International Journal of Wavelets, Multiresolution
and Information Processing
Vol. 13, No. 2 (2015) 1550009 (10 pages)

DOI: 10.1142/S0219691315500095

Block sequences and g-frames

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Received 4 June 2014
Revised 2 February 2015
Accepted 6 February 2015
Published 16 March 2015

Casazza and Kutyniok [Frames of subspaces, in *Wavelets, Frames and Operator Theory*, *Contemporary Mathematics*, Vol. 345 (American Mathematical Society, Providence, RI, 2004), pp. 87–113] defined fusion frames in Hilbert spaces to split a large frame system into a set of (overlapping) much smaller systems and being able to process the data effectively locally within each sub-system. In this paper, we handle this problem using block sequences and generalized block sequences with respect to g-frames. Examples have been given to show their existence. A necessary and sufficient condition for a block sequence with respect to a g-frame to be a g-frame has been given. Finally, a sufficient condition for a generalized block sequence with respect to a g-frame to be a g-frame has been given.

Keywords: Frame; g-frame; block sequences.

AMS Subject Classification: 42A38, 42C15, 42C40

1. Introduction

The theory of frame is a relatively new mathematical discipline which has generated much interest in both theoretical and applied mathematics over the last