Abstract

Orthogonal frequency division multiplexing is a promising technology for high data rate transmission in wide band wireless system for achieving high downlink capabilities in a future cellular system. This paper demonstrate, how to improve the capacity of the system and transmission quality of orthogonal frequency-division multiplexed (OFDM) along with multi-input multi-output (MIMO) used with adaptive modulation can effectively eliminate fading in wireless
channels. To minimize the overall transmit power, greedy algorithm approach was proposed for the optimal bit and power allocation strategy, the performance of adaptive bit and power allocation MIMO-OFDM system based on greedy algorithm is completely studied and the performance comparison among greedy algorithm, chow algorithm and average algorithm is represented. The analysis and the simulation are considered in two stages. First stage involves single-input single-output (SISO) OFDM system. This is compared with the performance of fixed OFDM transmission where a constant rate is applied to each subcarrier. Second stage involves MIMO-OFDM and we compared the performance of MIMO-OFDM system under different antennas numbers.

References

- Jean-Paul M. G. Linnartz. Multi-Carrier Transmission Over Mobile Radio Channel.
Enhancement of Quality of Service of MIMO-OFDM

Index Terms
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Greedy Algorithm  Mimo-ofdm  Adaptive Modulation  Dynamic Allocation