PSEUDOCOMPLEMENTS IN SUM-ORDERED PARTIAL SEMIRINGS

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Abstract

We study a particular way of introducing pseudocomplementation in ordered semigroups with zero, and characterise the class of those pseudocomplemented semigroups, termed g-semigroups here, that admit a Glivenko type theorem (the pseudocomplements form a Boolean algebra). Some further results are obtained for g-semirings — those sum-ordered partially additive semirings whose multiplicative part is a g-semigroup. In particular, we introduce the notion of a partial Stone semiring and show that several well-known elementary characteristics of Stone algebras have analogues for such semirings.

Keywords: Glivenko theorem, partial monoid, partial semiring, pseudocomplementation, semigroup, Stone semiring, sum-ordering.

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References


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