

A new dynamic code assignment algorithm for joint CDMA and SDMA system

ABSTRACT

This article describes an optimal dynamic code assignment algorithm, which can be used to maximize the total number of users in combined C-SDMA system with minimum required quality of service (QoS) and limited number of codes. Here, a single cell adopts combined C-SDMA system as air-interface, and accommodate any number of users distributed randomly within it. The probability of blocking is calculated to evaluate the system performance for different number of users and available codes. Results show that the proposed algorithm improves the system performance significantly compared to the existing algorithms. Finally, this algorithm enhances system capacity with limited resources.

Keyword: Wireless CDMA; SDMA; Code assignment; Code reuse ratio; Smart antenna