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STRONG QUASI k-IDEALS AND THE LATTICE DECOMPOSITIONS OF SEMIRINGS WITH SEMILATTICE ADDITIVE REDUCT

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Abstract

Here we introduce the notion of strong quasi k-ideals of a semiring in SL^+ and characterize the semirings that are distributive lattices of t-k-simple(t-k-Archimedean) subsemirings by their strong quasi k-ideals. A quasi k-ideal Q is strong if it is an intersection of a left k-ideal and a right k-ideal. A semiring S in SL^+ is a distributive lattice of t-k-simple semirings if and only if every strong quasi k-ideal is a completely semiprime k-ideal of S. Again S is a distributive lattice of t-k-Archimedean semirings if and only if $\sqrt{Q}$ is a k-ideal, for every strong quasi k-ideal Q of S.

Keywords: quasi k-ideal, strong quasi k-ideal, strong quasi k-simple, t-k-simple, t-k-Archimedean.

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