This paper exploits the concept of diversity using Omni-directional antenna at BS, where different users are communicating with BS at the same time from different angles but having same frequency in flat fading and frequency selective environments. The opportunistic communication method has been implemented using Spatial channel model (SCM) developed
by 3rd generation partnership project (3GPP). The main focus is on improving the performance of system by reducing bit error rate once multiple users are operating in frequency selective environments. The same objective has been achieved and is shown with the help of simulations that SCM provides an improvement by reduction in bit error rate (BER) thereby improving the performance of SCM system by using opportunistic communication method that exploits the spatial and time diversity that is offered by SCM. It has been shown with the help of simulations that while operating in frequency selective fading environment there is an improvement of 2-3 dB as compared to flat fading environment with more number of users that those operating in case of flat fading environment.

Reference


Index Terms
Improvement in Error Reduction of Spatial Channel Model (SCM) by Exploiting Multi-user Diversity with the help of Omni-directional Antenna at BS

Key words
Spatial channel model (SCM)  Signal to Noise ratio (SNR)
Additive white Gaussian noise (AWGN)
Base station (BS)
Mobile station (MS)
Uniform Linear Array (ULA)
Bit Error Rate (BER)
Improvement in Error Reduction of Spatial Channel Model (SCM) by Exploiting Multi-user Diversity with the help of Omni-directional Antenna at BS.