

On the (n, m) - semirings derived polynomially from infinite semidomains

ADINA POP and MARIA S. POP

ABSTRACT.

In the paper [Marichal, J.-L. and Mathonet, P., *A description of n -ary semigroups polynomial-derived from integral domains*, Semigroup Forum, **83** (2011), No. 2, 241–249] the authors provide a complete classification of the n -semigroups, defined by polynomial functions over infinite commutative integral domains with identity (i.e., the n -semigroup structures polynomial derived from integral domains). We remark that some results from that paper can be extended for the n -semigroups polynomial-derived defined over infinite semidomains with zerosumfree element. Furthermore, in this note we give a description of (n, m) - semiring structures defined by polynomial functions over such semidomains.

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
NORTH UNIVERSITY OF BAIA MARE
VICTORIEI 76, 430122 BAIA MARE, ROMANIA
E-mail address: adina.p_2006@yahoo.com
E-mail address: maria.sanziana@yahoo.com

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Corresponding author: Adina Pop; adina.p_2006@yahoo.com