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Successive Interference Cancellation for DS-CDMA Systems with Transmit Diversity

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Abstract

We introduce a new successive interference cancellation (SIC) technique for direct sequence code division multiple access (DS-CDMA) systems with transmit diversity. The transmit diversity is achieved with a space-time block code (STBC). In our work we first consider hard decision SIC with an STBC, and then investigate the performance of soft decision SIC with an STBC. System performance over a Rayleigh fading channel is investigated and the analysis is confirmed by simulation.

Keywords

multiuser detection, space-time codes, CDMA, SIC