Abstract

The primary objective of the Next Generation Networks, which are based on Multiuser Orthogonal frequency division multiplexing (MU-OFDM) is to increase the network efficiency by maximizing the total throughput of the system and minimizing the overall transmit power for a given quality of service (QoS). MU-OFDM is one of the promising techniques for achieving high downlink capacities in future cellular and wireless networks. The sum capacity of MU-OFDM is maximized when each subchannel is assigned to the user with the best channel-to-noise ratio for that subchannel, with power subsequently distributed. Ever increasing demand for high throughput, low delay and low Outage probability can be met by using Adaptive Resource Allocation in OFDM Technology. Optimal solution to the constrained fairness problem of Adaptive Resource Allocation is extremely computationally complex to obtain, a low-complexity suboptimal algorithm that separates subchannel allocation and power allocation is proposed. In
the proposed algorithm, subchannel allocation is first performed by assuming an equal power distribution. Power allocation is done later to maximize the sum capacity.

References


Index Terms

Computer Science

Communication and Networks

Keywords

OFDM  Adaptive Resource Allocation  sum capacity