Haiyan Ou - DTU Orbit (15/05/2019)

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Department of Photonics Engineering - Associate Professor
Diode Lasers and LED Systems
Centre of Excellence for Silicon Photonics for Optical Communications

Research outputs:

High-quality factor, high-confinement microring resonators in 4H-silicon carbide-on-insulator
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

An adhesive bonding approach by hydrogen silsesquioxane for silicon carbide-based LED applications
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Double D-centers related donor-acceptor-pairs emission in fluorescent silicon carbide
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Enhanced emission from near ultraviolet LED with highly-reflective p-(Al)GaN layer
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2019 › Research › peer-review

Nonclassical Optical Bistability and Resonance-Locked Regime of Photon-Pair Sources Using Silicon Microring Resonator
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Experimentally validated full-vectorial model of wavelength multicasting via four-wave mixing in straight waveguides
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Direct Growth Of AlGaN nanorod LEDs on graphene-covered Si
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Experimentally validated dispersion tailoring in a silicon strip waveguide with alumina thin-film coating
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

A new type of white LED light source by bonding fluorescent SiC and a near-UV LED
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review
Direct van der Waals epitaxy of crack-free AlN thin film on epitaxial WS2
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Efficiency enhancement of InGaN amber MQWs using nanopillar structures
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Electroluminescence enhancement for near-ultraviolet light emitting diodes with graphene/AZO-based current spreading layers
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review

Enhanced emission and modulation properties of localized surface plasma coupled GaN-based green light-emitting diodes
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

Generation rate scaling: the quality factor optimization of microring resonators for photon-pair sources
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

High-Confinement, High-Q Microring Resonators on Silicon Carbide-On-Insulator (SiCOI)
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

Influence of negative- U centers related carrier dynamics on donor-acceptor-pair emission in fluorescent SiC
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Investigation of the absorption mechanisms of SiC for lighting applications
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2018 › Research › peer-review

Liquid Solution Phase Epitaxial Growth of Al-doped f-SiC for LEDs
Research output: Contribution to conference › Paper – Annual report year: 2018 › Research › peer-review
Dispersion tailoring of a silicon strip waveguide employing Titania-Alumina thin-film coating
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

1.142 μm GaAsBi/GaAs Quantum Well Lasers Grown by Molecular Beam Epitaxy
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Broadband wavelength conversion in a silicon vertical-dual-slot waveguide
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Current Spreading Layer with High Transparency and Conductivity for near-ultraviolet light emitting diodes
Research output: Contribution to conference › Paper – Annual report year: 2017 › Research › peer-review

Detection of effective recombination centers in fluorescent SiC using thermally stimulated luminescence
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Effective optimization of surface passivation on porous silicon carbide using atomic layer deposited Al2O3
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Effect of dopants on the morphology of porous SiC
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Electrically Pumped 1.136 μm GaAsBi/AlGaAs Quantum Well Lasers Grown by Molecular Beam Epitaxy
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Full-vectorial propagation model and modified effective mode area of four-wave mixing in straight waveguides
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

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

Liquid Phase Epitaxial Growth of Al-doped f-SiC for White Light-Emitting Diodes
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review
Localized Surface Plasmon on 6H SiC with Ag Nanoparticles
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Low Temperature Photoluminescence of 6H fluorescent SiC
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Thermally Stimulated Luminescence in 6H Fluorescent SiC
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Time-Efficient High-Resolution Large-Area Nano-Patterning of Silicon Dioxide
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

Ultrafast nonlinear response of silicon carbide to intense THz fields
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

Visible light emission from porous silicon carbide
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

White light emission from engineered silicon carbide
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

White light emission from fluorescent SiC with porous surface
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review

A 2 x 2 imaging MIMO system based on LED Visible Light Communications employing space balanced coding and integrated PIN array reception
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Antireflective SiC Surface Fabricated by Scalable Self-Assembled Nanopatterning
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Combining surface plasmonic and light extraction enhancement on InGaN quantum-well light-emitters
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Comparison of wavelength conversion efficiency between silicon waveguide and microring resonator
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review
Electrically driven surface plasmon light-emitting diodes
Research output: Contribution to conference › Paper – Annual report year: 2016 › Research › peer-review

Enhanced Emission Efficiency of Size-Controlled InGaN/GaN Green Nanopillar Light-Emitting Diodes
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Enhancement of the Modulation Bandwidth for surface Plasmon coupled LEDs for Visible Light Communication
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

Fabrication and Evaluation of porous SiC
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review

Fabrication and surface passivation of porous 6H-SiC by atomic layer deposited films
Lu, W., Ou, Y., Petersen, P. M. & Ou, H., 2016, In : Optical Materials Express. 6, 6, p. 1956-1963
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Formation of porous SiC and PL enhancement by Al2O3 passivation
Research output: Contribution to conference › Paper – Annual report year: 2016 › Research › peer-review

Hybrid surface structures for efficiency enhancement of fluorescent SiC for white LED application
Research output: Contribution to conference › Paper – Annual report year: 2016 › Research › peer-review

Influence of near-field coupling from Ag surface plasmons on InGaN/GaN quantum-well photoluminescence
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Investigations of thin p-GaN light-emitting diodes
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

Investigations of thin p-GaN light-emitting diodes with surface plasmon compatible metallization
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

Linear all-optical signal processing using silicon micro-ring resonators
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Localized Surface Plasmon on SiC with Ag Nanoparticles
Research output: Contribution to conference › Paper – Annual report year: 2017 › Research › peer-review
Luminescence enhancement of near ultraviolet light-emitting diodes
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

On-chip mode division multiplexing technologies
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

Passivation of surface-nanostructured f-SiC and porous SiC
Research output: Contribution to conference › Paper – Annual report year: 2016 › Research › peer-review

Photoluminescence Enhancement in Nanotextured Fluorescent SiC Passivated by Atomic Layer Deposited Al2O3 Films
Lu, W., Ou, Y., Jokubavicius, V., Fadil, A., Syväjärvi, M., Buschmann, V., Ruttinger, S., Petersen, P. M. & Ou, H., 2016, In : Materials Science Forum. 858, p. 493-496
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Photoluminescence enhancement in porous SiC passivated by atomic layer deposited Al2O3 films
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2016 › Research › peer-review

Surface passivation of nano-textured fluorescent SiC by atomic layer deposited TiO2
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

A new type of white light-emitting diode light source basing on fluorescent SiC
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review

Dielectric coating and surface plasmon enhancement of multi-color quantum-well structures
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2015 › Research › peer-review

Effective carrier sweepout in a silicon waveguide by a metal-semiconductor-metal structure
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

Fabrication and improvement of nanopillar InGaN/GaN light-emitting diodes using nanosphere lithography
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Fabrication of InGaN/GaN nanopillar light-emitting diode arrays
Ge nanobelts with high compressive strain fabricated by secondary oxidation of self-assembly SiGe rings.

Internal quantum efficiency enhancement of GaInN/GaN quantum-well structures using Ag nanoparticles.

Luminescence enhancement of green InGaN/GaN nanopillar LEDs

Metal nanoparticles and patterned dielectric on InGaN/GaN LEDs: Combining plasmonic and light extraction enhancement.

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. & Morikoa, T., 2015, In : Optics Express. 23, 3, p. 3292-3298

Photoluminescence enhancement in nano-textured fluorescent SiC passivated by atomic layer deposited Al2O3 films

Scalable nanostructuring on polymer by a SiC stamp: optical and wetting effects
Argyraki, A., Lu, W., Petersen, P. M. & Ou, H., 2015

Signal processing for on-chip space division multiplexing

Silicon carbide as platform for energy applications

Transmittance enhancement in 6H-SiC with nanocone structures
Wavelength-conversion efficiency enhancement in nano-textured fluorescent 6H-SiC passivated by atomic layer deposited titanium oxide

Wavelength Conversion of a 640 Gbit/s DPSK Nyquist Channel Using a Low-Loss Silicon Nanowire

Wavelength Conversion of DP-QPSK Signals in a Silicon Polarization Diversity Circuit

Advances in wide bandgap SiC for optoelectronics

Broadband Antireflection and Light Extraction Enhancement in Fluorescent SiC with Nanodome Structures

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

Fully etched apodized grating coupler on the SOI platform with −0.58 dB coupling efficiency

Improved light extraction efficiency of InGaN/GaN light-emitting diodes using dielectric coated nanopillars

Localized surface plasmon scattering efficiency improvement

Mode-selective wavelength conversion based on four-wave mixing in a multimode silicon waveguide
Nucleation and growth of polycrystalline SiC
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

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

Optimization of light out-coupling in optoelectronic devices using nanostructured surface
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2014 › Research › peer-review

Parametric Phase-sensitive and Phase-insensitive All-optical Signal Processing on Multiple Nonlinear Platforms - Invited talk.
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2014 › Research › peer-review

Plasmon enhanced green GaN light-emitting diodes - Invited paper.
Research output: Contribution to conference › Paper – Annual report year: 2014 › Research › peer-review

Polarization-insensitive wavelength conversion of 40 Gb/s NRZ-DPSK signals in a silicon polarization diversity circuit
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Surface plasmon coupling dynamics in InGaN/GaN quantum-well structures and radiative efficiency improvement
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

The role of defects in fluorescent silicon carbide layers grown by sublimation epitaxy
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

Ultra-low coupling loss fully-etched apodized grating coupler with bonded metal mirror
Ding, Y., Peucheret, C. & Ou, H., 2014, IEEE International Conference on Group Four Photonics . IEEE, p. 139-140
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

Ultra-wide band signal generation using a coupling-tunable silicon microring resonator
Research output: Contribution to journal › Journal article – Annual report year: 2014 › Research › peer-review

Wavelength conversion of a 128 Gbit/s DP-QPSK signal in a silicon polarization diversity circuit
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review
All-optical 10 Gb/s AND logic gate in a silicon microring resonator
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

A scheme to expand the delay-bandwidth product in the resonator-based delay lines by optical OFDM technique
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Broadband antireflection nanodome structures on SiC substrate
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review

Broadband antireflection silicon carbide surface by self-assembled nanopatterned reactive-ion etching
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Broadband antireflective silicon carbide surface produced by cost-effective method
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Characterization of GaInN/GaN quantum wells through surface plasmon coupling.
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2014 › Research › peer-review

Combining DPSK and duobinary for the downstream in 40-Gb/s long-reach WDM-PONs
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Doping and stability of 3C-SiC: from thinfilm to bulk growth
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2013 › Research › peer-review

Enhanced internal quantum efficiency of green emission GaInN/GaN multiple quantum wells by surface plasmon coupling
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2013 › Research › peer-review

Experimental Demonstration of Phase Sensitive Parametric Processes in a Nano-Engineered Silicon Waveguide
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2014 › Research › peer-review

Fabrication of antireflective SiC surface using plasma etching with self-assembled nanopattern
Research output: Contribution to conference › Poster – Annual report year: 2013 › Research › peer-review
Fabrication of broadband antireflective sub-wavelength structures on fluorescent SiC


Lateral boron distribution in polycrystalline SiC source materials


Light extraction efficiency enhancement for fluorescent SiC based white light-emitting diodes


Luminescence enhancement of fluorescent SiC via surface nanostructuring produced by 2-step cost effective method


Mode-Selective Wavelength Conversion Based on Four-Wave Mixing in a Multimode Silicon Waveguide


Nanostructured Antireflection Layer, and Application of Same to LEDs


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

Photoluminescence topography of fluorescent SiC and its corresponding source crystals


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

Polarization Diversity DPSK Demodulator on the Silicon-on-Insulator Platform with Simple Fabrication


Polycrystalline SiC as source material for the growth of fluorescent SiC layers

Resonant Plasmonic Enhancement of InGaN/GaN LED using Periodically Structured Ag Nanodisks
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review

Robust 9-QAM digital recovery for spectrum shaped coherent QPSK signal
Huang, B., Zhang, J., Yu, J., Dong, Z., Li, X., Ou, H., Chi, N. & Liu, W., 2013, In : Optics Express. 21, 6, p. 7216-7221
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Silicon Photonic Integrated Circuit Mode Multiplexer
Research output: Contribution to journal › Journal article – Annual report year: 2013 › Research › peer-review

Simultaneous Polarization Demultiplexing and Demodulation of PolMux-DPSK Signals in a Silicon Chip
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review

Solar Cells Having a Nanostructured Antireflection Layer

Step-flow growth of fluorescent 4H-SiC layers on 4 degree off-axis substrates
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review

Systematic comparison of FWM conversion efficiency in silicon waveguides and MRRs
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review

Ultra-High-Efficiency Apodized Grating Coupler Using a Fully Etched Photonic Crystal
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2013 › Research › peer-review

Wideband polarization splitter and rotator with large fabrication tolerance and simple fabrication process
Wide-band Polarization Splitter and Rotator with Large Fabrication Tolerance and Simple Fabrication Process

41.6 Gb/s RZ-DPSK to NRZ-DPSK Format Conversion in a Microring Resonator

Broadband and omnidirectional light harvesting enhancement of fluorescent SiC

Broadband light-extraction enhanced by arrays of whispering gallery resonators

Characterization of donor-acceptor-pair emission in fluorescent 6H-SiC

Crystal growth and characterization of fluorescent SiC

Enhanced extraction efficiency of fluorescent SiC by surface nanostructuring

Fabrication of broadband antireflective sub-wavelength structures on fluorescent SiC

Fabrication tolerant polarization splitter and rotator based on a tapered directional coupler
Fluorescent SiC as a new material for white LEDs
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Fluorescent SiC as a New Platform for Visible and Infrared Emitting Applications as Well as Prospective Photovoltaics
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Fluorescent SiC based all semiconductor white LED
Research output: Contribution to conference › Paper – Annual report year: 2012 › Research › peer-review

Fluorescent SiC for white light-emitting diodes
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Fluorescent SiC with pseudo-periodic moth-eye structures
Research output: Contribution to journal › Conference article – Annual report year: 2012 › Research › peer-review

Fluorescent silicon carbide materials for white LEDs and photovoltaics
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Lateral boron distribution in polycrystalline SiC source for growth of fluorescent 6H-SiC
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Linear signal processing using silicon micro-ring resonators
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Modulation Speed Enhancement of Directly Modulated Lasers Using a Micro-ring Resonator
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Omnidirectional luminescence enhancement of fluorescent SiC via pseudoperiodic antireflective subwavelength structures
Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

On-chip Mode Multiplexer Based on a Single Grating Coupler
Research output: Contribution to conference › Conference article – Annual report year: 2012 › Research › peer-review
Photoluminescence and Raman Spectroscopy Characterization of Boron- and Nitrogen-Doped 6H Silicon Carbide


Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Photoluminescence topography of fluorescent SiC and its corresponding source crystals


Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Polycrystalline SiC as source material for the growth of fluorescent SiC layers


Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Simultaneous RZ-OOK to NRZ-OOK and RZ-DPSK to NRZ-DPSK format conversion in a silicon microring resonator


Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Spectral Design Flexibility of LED Brings Better life


Research output: Contribution to journal › Conference article – Annual report year: 2012 › Research › peer-review

Step-flow growth of fluorescent 4H-SiC layers on 4 degree off-axis substrates


Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2012 › Research › peer-review

Three-dimensional fabrication and characterisation of core-shell nano-columns using electron beam patterning of Ge-doped SiO2


Research output: Contribution to journal › Journal article – Annual report year: 2012 › Research › peer-review

Transmission Property of Directly Modulated Signals Enhanced by a Micro-ring Resonator


Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2012 › Research › peer-review

Antireflective sub-wavelength structures for improvement of the extraction efficiency and color rendering index of monolithic white light-emitting diode


Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Bandwidth and wavelength-tunable optical bandpass filter based on silicon microring-MZI structure


Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review
Carrier Lifetimes in Fluorescent 6H-SiC for LEDs Application
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2011 › Research › peer-review

Characterization of donor-acceptor-pair emission in fluorescent 6H-SiC
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2011 › Research › peer-review

Donor-acceptor-pair emission characterization in N-B doped fluorescent SiC
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Formation and characterization of varied size germanium nanocrystals by electron microscopy, Raman spectroscopy, and photoluminescence
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

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

Geometrical control of 3C and 6H-SiC nucleation on low off-axis substrates
Research output: Contribution to journal › Journal article – Annual report year: 2011 › Research › peer-review

Multi-Channel 40 Gbit/s NRZ-DPSK Demodulation Using a Single Silicon Microring Resonator
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Photoluminescence and Raman spectroscopy characterization of boron- and nitrogen-doped 6H silicon carbide
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

Size-effect of germanium nanocrystals
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2011 › Research › peer-review

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

360° tunable microwave phase shifter based on silicon-on-insulator dual-microring resonator
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review
All-optical tunable photonic crystal cavity
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review

Bandwidth tunable filter based on silicon microring-MZI structure
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review

Dags för nästa generation lysdioder
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research

Microwave photonic phase shifter based on tunable silicon-on-insulator microring resonator
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review

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

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

‘No blue’ LED solution for photolithography room illumination
Research output: Chapter in Book/Report/Conference proceeding › Book chapter – Annual report year: 2010 › Research › peer-review

‘No Blue’ White LED
Research output: Chapter in Book/Report/Conference proceeding › Book chapter – Annual report year: 2010 › Research › peer-review

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

Silicon-on-insulator ring-shaped photonic crystal waveguides for refractive index sensing
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review
Topology-optimized slow-light couplers for ring-shaped photonic crystal waveguide
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review

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

Ultra-low-loss inverted taper coupler for silicon-on-insulator ridge waveguide
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Ultra-low loss nano-taper coupler for Silicon-on-Insulator ridge waveguide
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2010 › Research › peer-review

Widely tunable microwave phase shifter based on silicon-on-insulator dual-microring resonator
Research output: Contribution to journal › Journal article – Annual report year: 2010 › Research › peer-review

Fabrication of Ge nanocrystals doped silica-on-silicon waveguides and observation of their strong quantum confinement effect
Research output: Contribution to journal › Journal article – Annual report year: 2009 › Research › peer-review

Light emitting diodes as an alternative ambient illumination source in photolithography environment
Research output: Contribution to journal › Journal article – Annual report year: 2009 › Research › peer-review

Low insertion loss SOI microring resonator integrated with nano-taper couplers
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2009 › Research › peer-review

New light with diodes: light for a brighter future
Research output: Chapter in Book/Report/Conference proceeding › Book chapter – Annual report year: 2009 › Communication

Fabrication of Ge Nanocrystals Doped Silica-on-Silicon Waveguides and Observation of Their Strong Quantum Confinement Effect
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2008 › Research › peer-review

Ge nanoclusters in PECVD-deposited glass caused only by heat treatment
Ge nanoclusters in PECVD-deposited glass after heat treating and electron irradiation

Ge-nanostructures doped silica-on-silicon waveguides

Ultra-compact silica-on-silicon microresonators by etching deep trenches

A Generic Lightwave Integrated Chip (GLIC) for fast high-resolution wavelength monitoring

Deep glass etched microring resonators based on silica-on-silicon technology

Ge-nanoclusters were formed by electron-beam irradiation in Ge-doped silica-on-silicon thin films. The size and density of the clusters can be controlled by the irradiation intensity and time.

Strained silicon as a new electro-optic material

Deep silica and silicon etching in silica-on-silicon waveguide technology

Ge-Nanoclusters embedded in Ge-doped silica-on-silicon waveguides

Nonlinear germanium nanocluster doped planar waveguides
Amorphous silicon rich silicon nitride optical waveguides for high density integrated optics
Research output: Contribution to journal › Journal article – Annual report year: 2004 › Research › peer-review

Engineering sidewall angles of silica-on-silicon waveguides
Research output: Contribution to journal › Journal article – Annual report year: 2004 › Research › peer-review

GE NANOCLUSTERS IN PLANAR GLASS WAVEGUIDES DEPOSITED BY PECVD
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2004 › Research › peer-review

Ge nanoclusters in planar glass waveguides deposited by PECVD tentative presentation
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2004 › Research › peer-review

Low-loss silicon rich silicon nitride waveguides for high density integrated optics
Research output: Contribution to conference › Poster – Annual report year: 2004 › Research › peer-review

Low-loss silicon rich silicon nitride waveguides for high density integrated optics
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2004 › Research › peer-review

Orthogonal optical labeling based on a 40 Gbit/s DPSK payload and a 2.5 Gbit/s IM label
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2004 › Research › peer-review

Trenches for building blocks of advanced planar components
Research output: Contribution to conference › Poster – Annual report year: 2004 › Research › peer-review

Trenches for building blocks of advanced planar components
Research output: Contribution to journal › Journal article – Annual report year: 2004 › Research › peer-review

Different index contrast silica-on-silicon waveguides by PECVD
Research output: Contribution to journal › Journal article – Annual report year: 2003 › Research › peer-review

A flexible approach for the apodization of planar waveguide bragg gratings
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2003 › Research › peer-review

Reactive ion etching in silica-on-silicon planar waveguide technology
Haiyan, O., 2003, ECIO.
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2003 › Research › peer-review
Transmission and label encoding/erasyre of orthogonally labelled signal using 40 Gbit/s RZ-DPSK payload and 2.5 Gbit/s IM label
Research output: Contribution to journal › Journal article – Annual report year: 2003 › Research › peer-review

Silica-on-silicon waveguide fabrication
Research output: Contribution to journal › Journal article – Annual report year: 2001 › Research › peer-review

Projects:

New light sources based on the nonlinealities of silicon carbide
Shi, X., Ou, H., Petersen, P. M. & Rottwitt, K.
01/12/2018 → 30/11/2021
Project: PhD

LASIC: Laser-driven white light source employing fluorescent silicon carbide (LASIC)
Ou, H., Tarekegne, A. T., Jensen, O. B., Dam-Hansen, C., Chi, M. & Thorseth, A.
01/07/2018 → 01/07/2020
Project: Research

Nonlinear Silicon Carbide Waveguide
Zheng, Y., Ou, H., Hu, H. & Pu, M.
Samfinansierede - Virksomhed
15/01/2017 → 14/01/2020
Project: PhD

A new type of white-light diode using fluorescent silicon carbide
Wei, Y., Ou, H., Jepsen, P. U., Julsgaard, B. & Sun, J.
Samfinansieret - Andet
01/09/2015 → 31/12/2018
Project: PhD

A new type of white light-emitting diode using fluorescent silicon carbide
Lin, L., Ou, H., Jensen, F., Frandsen, L. H., Kamiyama, S., Liu, H. & Herstrøm, B.
Samfinansieret - Andet
01/09/2015 → 23/01/2019
Project: PhD

Innovative White Light-emitting Diodes Light Source
Lu, W., Ou, H., Ou, Y., Petersen, P. M., Jensen, F., Chaussende, D. & Friedel, B.
Samfinansieret - Andet
01/09/2014 → 06/12/2017
Project: PhD

Nano-structured filters
Programbevilling
01/09/2007 → 20/04/2011
Project: PhD

Northern Light Emitting Diode Initiative (NORLED)
Forskningsrådsfinansiering
Coherent detection for optical communication systems
1/3 DTU-stip, 2/3 FUR/andet
01/06/2009 → 22/06/2012
Project: PhD

Dispersion Engineered Silicon Photonic Wires for Signal Processing
Mitrovic, M., Frandsen, L. H., Guan, X., Oxenløwe, L. K., Ou, H., Moss, D. J. & Sciancalepore, C.
Eksternt finansieret virksomhed
01/10/2013 → 26/09/2017
Project: PhD

Super bright light-emitting diode
Fadil, A., Ou, H., Dam-Hansen, C., Petersen, P. M., Schmidt, M. S., Paiella, R. & Ohkawa, K.
Forskningsrådsfinansiering
01/07/2012 → 17/02/2016
Project: PhD

Metal nanocrystal enhanced thin film solar cells
Technical University of Denmark
15/01/2011 → 12/12/2014
Project: PhD

Black silicon carbide
Argyraki, A. & Ou, H.
01/09/2012 → 31/08/2013
Project: Research

SBLED: Super bright light-emitting diode using nanophotonics
Ou, H., Dam-Hansen, C., Chen, Y., Lu, Y. & Wang, G.
Styrelsen for Forskning og Uddannelse
01/07/2012 → 30/06/2015
Project: Research

NORLED: Northern Light Emitting Diodes Initiative
Forskningsrådene - Andre
01/11/2009 → 31/10/2012
Project: Research

Plasmon-based Light-Emitting Diodes
Chen, Y., Ou, H. & Mørk, J.
Forskningsrådene - Andre
15/03/2011 → 14/03/2013
Project: Research
Activities:

Investigation of the absorption mechanisms of SiC for lighting applications
Abebe Tilahun Tarekegne (Invited speaker), Haiyan Ou (Invited speaker)
29 Oct 2018 → 31 Oct 2018
Activity: Talks and presentations › Conference presentations

Investigation of photoluminescence emission in Al-N co-doped 6H-SiC by temperature-dependent measurements
Abebe Tilahun Tarekegne (Guest lecturer), Kion Norman (Guest lecturer), Valdas Jokubavicius (Guest lecturer), Mikael Syvajarvi (Guest lecturer), Philipp Schuh (Guest lecturer), P. Wellmann (Guest lecturer), Haiyan Ou (Guest lecturer)
2 Sep 2018 → 7 Sep 2018
Activity: Talks and presentations › Conference presentations

Light emitting diodes
Haiyan Ou (Speaker)
25 Nov 2010
Activity: Talks and presentations › Conference presentations

Integrated Optics on silicon substrate
Haiyan Ou (Speaker)
23 Nov 2010
Activity: Talks and presentations › Conference presentations

Integrated Optics on silicon substrate
Haiyan Ou (Speaker)
19 Nov 2010
Activity: Talks and presentations › Conference presentations

Integrated optics on silicon substrate
Haiyan Ou (Speaker)
17 Nov 2010
Activity: Talks and presentations › Conference presentations

light emitting diodes, yesterday, today and tomorrow
Haiyan Ou (Speaker)
15 Nov 2010 → 17 Nov 2010
Activity: Talks and presentations › Conference presentations

Newlighting-New LEDs
Haiyan Ou (Speaker)
17 Mar 2010
Activity: Talks and presentations › Conference presentations

Silicon-based Devices in Optical Communication
Haiyan Ou (Speaker)
1 Aug 2009
Activity: Talks and presentations › Conference presentations

Silicon-based Devices in Optical Communication and Energy Saving
Haiyan Ou (Speaker)
1 Aug 2009