

## ON $\Gamma$ -SEMIRING WITH IDENTITY

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### Abstract

In this paper we study the properties of structures of the semigroup  $(M, +)$  and the  $\Gamma$ -semigroup  $M$  of  $\Gamma$ -semiring  $M$  and regular  $\Gamma$ -semiring  $M$  satisfying the identity  $a + a\alpha b = a$  or  $a\alpha b + a = a$  or  $a + a\alpha b + b = a$  or  $a + 1 = 1$ , for all  $a \in M, \alpha \in \Gamma$ . We also study the properties of  $\Gamma$ -semiring with unity 1 which is also an additive identity.

**Keywords:**  $\Gamma$ -semigroup,  $\Gamma$ -semiring, regular  $\Gamma$ -semiring.

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