Abstract

The main objective of the multi-antenna technology is improving the capacity of cellular systems. These techniques can also make other improvements such as the scope of the system, reducing the transmission power of mobile (and therefore increasing energy autonomy) and improved link performance. This was the context of this paper study whose objective was to study the contribution and providing of the use of adaptive antennas in multiuser detection for MC-CDMA system. Transmission implicated in the MC-CDMA system has potential interference rejection but not sufficiently in the case of strong interference. Therefore it need to use beamforming algorithms. This work is also interested in MIMO-MC-CDMA with multiple-beamforming (MBF) at the receiver, that uses multiple antennas at transmitter and receiver. This paper presents also the performance of general MIMO-MC-CDMA system used Multi-Beamformer with sequences of references at receiver and space time block code (STBC) or vertical bell labs space-time architecture (V-BLAST) at the transmitter, with minimum mean square error (MMSE) adaptive algorithm under Rayleigh fading channels.
Multi-User Detection by MMSE Adaptive Algorithm for Multi-Beam-MIMO-MC-CDMA using Sequences of References

References


Index Terms

Computer Science Wireless Communications

Keywords

MC-CDMA MIMO VBLAST STBC Multi-user detection Multi-beamforming

MMSE Adaptive Algorithm