

The Half-t adaptive error correction algorithm for SDH-based WDM optical networks

ABSTRACT

This paper proposes an adaptive forward error correction (FEC) algorithm, referred to as the Half-t algorithm for synchronous digital hierarchy (SDH) based wavelength division multiplexing (WDM) optical networks. Unlike most previous adaptive FEC algorithms which change to a stronger code for error correction based on either packet losses or erroneous condition, the Half-t algorithm is able to do so before an error occurs. Simulation results show that the Half-t algorithm can maintain the output bit error rate (BER) below a target BER by assigning an appropriate value of waiting delay before changing to a weaker code.

Keyword: Adaptive FEC algorithm; Forward error correction; Synchronous digital hierarchy; Wavelength division multiplex