

Banach J. Math. Anal. 4 (2010), no. 2, 139–146

BANACH JOURNAL OF MATHEMATICAL ANALYSIS ISSN: 1735-8787 (electronic) www.emis.de/journals/BJMA/

EXPONENTIAL MONOMIALS ON STURM–LIOUVILLE HYPERGROUPS

LÁSZLÓ VAJDAY 1

Communicated by P. K. Sahoo

ABSTRACT. Using the concept of exponential monomial on Sturm–Liouville hypergroups we show that an important subclass of exponential monomials, the class of special exponential monomials has a linear independence property. The result can be reformulated as the linear independence of the derivatives with respect to the parameter of the solutions of eigenvalue problems for second order linear differential equations.

 1 Institute of Mathematics, University of Debrecen, P. O. Box 12, Debrecen 4010, Hungary.

E-mail address: vlacika@gmail.com

Date: Received: 28 November 2009; Accepted: 23 March 2010.

The research was supported by the Hungarian National Foundation for Scientific Research (OTKA), Grant No. NK-68040.

²⁰⁰⁰ Mathematics Subject Classification. Primary 39B82; Secondary 44B20, 46C05. Key words and phrases. Spectral analysis, spectral synthesis, hypergroups.