Abstract

Finding orthogonal matrices in different sizes is very complex and important because it can be used in different applications like image processing and communications (e. g. CDMA and OFDM). In this paper we introduce a new method to find orthogonal matrices by using tensor products between two or more orthogonal matrices of real and imaginary numbers with applying it in images and communication signals processing. The output matrices will be orthogonal matrices too and the processing by our new method is very easy compared to other classical methods those use basic proofs. The results are normal and acceptable in communication signals and images but it needs more research works.

References

Mixed Transforms Generated by Tensor Product and Applied in Data Processing

- Saifuldeen Abdulameer Mohammed, "Proposed System to Increase the Bits rate for User in the Chip packet using Complex number in Code Division Multiplexing Access and Pseudo Noise (JCDMA and JPN)", Published in the proceeding of the Second Scientific Conference of Electrical Engineering University of Technology 4-5 April 2011 CE13 pp 200-211.

- Tavel, P. 2007 Modeling and Simulation Design. AK Peters Ltd.

**Index Terms**

Computer Science    Data Processing

**Keywords**

Orthogonally          OFDM          CDMA          JCDMA          Wavelet          Safe Transform          Compression          Kronecker product