Implementation of Interleave Division Multiple Access (IDMA) with Multiple Users in Wireless Communication System

Abstract

This paper provides a review on the IDMA (Interleave Division Multiple Access) technology in wireless communication system based on Interleaver. In this paper, IDMA technique is proposed in AWGN channel. IDMA is a multi-user scheme in which chip Interleavers are the only means of user separation. The receiver involves a chip-by-chip iterative multi-user detection. The IDMA performance in terms of bit error rate, bandwidth efficiency and complexity reduction is discussed. However, we observe that during iterative process, the IDMA output performs well with ISI Cancellation when numbers of users increases. Indeed, the increase in the number of users requires the independent processing of MAI and ISI that is carried out in IDMA.

References

10. Li Ping and Peng Wang, Xiaodong Wang “Recent Progress in Interleave-Division Multiple-Access (IDMA)”.

Index Terms

Computer Science Wireless

Keywords

Additive White Gaussian Noise (AWGN), Interleave Division Multiple Access (IDMA), ISI -Intersymbol Interference, Multiple Access Interference (MAI).