

On Commutative Prime Gamma Generalized Boolean Semirings

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Abstract : A Γ -generalized Boolean semiring (or simply Γ -GB-semiring) is a triple $(R, +, \Gamma)$ satisfying $(R, +)$ is an abelian group, and Γ is a nonempty finite set of binary operations satisfying the following properties: $a\alpha b \in R$ for all $a, b \in R$ and $\alpha \in \Gamma$, $a\alpha(b+c) = a\alpha b + a\alpha c$ for all $a, b, c \in R$ and $\alpha \in \Gamma$, $a\alpha(b\beta c) = (a\alpha b)\beta c = (b\alpha a)\beta c$ for all $a, b, c \in R$ and $\alpha, \beta \in \Gamma$, and $a\alpha(b\beta c) = a\beta(b\alpha c)$ for all $a, b, c \in R$ and $\alpha, \beta \in \Gamma$.

In this talk, we investigate the commutativity of a prime Γ -generalized Boolean semiring with certain conditions.

Keywords : Boolean semiring, semiring, commutative.

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