

## **19. THE PERFORMANCE ANALYSIS OF UWB CHANNEL MODEL WITH POLARIZATION DIVERSITY USING MULTIUSER OFDM WIRELESS SYSTEM**

BHUVANESHWARI.P, JAYANTHI.K

M.E. Communication Systems, Associate Professor

Department of ECE,

SNS College of Technology, Coimbatore.

[bhuvaneshwari2531@gmail.com](mailto:bhuvaneshwari2531@gmail.com), [jayanthiecesnsct06@gmail.com](mailto:jayanthiecesnsct06@gmail.com)

Ultra Wide Band (UWB) has rendered an indispensable part of future wireless technologies. The UWB technology can be combined with OFDM to extend the communication range and utilize the allocated spectrum efficiently. In the existing multi user OFDM system, allocation of resources to each user is the major problem. In order to increase the system performance, the proposed system allows multiple user data that can be multiplexed and transmitted together as single user OFDM data where the resources are allocated equally to all users. The proposed multiuser OFDM system with UWB channel achieves double the capacity and secured transmission with better performance in terms of Signal-to-Noise Ratio and Bit Error Rate. Also, the multipath components are received by using polarization diversity with combining technique at the receiver.

Keywords-Subcarrier, modulation, SNR, BER, polarization diversity.

*Journal of Science and Innovative Engineering & Technology*