Various Optimization Techniques Performance Testing for OFDM System Design

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Abstract

The telecommunications' industry is in the hub of an absolute detonation in wireless technologies. Once absolutely military, cellular and satellite technologies are now commercially motivated by ever more challenging consumers, who are prepared for seamless communication from their household to their car, to their workplace, or even for outside activities. With this augmented demand originates a growing essential to transmit info wirelessly, quickly, and precisely. To state this need, communications engineer have collective technologies appropriate for high rate transmission by means of forward error correction FEC techniques. The latter are chiefly important as wireless communications channels WCC are far more antagonistic as opposed to wire replacements, and the need for flexibility proves especially stimulating for reliable communications.

On the whole, Orthogonal Frequency Division Multiplexing also known as OFDM is the standard being used during the course of the world to achieve the high data tariffs necessary for data concentrated applications that must now turn out to be routine.
This thesis improves the throughput of a present OFDM system by employing adaptive modulation and OFDM coding. The new system assurances to reach a target performance bit error rate BER of 10^-2 over a slow time-varying disappearing channel. The system automatically changes from lower to higher modulation arrangements on individual subcarriers, reliant on the state of the quasi-stationary channel.

References


Index Terms

Computer Science       Information Sciences

Keywords

OFDM, Multiplexing, performance enhancement of OFDM network.