Passive Optical Network Uplink Multiplexing Technology

Overview

There are two main types of optical filters, Mux/Demux and Optical Add/Drop Multiplexer (OADM). They are also vendor solution independent since no SW integration is required. The authors have studied WDM-PONs with centralised lightwave source and direct detection, where a wavelength-reuse system is employed to transmit the uplink data by using a colourless transmitter at the optical network unit (ONU). WDM-PON system was demonstrated using a Fabry–Perot laser diode as a. This paper offers a comprehensive review and outline of the prospects of technologies for bringing a beyond-100G PON to practical applications in the future. This document is not restricted to specific software and hardware versions. The information in this document was created from the devices in a. Abstract: We propose to use multiple uplinks in passive optical networks (PONs) to increase the optical transmission power from users to central office.

Article Content

A novel design of orthogonal frequency division multiplexing-based ...

Orthogonal frequency division multiplex (OFDM) has been successfully used in wireless communications, and now people begin to see it as an excellent candidate technique in optical

Mode Division Multiplexing-Based Passive Optical Networks

Mode Division Multiplexing (MDM) is investigated during the transmission of high data rates for increasing capacity in transmission systems and optical access networks. The aim of the

Technologies for future wavelength division multiplexing passive ...

Abstract: This study reviews key technologies of next generation wavelength division multiplexing passive optical networks (WDM-PONs). The authors have studied WDM-PONs with centralised

Multi-uplink passive optical networks

Abstract: We propose to use multiple uplinks in passive optical networks (PONs) to increase the optical transmission power from users to central office. The requirement of the PON receiver at the central

Toward Low-Latency Services over PON using OCDMA Private

An low-latency service scheme is proposed over Passive Optical Network (PON). The Optical Code Division Multiplexing Access (OCDMA) technique is used to define multiple private

200Gbps flexible coherent PD-NOMA PON in uplink and

Coherent passive optical networks (PONs) provide a cost-effective point-to-multipoint connection to fixed users. The next-generation PON is envisioned to offer higher data rate, more

Understand GPON Technology

GPON is an alternative to Ethernet switching in campus networking. GPON replaces the traditional three-tier Ethernet design with a two-tier optic

Passive Multiplexers and OADMs

There are two main types of optical filters, Mux/Demux and Optical Add/Drop Multiplexer (OADM). The filters are typically passive devices and can be placed in locations without electrical power.

What is Passive Optical Networking?

More About PON: GPON and XGS-PON Technologies Passive Optical Networking (PON) leverages time-division multiplexing (TDM) and different wavelengths of

IET Submission Template

Abstract: This paper reviews key technologies of next generation wavelength division multiplexing passive optical networks (WDM-PONs).

Key Technologies for a Beyond-100G Next-Generation Passive

This paper offers a comprehensive review and outline of the prospects of technologies for bringing a beyond-100G PON to practical applications in the future. We review the current existing

Optical Line Terminals Selection Guide: Types,

Optical line terminals, also called optical line terminations (OLTs), serve as endpoints for passive optical networks (PONs). They convert electrical signals

An uplink data transmission method based on wavelet packet

A novel uplink data transmission method in electrical code division multiplexing passive optical networks is proposed, simulated and experimentally verified, in which each optical network

Experimental Comparison of FBMC and OFDM for Multiple Access Uplink

Filter bank multicarrier (FBMC) is a favourable candidate for next generation optical access networks due to its capability to operate without a cyclic prefix and its high resilience to

PON Network Principles

PON Network Principles In this article, we will explore the principles of Passive Optical Network (PON). PON is a technology that enables the transmission of

5G wavelength-division-multiplexing-based bidirectional optical ...

It shows a fifth-generation wavelength-division-multiplexing-based bidirectional optical wireless communication system using four wavelengths for communication.

Laser Sharing Uplink Polarization Division Multiplexing FBMC Passive ...

In this paper, we proposed and experimentally demonstrated a laser sharing filter bank multicarrier passive optical network (FBMC-PON) uplink architecture, to provide high spectrum efficiency

Capacity Optimization of the Next-Generation Passive Optical Networks ...

Increased bandwidth, reduced latency and symmetric downlink and uplink capacity are among the key drivers for Next-Generation Passive Optical Network (NGPON) technology while

Laser Sharing Uplink Polarization Division Multiplexing FBMC Passive ...

Intensity modulation (IM) and heterodyne detection are implemented, combined with polarization division multiplexing (PDM) to double the system capacity. The uplink performance of FBMC-PON is

Technologies for Future Wavelength Division

Abstract and Figures This paper reviews key technologies of next generation wavelength division multiplexing passive optical networks (WDM-PONs).

Key Signal Processing Technologies for High-speed Passive Optical Networks

Abstract With emerging technologies such as high-definition video, virtual reality, and cloud computing, bandwidth demand in the access networks is ever-increasing. Passive optical network (PON) has

Key Technologies for a Beyond-100G Next-Generation

In order to provide higher capacity and meet higher transmission performance requirements, it is necessary to further explore the application of

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