

UNIVERSITI TEKNOLOGI MARA

**PERFORMANCE ANALYSIS OF RESOURCE
ALLOCATION DOWNLINK FOR MIMO-OFDMA
SYSTEM USING GREEDY ALGORITHM**

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ABSTRACT

Finding the optimization of power allocation of subcarrier is always a challenge in MIMO-OFDMA schemes in order to maximize the capacity of the system. Resources allocation is process how set of network is decide in wireless system. This research is to study restriction of proportional rate and total power among user in MIMO-OFDMA scheme and the power allocation and capacity of subcarrier in the scheme. The objectives are to evaluate the system by Greedy Subcarrier Allocation and to suggest by using Greedy Power Allocation for capacity increment in MIMO-OFDMA system. Simulation results show that the proposed algorithm can improve the capacity of the network compared with the water-filling when using signal-to-noise ratio (SNR) with value 6dB. The proposed algorithm shows comparison between the noise to sub-channel ratio and power allocation among of data sub-channel for 25, 75 and 100 users. It result shows that there is increasing of capacity using Greedy algorithm compare with water-filling algorithm for 25, 75 and 100 users by 5.1%, 3.7% and 1.8% respectively but there is no significant difference in power allocation and Full Channel State Information (FCSI).

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