



Digital Signal Processing for Cancellation of fiber optic Impairments

By Faydh Mohammed, Zainab / Fattah, .Ali Y.

Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Design and Simulation using OptiSystem and Matlab | High bit rates optical communication systems pose the challenge of their tolerance to linear and nonlinear fiber impairments. Recently, the use of electronic processing for the mitigation of signal distortion in optical communication has attracted increasing interest due to its low cost and size relative to alternative optical techniques and the potential for the integration of electronic processors with existing transceiver electronics. In this book 40 Gb/s DP-QPSK system with coherent reception and DSP unit for optical fiber impairments compensation is proposed . The Chromatic Dispersion is compensated using a simple transversal digital filter and Polarization Mode Dispersion is compensated using adaptive butterfly equalizer. A nonlinear compensator is used for compensating the nonlinear effects. A modified Viterbi-and-Viterbi algorithm is then used to compensate for phase and frequency mismatch between the transmitter and local oscillator .This book should be useful for researchers work on development of optical communication systems and especially who works on DSP algorithms or anyone else who may be interested in optical fiber technology. | Format: Paperback | Language/Sprache: english | 112 pp.



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