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## Abstract

Wireless has replaced wired networks in many homes, business and campuses. Wireless communication is, by any measure, the fastest growing segment of the communication industry. As such, it has captured the attention of the media and the imagination of the public. Cellular systems have experienced exponential growth over the last decade and currently billions of users are available worldwide. The exponential growth of cellular telephone use and wireless internet access has led to great optimism about wireless technology in general. This paper

presents the implementation of Interleave Division Multiple Access (IDMA) for wireless communication. Here, interleavers are the only means of user separation where different interleavers are assigned for different users. The performance is analyzed by the bit error rate and also this technique shows high performance can be maintained in multipath environments and also computational complexity is also reduced. A low-cost iterative chip-by-chip multiuser detection algorithm is also described with complexity independent of the user number and increasing linearly with the path number. simulations are performed for various scenarios and the results are analyzed and described.

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### Index Terms

Computer Science

Wireless

## Keywords

Interleave Division Multiple Access(idma) bit Error Rate(ber) code Division Multiple  
Access(cdma) pilot Layer  
Aided Channel Estimation(place). tree Based Interleaver(tbi)  
signal To Noise Ratio(snr)