

Novel coherent optical OFDM-based transponder for optical slot switched networks - DTU Orbit (09/11/2017)

Novel coherent optical OFDM-based transponder for optical slot switched networks

We report a novel coherent optical OFDM transponder approach capable of recovering microsecond-scale data-burst while adapting to tight filtering constraints present in optical slot switched intradatatcenter networks. Filtering effects in such large node-count environments are reviewed. The CO-OFDM performance is experimentally investigated while crossing a long cascade containing up to 100 nodes. The results are compared to the typical Nyquist pulse-shaped approach. CO-OFDM signaling shows 40% extended reach, 50 Gb/s higher gross average rate, and >4 GHz extra detuning tolerance than Nyquist pulse-shaped signals.

General information

State: Published

Organisations: Department of Photonics Engineering, Metro-Access and Short Range Systems, High-Speed Optical Communication, Centre of Excellence for Silicon Photonics for Optical Communications, Bell Labs

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Pages: 1851-1858

Publication date: 2016

Main Research Area: Technical/natural sciences

Publication information

Journal: Journal of Lightwave Technology

Volume: 34

Issue number: 8

ISSN (Print): 0733-8724

Ratings:

BFI (2017): BFI-level 2

Web of Science (2017): Indexed yes

BFI (2016): BFI-level 2

Scopus rating (2016): CiteScore 3.87 SJR 1.233 SNIP 1.881

Web of Science (2016): Indexed yes

BFI (2015): BFI-level 2

Scopus rating (2015): SJR 1.689 SNIP 1.955 CiteScore 4.15

Web of Science (2015): Indexed yes

BFI (2014): BFI-level 2

Scopus rating (2014): SJR 1.801 SNIP 2.423 CiteScore 4.23

Web of Science (2014): Indexed yes

BFI (2013): BFI-level 2

Scopus rating (2013): SJR 1.533 SNIP 2.341 CiteScore 4.03

ISI indexed (2013): ISI indexed yes

Web of Science (2013): Indexed yes

BFI (2012): BFI-level 2

Scopus rating (2012): SJR 1.711 SNIP 2.335 CiteScore 3.21

ISI indexed (2012): ISI indexed yes

Web of Science (2012): Indexed yes

BFI (2011): BFI-level 2

Scopus rating (2011): SJR 1.605 SNIP 2.758 CiteScore 3.2

ISI indexed (2011): ISI indexed yes

Web of Science (2011): Indexed yes

BFI (2010): BFI-level 2

Scopus rating (2010): SJR 1.802 SNIP 2.411

Web of Science (2010): Indexed yes

BFI (2009): BFI-level 1

Scopus rating (2009): SJR 2.312 SNIP 2.761

Web of Science (2009): Indexed yes

BFI (2008): BFI-level 2

Scopus rating (2008): SJR 2.371 SNIP 2.423

Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 2.467 SNIP 2.114
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 2.149 SNIP 2.603
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 2.939 SNIP 3.016
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 2.496 SNIP 2.741
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 2.947 SNIP 2.87
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 3.174 SNIP 2.605
Web of Science (2002): Indexed yes
Scopus rating (2001): SJR 3.056 SNIP 2.114
Web of Science (2001): Indexed yes
Scopus rating (2000): SJR 2.273 SNIP 1.832
Web of Science (2000): Indexed yes
Scopus rating (1999): SJR 2.232 SNIP 1.677
Original language: English
CO-OFDM, Datacenter, DSP, Optical packet switching, Optical slot switching
DOIs:
10.1109/JLT.2016.2515508
Source: FindIt
Source-ID: 277321963
Publication: Research - peer-review › Journal article – Annual report year: 2016