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Performance Evaluation for Code Division Multiple Access with Space-Frequency Block Code Downlink Transmission Over Multipath Weibull Fading Channel Model

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Abstract: In this paper, we derive and evaluate a closed-form expression for the bit error rate (BER) performance of code division multiple access (CDMA)-space frequency block coded (SFBC) system for downlink transmission over Weibull fading channel. In the performance analysis, the M-ary quadrature amplitude modulation (MQAM) technique is considered for the two transmit and multiple receive antennas case. The derived expression can be used to assign channels to different users in a cross-layer fashion. Numerical results are provided to study the effect of fading severity, M-ary size, and channel estimation error.