



Ann. Funct. Anal. 5 (2014), no. 2, 53–60

ANNALS OF FUNCTIONAL ANALYSIS

ISSN: 2008-8752 (electronic)

URL: www.emis.de/journals/AFA/

CHARACTERIZATION OF EXPONENTIAL POLYNOMIALS ON COMMUTATIVE HYPERGROUPS

LÁSZLÓ SZÉKELYHIDI

This paper is dedicated to Professor Tsuyoshi Ando

Communicated by K. Ciesielski

ABSTRACT. Exponential monomials are the basic building bricks of spectral analysis and spectral synthesis on Abelian groups. Recently there have been some attempts to extend the most important spectral analysis and spectral synthesis results from groups to hypergroups. For this purpose it is necessary to introduce a reasonable concept of exponential monomials. In this work we reconsider this problem, and using a ring-theoretical approach we prove characterization theorems for particular function classes, which can be considered as "exponential monomials" on commutative hypergroups.

INSTITUTE OF MATHEMATICS, UNIVERSITY OF DEBRECEN, H-4010 DEBRECEN, PF 12.,
HUNGARY

DEPARTMENT OF MATHEMATICS, UNIVERSITY OF BOTSWANA, BOTSWANA.

E-mail address: lszekelyhidi@gmail.com

Date: Received: August 7, 2013; Accepted: November 2, 2013.

2010 Mathematics Subject Classification. Primary 20N20; Secondary 43A62, 39B99.

Key words and phrases. Hypergroup, spectral synthesis, exponential polynomial.