

1046-43-879

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Evergreen Dr, Sullican 114, Loretto, PA 15940. *Idempotent probability measures on a locally
compact semihypergroups.*

A semihypergroup is obtained by dropping the requirement of an involution and an identity element from the definition of a hypergroup. A regular semihypergroup is a hypergroup in which the algebraic property of involution is not required. An idempotent probability measure on a locally compact semigroup is supported by a completely simple semigroup and in a commutative case by a compact group. This result does not hold for semihypergroup in general. We give an example of an idempotent probability measure on a finite semihypergroup which is not supported by a completely simple semihypergroup. We show that under some mild conditions, the support of an idempotent probability measure is a compact simple semihypergroup. If further the support of an idempotent probability measure contains an idempotent element it will be a compact regular semihypergroup. (Received September 12, 2008)