A log-MAP Algorithm with Pade Approximation for Turbo Code Decoding in CDMA Communications under Fading

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ABSTRACT

A novel log-MAP algorithm with Pad? approximation to decode turbo code for CDMA communications under fading is presented in this paper. Numerical simulation are performed for the IS-2000 CDMA turbo code under Additive White Gaussian Noise (AWGN) and slow fading channels by using various log-MAP decoding algorithms. Results reveal that bit-error-rate (BER) performance of proposed Pad?-approx-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 : MAP algorithm ; Pad? approximation ; turbo code

Table of Contents

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