Performance Analysis of DPSK Fiber Optic Communication System



Overview

This project focuses on the design and performance analysis of an Optical Differential Phase Shift Keying (DPSK) communication system using a 66% Return-to-Zero (RZ) signal format. It explores the advantages of phase-based modulation in enhancing receiver sensitivity and nonlinear tolerance in. The focus of this paper is to directly compare QPSK with DP-QPSK based on different parameters such as optical fiber length, different data rates, different wavelengths etc. The bit is shifted in frequency domain by discrete Fourier transform. 1Government College of Engineering Srirangam, Trichy, Tamilnadu, India 2Alagappa Chettiar Government College of Engineering and Technology, Karaikudi, Tamilnadu, India. *Corresponding author: sarojiniraju18@gmail. com Abstract: At key. State Key Laboratory of Transient Optics and Photonics, Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences, Xi'an, China 2.



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Article Content

Performance Analysis and Comparison of QPSK and DP-QPSK

In this paper, the comparison between advanced modulation schemes i.e. Quadrature Phase Shift Keying (QPSK) and Dual Polarization Quadrature Phase Shift Keying (DP-QPSK) is carried out on

Performance Evaluation of DPSK Optical Fiber Communication

Home / Research / Technical Reports / Performance Evaluation of DPSK Optical Fiber Communication System

BER Performance Analysis for Optical Communication using DPSK

Following the theoretical analysis presented earlier, we present some simulation results showing BER performance for an optical system using DPSK modulation scheme.

AN ANALYSIS OF THE PERFORMANCE OF DIFFERENT DPSK

The effectiveness of various optical differential phase modulations on wavelength conversion is analysed. NRZ-DPSK/DPSK, 33%RZ-DPSK, 50%RZ-DPSK and 67%RZ-DPSK/CSRZ-DPSK are

Analysis of different optical modulation schemes for short ...

In this paper, the performance analysis of On-Off Keying (OOK), Pulse Position Modulation (PPM), Differential Phase Shift Keying (DPSK), Quadrature Amplitude Modulation (QAM),

DPSK modulation and demodulation system based on a

As the conventional fiber Mach-Zehnder (M−Z) interference structure being sensitive to temperature variation and mismatching of arm length in Differential Phase Shift Keying (DPSK)

High-sensitivity multi-channel DPSK system with real-time ...

Simultaneously, the DPSK receiver, with our self-designed phase lock controller, has stabilized reception of optical power fluctuations that range from 0 to 40 dB. Additionally, the impact

Performance analysis of DPSK technique for optical transmission system

In this section, we will evaluate the performance of the DPSK optical system using a simulation program, OptiSystem v13. A simple diagram of one active channel is shown in Figure.

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Excluded are conventional copper-based RF transmission systems, standalone fiber-optic communication systems without RF transport functionality, and unrelated network hardware.

Performance analysis of FSO-based communications in

We provide a comprehensive overview of the obstacles faced in space–air–ground FSO communication links and analyze key performance metrics along with the mitigation techniques

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