

Uplink Channel Estimation For IMT-DS System

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Summary

The IMT-DS system is one of the approved 3G radio interface standards which employ RAKE receivers to exploit multipath diversity. This paper discusses a new dimension in DS-CDMA channel estimation, i.e., chip-level adaptive channel estimation. A novel despreader-respreader based channel estimator (DRCE) is proposed to obtain uplink (UL) channel estimates at chip-level which resolves the deficiencies of conventional methods that work at symbol level. The DRCE employs an adaptive filter whose weights are adapted by using an LMS algorithm. The performance of the RAKE receiver with DRCE for an IMT-DS system is evaluated in terms of BER by simulations for pedestrian and vehicular channels

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