Recurrence Relation of B-Spline Wavelets and Their Applications in Signal Processing

Patrick Crowley
*Illinois Wesleyan University*

Tian-Xiao He, Faculty Advisor
*Illinois Wesleyan University*

Follow this and additional works at: https://digitalcommons.iwu.edu/jwprc

https://digitalcommons.iwu.edu/jwprc/1996/posters/3

This is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.
Poster Presentation 7

RECURRENCE RELATION OF B-SPLINE WAVELETS AND THEIR APPLICATIONS IN SIGNAL PROCESSING

Patrick Crowley and Tian-Xiao He*, Department of Mathematics, IWU

In image processing, medical imaging, speech synthesis, and related fields, it is advantageous to utilize a set of wavelet functions as opposed to a single wavelet. Current wavelets are orthogonal and compact, but not smooth. A set of wavelets based on B-spline wavelets (B-wavelets) would be compact, smooth, and orthogonalized. In this paper, by using the Bezier expression of B-splines, we give a recurrence relation of B-splines with different orders and the corresponding recurrence relation of B-wavelets with different orders.