Yunhong Ding - DTU Orbit (08/09/2017)

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Publications:

The Hi-Ring Architecture for Data Center Networks
Publication: Research - peer-review › Book chapter – Annual report year: 2017

125-GHz Microwave Signal Generation Employing an Integrated Pulse Shaper
Publication: Research - peer-review › Journal article – Annual report year: 2017

25-Gb/s Transmission Over 2.5-km SSMF by Silicon MRR Enhanced 1.55-μm III-V/SOI DML
Publication: Research - peer-review › Journal article – Annual report year: 2017

Bandwidth-adaptable silicon photonic differentiator employing a slow light effect
Publication: Research - peer-review › Journal article – Annual report year: 2017

Directly Modulated and ER Enhanced Hybrid III-V/SOI DFB Laser Operating up to 20 Gb/s for Extended Reach Applications in PONs
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

High coincidence-to-accidental ratio continuous-wave photon-pair generation in a grating-coupled silicon strip waveguide: Letters
Publication: Research - peer-review › Journal article – Annual report year: 2017

High-dimensional quantum key distribution based on multicore fiber using silicon photonic integrated circuits
Publication: Research - peer-review › Journal article – Annual report year: 2017

Integrated graphene plasmonic waveguide modulators
Xiao, S., Ding, Y., Guan, X. & Mortensen, N. A. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017

On-Chip SDM Switching for Unicast, Multicast and Traffic Grooming in Data Center Networks
Photonic crystal Fano resonances for realizing optical switches, lasers and non-reciprocal elements

Robust photonic differentiator employing slow light effect in photonic crystal waveguide

Slow-light-enhanced energy efficiency for graphene microheaters on silicon photonic crystal waveguides
Yan, S., Zhu, X., Frandsen, L. H., Xiao, S., Mortensen, N. A., Dong, J. & Ding, Y. 2017 In : Nature Communications. 8, 8 p., 14411

Ultra-high efficiency, fast graphene micro-heater on silicon

Comparison of wavelength conversion efficiency between silicon waveguide and microring resonator
Xiong, M., Ding, Y., Ou, H., Peucheret, C. & Zhang, X. 2016 In : Frontiers of Optoelectronics. 9, 3, p. 390-394

Demonstration of orbital angular momentum (OAM) modes emission from a silicon photonic integrated device for 20 Gbit/s QPSK carrying data transmission in few-mode fiber

Differential phase-time shifting protocol for QKD (DPTS)

Direct modulation of a hybrid III-V/Si DFB laser with MRR filtering for 22.5-Gb/s error-free dispersion-uncompensated transmission over 2.5-km SSMF

Error-free Dispersion-uncompensated Transmission at 20 Gb/s over SSMF using a Hybrid III-V/SOI DML with MRR Filtering

Experimental Demonstration of 7 Tb/s Switching Using Novel Silicon Photonic Integrated Circuit
Two-dimensional distributed-phase-reference protocol for quantum key distribution
Bacco, D., Christensen, J. B., Usuga Castaneda, M. A., Ding, Y., Forchhammer, S., Rottwitt, K. & Oxenløwe, L. K. 2016
In : Scientific Reports. 6, 7 p., 36756
Publication: Research - peer-review › Journal article – Annual report year: 2016

Arbitrary waveform generator and differentiator employing an integrated optical pulse shaper
Liao, S., Ding, Y., Dong, J., Yang, T., Chen, X., Gao, D. & Zhang, X. 2015 In : Optics Express. 23, 9, p. 12161-12173
Publication: Research - peer-review › Journal article – Annual report year: 2015

Effective carrier sweepout in a silicon waveguide by a metal-semiconductor-metal structure
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Effective electro-optical modulation with high extinction ratio by a graphene-silicon microring resonator
Publication: Research - peer-review › Journal article – Annual report year: 2015

Efficient silicon PIC mode multiplexer using grating coupler array with aluminum mirror for few-mode fiber
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Increase in data capacity utilising dimensions of wavelength, space, time, polarisation and multilevel modulation using a single laser
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Nonreciprocal light transmission based on the thermal radiative effect
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

On-chip grating coupler array on the SOI platform for fan-in/fan-out of MCFs with low insertion loss and crosstalk
Ding, Y., Ye, F., Peucheret, C., Ou, H., Miyamoto, Y. & Morioka, T. 2015 In : Optics Express. 23, 3, p. 3292-3298
Publication: Research - peer-review › Journal article – Annual report year: 2015

Photonic compressive sensing with a micro-ring-resonator-based microwave photonic filter
Publication: Research - peer-review › Journal article – Annual report year: 2015

Signal processing for on-chip space division multiplexing
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Silicon nanowires for ultra-fast and ultrabroadband optical signal processing
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015
Thermal-tuned optical pulse shaper for arbitrary waveform generation with integrated waveguides
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Topology optimized design for silicon-on-insulator mode converter
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Topology-optimized silicon photonic wire mode (de)multiplexer
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Ultra-compact broadband higher order-mode pass filter fabricated in a silicon waveguide for multimode photonics
Publication: Research - peer-review › Journal article – Annual report year: 2015

Ultra-compact Higher-Order-Mode Pass Filter in a Silicon Waveguide
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Wavelength Conversion of a 640 Gbit/s DPSK Nyquist Channel Using a Low-Loss Silicon Nanowire
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Wavelength Conversion of DP-QPSK Signals in a Silicon Polarization Diversity Circuit
Publication: Research - peer-review › Journal article – Annual report year: 2015

1.28 Tbaud Nyquist-OTDM Transmission over a 7-Core Fiber Using an On-Chip SDM Coupler
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

All-Optical Signal Processing using Silicon Devices
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Fully-etched apodized fiber-to-chip grating coupler on the SOI platform with -0.78 dB coupling efficiency using photonic crystals and bonded Al mirror
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Fully etched apodized grating coupler on the SOI platform with ~058 dB coupling efficiency
Publication: Research - peer-review › Journal article – Annual report year: 2014
Integrated programmable photonic filter on the silicon-on-insulator platform.
Liao, S., Ding, Y., Peucheret, C., Yang, T., Dong, J. & Zhang, X. 2014 In : Optics Express. 22, 26, p. 31993–31998
Publication: Research - peer-review › Journal article – Annual report year: 2014

Mode-selective wavelength conversion based on four-wave mixing in a multimode silicon waveguide
Publication: Research - peer-review › Journal article – Annual report year: 2014

On-chip grating coupler array on the SOI platform for fan-in/fan-out of multi-core fibers with low insertion loss and crosstalk
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Mode-Selective Wavelength Conversion Based on Four-Wave Mixing in a Multimode Silicon Waveguide
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Ultra-wide band signal generation using a coupling-tunable silicon microring resonator
Ding, Y., Huang, B., Peucheret, C., Xu, J., Ou, H., Zhang, X. & Huang, D. 2014 In : Optics Express. 22, 5, p. 6078-6085
Publication: Research - peer-review › Journal article – Annual report year: 2014

All-optical 10 Gb/s AND logic gate in a silicon microring resonator
Xiong, M., Lei, L., Ding, Y., Huang, B., Ou, H., Peucheret, C. & Zhang, X. 2013 In : Optics Express. 21, 22, p. 25772-25779
Publication: Research - peer-review › Journal article – Annual report year: 2013

Mode-Selective Wavelength Conversion Based On Four-Wave Mixing In A Multimode Silicon Waveguide
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On-chip two-mode division multiplexing using tapered directional coupler-based mode multiplexer and demultiplexer
Ding, Y., Xu, J., Da Ros, F., Huang, B., Ou, H. & Peucheret, C. 2013 In : Optics Express. 21, 8, p. 10376-10382
Publication: Research - peer-review › Journal article – Annual report year: 2013
Polarization diversity DPSK demodulator on the silicon-on-insulator platform with simple fabrication
Ding, Y., Huang, B., Ou, H., Da Ros, F. & Peucheret, C. 2013 In : Optics Express. 21, 6, p. 7828-7834
Publication: Research - peer-review › Journal article – Annual report year: 2013

Polarization Diversity DPSK Demodulator on the Silicon-on-Insulator Platform with Simple Fabrication
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Silicon Photonic Integrated Circuit Mode Multiplexer
Publication: Research - peer-review › Journal article – Annual report year: 2013

Simultaneous Polarization Demultiplexing and Demodulation of PolMux-DPSK Signals in a Silicon Chip
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Systematic comparison of FWM conversion efficiency in silicon waveguides and MRRs
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Topology Optimized Mode Conversion In a Photonic Crystal Waveguide
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Ultra-High-Efficiency Apodized Grating Coupler Using a Fully Etched Photonic Crystal
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Ultrahigh-efficiency apodized grating coupler using fully etched photonic crystals
Publication: Research - peer-review › Journal article – Annual report year: 2013

Wideband polarization splitter and rotator with large fabrication tolerance and simple fabrication process
Ding, Y., Ou, H. & Peucheret, C. 2013 In : Optics Letters. 38, 8, p. 1227-1229
Publication: Research - peer-review › Journal article – Annual report year: 2013

Wide-band Polarization Splitter and Rotator with Large Fabrication Tolerance and Simple Fabrication Process
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

41.6 Gb/s RZ-DPSK to NRZ-DPSK Format Conversion in a Microring Resonator
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Cascadability of Silicon Microring Resonators for 40-Gbit/s OOK and DPSK Optical Signals
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012
Fabrication tolerant polarization splitter and rotator based on a tapered directional coupler
Ding, Y., Liu, L., Peucheret, C. & Ou, H. 2012 In : Optics Express. 20, 18, p. 20021-20027
Publication: Research - peer-review › Journal article – Annual report year: 2012

Linear signal processing using silicon micro-ring resonators
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Modulation Speed Enhancement of Directly Modulated Lasers Using a Micro-ring Resonator
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

On-chip Mode Multiplexer Based on a Single Grating Coupler
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Simultaneous RZ-OOK to NRZ-OOK and RZ-DPSK to NRZ-DPSK format conversion in a silicon microring resonator
Publication: Research - peer-review › Journal article – Annual report year: 2012

Transmission Property of Directly Modulated Signals Enhanced by a Micro-ring Resonator
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Bandwidth and wavelength-tunable optical bandpass filter based on silicon microring-MZI structure
Publication: Research - peer-review › Journal article – Annual report year: 2011

Demultiplexing of OTDM-DPSK signals based on a single semiconductor optical amplifier and optical filtering
Publication: Research - peer-review › Journal article – Annual report year: 2011

Efficient and compact TE-TM polarization converter built on silicon-on-insulator platform with a simple fabrication process
Publication: Research - peer-review › Journal article – Annual report year: 2011

Generation of a 640 Gbit/s NRZ OTDM signal using a silicon microring resonator
Publication: Research - peer-review › Journal article – Annual report year: 2011

Multi-Channel 40 Gbit/s NRZ-DPSK Demodulation Using a Single Silicon Microring Resonator
Publication: Research - peer-review › Journal article – Annual report year: 2010
Silicon-on-insulator polarization splitting and rotating device for polarization diversity circuits
Liu, L., Ding, Y., Yvind, K. & Hvam, J. M. 2011 In : Optics Express. 19, 13, p. 12646-12651
Publication: Research - peer-review › Journal article – Annual report year: 2011

Simple and efficient methods for the accurate evaluation of patterning effects in ultrafast photonic switches
Xu, J., Ding, Y., Peucheret, C., Xue, W., Seoane, J., Zsigri, B., Jeppesen, P. & Mørk, J. 2011 In : Optics Express. 19, 1, p. 155-161
Publication: Research - peer-review › Journal article – Annual report year: 2011

SOA-based OTDM-DPSK Demultiplexing Assisted by Offset-Filtering
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Towards Polarization Diversity on the SOI Platform With Simple Fabrication Process
Publication: Research - peer-review › Journal article – Annual report year: 2011

Ultra-wide Band Signal Generation Using a Silicon Micro-ring Resonator
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Bandwidth tunable filter based on silicon microring-MZI structure
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Experimental validation of efficient methods for the prediction of patterning effects in SOA-based optical switches
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Multi-Channel 40 Gbit/s NRZ-DPSK demodulation using a single silicon microring resonator
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Multi-channel WDM RZ-to-NRZ format conversion at 50 Gbit/s based on single silicon microring resonator
Publication: Research - peer-review › Journal article – Annual report year: 2010

RZ-to-NRZ format conversion at 50 Gbit/s based on a silicon microring resonator
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Tunable microwave phase shifter based on silicon-on-insulator microring resonator
Publication: Research - peer-review › Journal article – Annual report year: 2010

Wideband tunable microwave phase shifter based on silicon-on-insulator dual-microring resonator
Pu, M., Liu, L., Xue, W., Ding, Y., Ou, H., Yvind, K. & Hvam, J. M. 2010 In : Optics Express. 18, 6, p. 6172-6182
Publication: Research - peer-review › Journal article – Annual report year: 2010
Projects:

**Long distance quantum communication**
Da Lio, B., Rottwitt, K., Bacco, D. & Ding, Y.
15/08/2017 → 14/08/2020
Project: PhD

**mid-IR Si Photonic Chips for Optical Interconnects**
Hui, T. L., Galili, M., Ding, Y. & Hu, H.
15/12/2016 → 14/12/2019
Project: PhD

**Silicon Photonic Integrated Devices for Space Division Multiplexing**
Baumann, J. M., Frandsen, L. H., Ding, Y. & Morioka, T.
01/02/2016 → 31/01/2019
Project: PhD

**Silicon PIC for ROADM in MCF Communication — Wavelength band switching**
Ding, Y.
01/11/2013 → 31/10/2016
Project

**Silicon Photonic Integrated Circuits for Reconfigurable Optical Add/Drop Multiplexer in Multicore Fibre Communication**
Ding, Y.
01/11/2013 → 31/10/2016
Project

**Topology Optimized Components for Mode- and Wavelength Division Multiplexing**
Frellsen, L. F., Frandsen, L. H., Ding, Y., Galili, M., Liu, L. & Madsen, S. P.
01/10/2013 → 11/01/2017
Project: PhD