

## TRANSFORMATION SEMIGROUPS ASSOCIATED TO $\Gamma$ -SEMIGROUPS

DARIUSH HEIDARI

*Department of Mathematics, Najafabad Branch  
Islamic Azad University  
Najafabad, Isfahan, Iran*

**e-mail:** dheidari82@gmail.com

AND

MARZIEH AMOOSHAHI

*Department of Mathematics, Najafabad Branch  
Islamic Azad University  
Najafabad, Isfahan, Iran*

**e-mail:** mz.amooshahi@gmail.com

### Abstract

The concept of  $\Gamma$ -semigroups is a generalization of semigroups. In this paper, we associate two transformation semigroups to a  $\Gamma$ -semigroup and we call them the left and right transformation semigroups. We prove some relationships between the ideals of a  $\Gamma$ -semigroup and the ideals of its left and right transformation semigroups. Finally, we study some relationships between Green's equivalence relations of a  $\Gamma$ -semigroup and its left (right) transformation semigroup.

**Keywords:** transformation semigroup,  $\Gamma$ -semigroup, Green's relations.

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