

DETECTION, AVOIDANCE AND/OR CORRECTION OF PROBLEMATIC PUNCTURING PATTERNS IN PARITY BIT STREAMS USED WHEN IMPLEMENTING TURBO CODES

Abstract

Detecting, avoiding and/or correcting problematic puncturing patterns in parity bit streams used when implementing punctured Turbo codes is achieved without having to avoid desirable code rates. This enables identification/avoidance of regions of relatively poor Turbo code performance. Forward error correction comprising Turbo coding and puncturing achieves a smooth functional relationship between any measure of performance and the effective coding rate resulting from combining the lower rate code generated by the Turbo encoder (600) with puncturing of the parity bits. In one embodiment, methods to correct/avoid degradations due to Turbo coding are implemented by puncturing interactions when two or more stages of rate matching (610, 620) are employed.

Figure 10