

Abstract

# On Closedness of Right(Left) Normal Bands and Left(Right) Quasinormal Bands

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**Abstract:** It is well known that all subvarieties of the variety of all semigroups are not absolutely closed. So, it is worth to find subvarieties of the variety of all semigroups that are closed in itself or closed in the containing varieties of semigroups. We have gone through this open problem and able to determine that the varieties of right [left] normal bands and left [right] quasinormal bands are closed in the varieties of semigroups defined by the identities  $axy = xa^ny$  [ $axy = ay^nx$ ],  $axy = x^nay$  [ $axy = ayx^n$ ] ( $n > 1$ ); and  $axy = ax^ny$  [ $axy = ayx^ny$ ] ( $n > 1$ ),  $axy = a^nxay$  [ $axy = ay^rxy^n$ ] ( $n, r \in \mathbb{N}$ ), respectively.

**Keywords:**

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