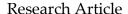


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Blind Multiuser Detection in Asynchronous DS-CDMA Systems over Nakagami-*m* Fading Channels

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ABSTRACT

This paper presents a technique for blind multiuser detection in asynchronous direct sequence-code division multiple access (DS-CDMA) systems over Nakagami-*m* fading channels with impulsive noise. A new *M*-estimator is proposed and analyzed for robustifying the detector. A closed-from expression for average error rate of DPSK signals is derived. Average probability of error is computed to evaluate the performance of the new *M*-estimator based blind multiuser detector in comparison with the linear decorrelating detector, Huber and Hampel estimator based detectors. Simulation results show that the new *M*-estimator based detector performs well.

Keywords: CDMA; impulsive noise; M-estimator; multiuser detection; Nakagami-m distribution; probability of error.

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