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‹ Back to results | 1 of 1

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Performance of MIMO DWT for millimeter wave communication system

(Conference Paper)

Parveen, N. ✉, Abdullah, K. ✉, Islam, R. ✉, Boby, R.I. ✉

Faculty of Engineering, International Islamic University, Department of Electrical and Computer Engineering, Kuala Lumpur, Malaysia

Abstract

View references (18)

Spectral efficiency is one the major challenges for future fifth generation. Orthogonal Frequency Division Multiplexing (OFDM) with wavelets transform is a promising technology to improve the spectral efficiency which can eliminate the usage of cyclic prefix. Multiple input and multiple output (MIMO) diversity technique with array gain has the advantage of improvement in performance of the system by reducing bit error rate (BER). Hence, this paper investigates MIMO diversity technique with discrete wavelets transform (DWT). Simulation using MATLAB is considered. DB8 is used as the wavelet family since it offers a flexible data transmission. Antenna arrays have been used to reduce the BER as they consist of multiple elements providing the multiple inputs and multiple outputs. BER performance of both Single input and single output (SISO) and MIMO diversity techniques were compared with that of wavelets transform for millimeter wave communication system. The performance was also compared with previous research works and investigated for different QAM modulation orders. © 2019 IEEE.

SciVal Topic Prominence

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