete subalgebras of X , and also, there is a one-to-one correspondence between the set of all monadic operators on a strict monadic quantum B(pP)-algebra X and the set of all m -relative complete subalgebras of X . (Received February 11, 2020)