A Second Order log-MAP Algorithm for Turbo Code Decoding in CDMA Communications under Fading

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ABSTRACT

A novel log-MAP algorithm with second order approximation for turbo code decoding in CDMA communications under fading is presented. Simulation results are performed for the IS-2000 CDMA turbo code under Additive White Gaussian Noise (AWGN) and slow fading channels by using various log-MAP algorithms. Results reveal that bit-error-rate (BER) performance of proposed second order log-MAP algorithm is superior to those of previous log-MAP algorithms such as max-log-MAP, constant-log-MAP, and linear-log-MAP.

Keywords: Code Division Multiple Access; Turbo Decoding

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