

Ann. Funct. Anal. 3 (2012), no. 1, 128–141

ANNALS OF FUNCTIONAL ANALYSIS

ISSN: 2008-8752 (electronic)

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

THE WAVELET CHARACTERIZATION OF HERZ-TYPE HARDY SPACES WITH VARIABLE EXPONENT

HONGBIN WANG 1* AND ZONGGUANG LIU 2

Communicated by O. Christensen

ABSTRACT. In this paper, using the atomic theory of the Herz-type Hardy spaces with variable exponent, we give their wavelet characterization by means of some discrete tent spaces with variable exponent at the origin.

E-mail address: hbwang_2006@163.com

 $E ext{-}mail\ address: liuzg@cumtb.edu.cn}$

Date: Received: 27 November 2011; Accepted: 2 March 2012.

 $^{^1}$ Department of Mathematics, China University of Mining and Technology(Beijing), Beijing 100083, P. R. China.

 $^{^2}$ Department of Mathematics, China University of Mining and Technology(Beijing), Beijing 100083, P. R. China.

^{*} Corresponding author.

²⁰¹⁰ Mathematics Subject Classification. Primary 46E30; Secondary 42B35, 42C40. Key words and phrases. Herz-type Hardy space, variable exponent, tent space, wavelet.