Multi-channel WDM RZ-to-NRZ format conversion at 50 Gbit/s based on single silicon microring resonator - DTU Orbit (06/12/2018)

Multi-channel WDM RZ-to-NRZ format conversion at 50 Gbit/s based on single silicon microring resonator

We comprehensively analyze multiple WDM channels RZ-to-NRZ format conversion using a single microring resonator. The scheme relies on simultaneous suppression of the first order harmonic components in the spectra of all the RZ channels. An optimized silicon microring resonator with free spectral range of 100 GHz and Q value of 7900 is designed and fabricated for this purpose. Multi-channel RZ-to-NRZ format conversion is demonstrated experimentally at 50 Gbit/s for WDM channels with 200 GHz channel spacing using the fabricated device. Bit error rate (BER) measurements show very good conversion performances for the scheme.

General information
State: Published
Organisations: Department of Photonics Engineering, High-Speed Optical Communication, Nanophotonic Devices
Pages: 21121-21130
Publication date: 2010
Peer-reviewed: Yes

Publication information
Journal: Optics Express
Volume: 18
Issue number: 20
ISSN (Print): 1094-4087
Ratings:
BFI (2018): BFI-level 2
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 2
Scopus rating (2017): CiteScore 3.74 SJR 1.519 SNIP 1.567
Web of Science (2017): Impact factor 3.356
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 2
Scopus rating (2016): CiteScore 3.48 SJR 1.532 SNIP 1.544
Web of Science (2016): Impact factor 3.307
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 2
Scopus rating (2015): CiteScore 3.78 SJR 1.91 SNIP 1.674
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 2
Scopus rating (2014): CiteScore 4.18 SJR 2.313 SNIP 2.124
Web of Science (2014): Impact factor 3.488
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 2
Scopus rating (2013): CiteScore 4.38 SJR 2.337 SNIP 2.196
Web of Science (2013): Impact factor 3.525
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): CiteScore 3.85 SJR 2.562 SNIP 2.108
Web of Science (2012): Impact factor 3.546
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): CiteScore 4.04 SJR 2.58 SNIP 2.572
Web of Science (2011): Impact factor 3.587
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 2
Scopus rating (2010): SJR 2.906 SNIP 2.428
Web of Science (2010): Impact factor 3.753
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 2
Scopus rating (2009): SJR 3.039 SNIP 2.679
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 3.204 SNIP 2.423
Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 3.284 SNIP 2.11
Web of Science (2007): Indexed yes
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 3.313 SNIP 2.336
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 2.819 SNIP 2.472
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 2.669 SNIP 2.217
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 1.745 SNIP 1.748
Web of Science (2002): Indexed yes
Scopus rating (2001): SJR 1.496 SNIP 1.42
Web of Science (2001): Indexed yes
Scopus rating (2000): SJR 0.98 SNIP 0.761
Web of Science (2000): Indexed yes
Scopus rating (1999): SJR 1.442 SNIP 0.843
Original language: English
Electronic versions:
oe_18_20_21121.pdf
DOIs:
10.1364/OE.18.021121

Bibliographical note
This paper was published in Optics Express and is made available as an electronic reprint with the permission of OSA. The paper can be found at the following URL on the OSA website: http://www.opticsinfobase.org/oe/abstract.cfm?uri=oe-18-20-21121. Systematic or multiple reproduction or distribution to multiple locations via electronic or other means is prohibited and is subject to penalties under law.
Source: orbit
Source-ID: 268230
Research output: Research - peer-review › Journal article – Annual report year: 2010