Joint scheduling for optical grid applications

…, MY Wu, Y Jin, W Guo, W Sun, W **Hu** - Journal of Optical …, 2007 - osapublishing.org

Optical networking technologies are expected to play an important role in creating an efficient infrastructure for supporting advanced grid applications. Since both the scheduling methods in grid computing and optical networks are limited to be directly used to achieve …

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Photonic crystal channel drop filter with a wavelength-selective reflection micro-cavity

H Ren, C Jiang, W **Hu**, M Gao, J Wang - Optics Express, 2006 - osapublishing.org

In the paper, a novel three-port channel drop filter in two dimensional photonic crystals (2D PCs) with a wavelength-selective reflection micro-cavity is proposed. In the structure, two micro-cavities are used. One is used for a resonant tunneling-based channel drop filter. The …

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Mode-locked thulium fiber laser with MoS2

…, L Kong, N Yang, Y Wang, R Chen, W **Hu**… - Laser Physics …, 2015 - iopscience.iop.org

Liquid-phase exfoliated 2D material multilayer MoS 2 is transferred onto a gold mirror and its saturable absorption at the 2 μm wavelength region is experimentally observed. This transferred MoS 2 saturable absorber has a modulation depth of 13.6% and a saturation …

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On the spectrum-efficiency of bandwidth-variable optical OFDM transport networks

…, Y Jin, W Sun, W Guo, W **Hu** - Optical Fiber …, 2010 - osapublishing.org

Fig. 1 Spectral resource allocation on link CD: BV-OOFDM network (a) Vs. MLR WDM network (b) Another property that OFDM brings needs to be noticed. In fixed data rate WDM networks, conventional ITU-T frequency grid has rigid channel spacing, say 25GHz, 50GHz or …

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Virtualized optical network services across multiple domains for grid applications

…, Y Jin, W Guo, W Sun, W **Hu** - IEEE Communications …, 2011 - ieeexplore.ieee.org

In the field of grid computing over optical networks, joint scheduling of computing and network resources is an important issue. However previous research efforts were static approaches, which are difficult to implement in multidomain optical networks, especially in …

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Bandwidth-tunable narrowband rectangular optical filter based on stimulated Brillouin scattering in optical fiber

W Wei, L Yi, Y Jaouën, W **Hu** - Optics express, 2014 - osapublishing.org

We propose a rectangular optical filter based on stimulated Brillouin scattering (SBS) in optical fiber with bandwidth tuning from 50 MHz to 4 GHz at less than 15-MHz resolution. The rectangular shape of the filter is precisely achieved utilizing digital feedback control of …

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Multiple access scheme based on block encoding time division multiplexing in an indoor positioning system using visible light

Y Hou, S Xiao, H Zheng, W **Hu** - Journal of optical …, 2015 - osapublishing.org

In view of the application of a visible light positioning system in a public indoor environment with numerous light emitting diodes (LEDs), a long delay is one of the main factors that limits the performance of the positioning system with a moving device. To solve this problem, a …

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Optimized design of two-pump fiber optical parametric amplifier with two-section nonlinear fibers using genetic algorithm

M Gao, C Jiang, W **Hu**, J Wang - Optics express, 2004 - osapublishing.org

A new two-pump fiber optical parametric amplifier (FOPA) is presented, which is composed of two-section high nonlinear fibers (HNLFs). Genetic algorithm (GA), a multivariate stochastic optimization algorithm is applied to optimize parameters of two fiber segments …

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Demonstration of joint resource scheduling in an optical network integrated computing environment [topics in optical communications]

W Guo, W Sun, Y Jin, W **Hu**… - IEEE Communications …, 2010 - ieeexplore.ieee.org

Currently, optical networks have been employed to meet the ever-increasing data transfer demands of distributed scientific applications. In order to provide better performance and achieve higher resource utilization, a new networking solution and resource scheduling …

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Phase drift cancellation of remote radio frequency transfer using an optoelectronic delay-locked loop

L Zhang, L Chang, Y Dong, W Xie, H He, W **Hu** - Optics letters, 2011 - osapublishing.org

In this Letter, we propose a phase drift cancellation method for remote radio frequency transfer. Phase fluctuation along the transmission fiber, which is induced by temperature and pressure changes, is measured and compensated by a heterodyne optoelectronic delay …

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Performance of label switched path dynamic provisioning in GMPLS networks

…, Z Xing, K Kang, Y Jin, W Guo, W **Hu**… - IEEE …, 2012 - ieeexplore.ieee.org
Given the fact that control channels in GMPLS/MPLS-TE networks use packet-based forwarding, and the processing of control messages may be subject to various factors, the provisioning delay of an LSP could be highly random. To bridge the gap between the …
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Energy efficient TWDM multi-PON system with wavelength relocation

H Yang, W Sun, J Li, W **Hu** - IEEE/OSA Journal of Optical …, 2014 - ieeexplore.ieee.org
Power consumption in current communication networks including the access networks is increasing rapidly; energy efficiency is therefore one of the key design considerations in the next generation passive optical networks (PONs). In this paper, we investigate how a …
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Power budget improvement of symmetric 40-Gb/s DML-based TWDM-PON system

M Bi, S Xiao, L Yi, H He, J Li, X Yang, W **Hu** - Optics express, 2014 - osapublishing.org
We propose a symmetric 40-Gb/s time and wavelength division multiplexed passive optical network (TWDM-PON) system with directly modulated laser (DML) as both downstream and upstream transmitters. A single bi-pass delay interferometer (DI), deployed in the optical line …
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Partial defragmentation in flexible grid optical networks

J Luo, Z Zhang, W Sun, W **Hu** - Asia Communications and …, 2012 - osapublishing.org
Flexible grid optical networks were recently proposed to achieve high spectral utilization and efficiency [1]. In the flexible grid networks, it can allocate spectrums with speeds ranging from Gb/s up to Tb/s at tighter channel spacing based on the demands and reach requirements …
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A cross-layer optical circuit provisioning framework for data intensive IP end hosts

W Sun, G Xie, Y Jin, W Guo, W **Hu**, X Lin… - IEEE …, 2008 - ieeexplore.ieee.org
Using circuit-switched optical networks for next generation e-science applications is gaining increasing interest. In such applications, circuits are provisioned for end hosts to accomplish data-intensive or QoS-stringent communication tasks. Existing provisioning methods provide …
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Improved gain performance of high concentration Er/sup 3+/-Yb/sup 3+/-codoped phosphate fiber amplifier

C Jiang, W **Hu**, Q Zeng - IEEE journal of quantum electronics, 2005 - ieeexplore.ieee.org
The rate equations and power evolution equations of erbium/ytterbium codoped phosphate fiber amplifiers are solved numerically and its results are compared with measured data in literature. Based on the numerical analysis, optimal erbium and ytterbium codoping …
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Self-interference cancellation using dual-drive Mach-Zehnder modulator for in-band full-duplex radio-over-fiber system

…, S Xiao, H Feng, L Zhang, Z Zhou, W **Hu** - Optics express, 2015 - osapublishing.org
In this paper, we design a self-interference cancellation (SIC) scheme for in-band full-duplex (IBFD) radio-over-fiber (RoF) systems based on wavelength division multiplexing passive optical network (WDM-PON) architectures. By using a single dual-drive Mach-Zehnder …
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100-Gb/s TWDM-PON based on 10G optical devices

Z Li, L Yi, H Ji, W **Hu** - Optics express, 2016 - osapublishing.org
High speed data modulation based on bandwidth limited devices has been considered as a cost-effective way to upgrade 10G-EPON to the next generation 100G-EPON. In this paper, we experimentally demonstrate the modulation, fiber transmission and reception of 25-Gb/s …
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Distributed computing over optical networks

W Guo, Y Jin, W Sun, W **Hu**, X Lin… - OFC/NFOEC 2008 …, 2008 - ieeexplore.ieee.org

2. TONICE Framework TONICE is a large-scale interdisciplinary project to address a framework of distributed computing over optical network. The project focuses on coordinated management of both computational resources and optical network resources. It also focuses on designing …

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28 Gb/s duobinary signal transmission over 40 km based on 10 GHz DML and PIN for 100 Gb/s PON

Z Li, L Yi, X Wang, W **Hu** - Optics express, 2015 - osapublishing.org

In this paper, we demonstrate the direct modulation and direct detection of 28-Gb/s duobinary signal for the future downstream capacity upgrade in next generation passive optical network (PON). Commercial 10-GHz directly modulated laser (DML) and PIN with a …

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