

ON THE MAXIMAL SUBSEMIGROUPS
OF THE SEMIGROUP OF ALL
MONOTONE TRANSFORMATIONS

ILIYA GYUDZHENOV AND ILINKA DIMITROVA¹

South-West University "Neofit Rilski"
Faculty of Mathematics and Natural Science
2700 Blagoevgrad, Bulgaria

e-mail: iliadg@aix.swu.bg

e-mail: ilinka.dimitrova@yahoo.com

Abstract

In this paper we consider the semigroup M_n of all monotone transformations on the chain X_n under the operation of composition of transformations. First we give a presentation of the semigroup M_n and some propositions connected with its structure. Also, we give a description and some properties of the class \tilde{J}_{n-1} of all monotone transformations with rank $n - 1$. After that we characterize the maximal subsemigroups of the semigroup M_n and the subsemigroups of M_n which are maximal in \tilde{J}_{n-1} .

Keywords: transformation semigroup, maximal subsemigroups, idempotent, isotone, antitone and monotone transformations, Green's equivalences.

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