

Comprehensive Analysis of Power Allocation Algorithms for OFDM Based Communication Systems

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Abstract : The spiralling urge for high rate data transmission over wireless mediums needs intelligent use of electromagnetic resources considering restrictions like power ingestion, spectrum competence, robustness against multipath propagation and implementation intricacy. Orthogonal frequency division multiplexing (OFDM) is a capable technique for next generation wireless communication systems. For such high rate data transfers there is requirement of proper allocation of resources like power and capacity amongst the sub channels. This paper illustrates various available methods of allocating power and the capacity requirement with the constraint of Shannon limit.

Keywords : Additive White Gaussian Noise, Multi-Carrier Modulation, Orthogonal Frequency Division Multiplexing (OFDM), Signal to Noise Ratio (SNR), Water Filling

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