Proceedings of SPIE, the International Society for Optical Engineering - Research outputs - DTU Orbit (16/10/2019)

Electrical breakdown phenomena of dielectric elastomers

Master/slave: A better tool for Gabor filtering optical coherence tomography imaging instruments

Towards an integrated squeezed light source

On-chip RF-to-optical transducer

Industrial characterization of nano-scale roughness on polished surfaces

130-nm tunable grating-mirror VCSEL

Accurate and Simple Calibration of DLP Projector Systems

Demonstration of a variable plasmonic beam splitter

DLP technology application: 3D head tracking and motion correction in medical brain imaging

Epitaxial growth of quantum dots on InP for device applications operating at the 1.55 μm wavelength range

Finger image quality based on singular point localization

Geometry optimization of tubular dielectric elastomer actuators with anisotropic metallic electrodes

Impact of primary aberrations on coherent lidar performance

Modeling of ultrafast THz interactions in molecular crystals

Modeling the leakage of LCD displays with local backlight for quality assessment

Non-collinear upconversion of incoherent light: designing infrared spectrometers and imaging systems

Nonplanar nanoselective area growth of InGaAs/InP

Optical surface scanning for respiratory motion monitoring in radiotherapy: a feasibility study

Preparing the optics technology to observe the hot universe

Science requirements and optimization of the silicon pore optics design for the Athena mirror

Sparse and shrunken estimates of MRI networks in the brain and their influence on network properties
The Large Observatory For x-ray Timing

Topology-optimized broadband surface relief transmission grating

Upconversion enhanced degenerate four-wave mixing in the mid-infrared for sensitive detection of acetylene in gas flows

3D terahertz beam profiling

Adapting an optical nanoantenna for high E-field probing applications to a waveguided optical waveguide (WOW)

Adaptive local backlight dimming algorithm based on local histogram and image characteristics

A new optical method improves fluorescence guided diagnosis of bladder tumor in the outpatient department and reveals significant photo bleaching problems in established inpatients PDD techniques

A photonic nanowire trumpet for interfacing a quantum dot and a Gaussian free-space mode

Bloch-wave engineered submicron-diameter quantum-dot micropillars for cavity QED experiments

Cellular scanning strategy for selective laser melting: Evolution of optimal grid-based scanning path & parametric approach to thermal homogeneity

Coating optimization for the ATHENA+ mission

Connectorization of fibre Bragg grating sensors recorded in microstructured polymer optical fibre

Continuous-wave near-photon counting spectral imaging detector in the mid-infrared by upconversion

Cross-correlated imaging of distributed mode filtering rod fiber

Design and geometry of hybrid white light-emitted diodes for efficient energy transfer from the quantum well to the nanocrystals

Design of an 1800nm Raman amplifier

Design optimization of a linear actuator

Developing aircraft photonic networks for airplane systems

Dynamically constrained pipeline for tracking neural progenitor cells

EAP high-level product architecture

Effects of nonlinear phase modulation on quantum frequency conversion using four-wave mixing Bragg scattering

Efficient concept generating 3.9 W of diffraction-limited green light with spectrally combined tapered diode lasers
Efficient formation of extended line intensity patterns using matched-filtering generalized phase contrast

Electrical injection schemes for nanolasers

Engineering the propagation of high-k bulk plasmonic waves in multilayer hyperbolic metamaterials by multiscale structuring

Fabrication and optical trapping of handling structures for reconfigurable microsphere magnifiers

Hard X-ray/soft gamma-ray telescope designs for future astrophysics missions

High resolution mid-infrared spectroscopy based on frequency upconversion

Imprinted and injection-molded nano-structured optical surfaces

Light-driven robotics for nanoscopy

Light quality and efficiency of consumer grade solid state lighting products

Modal instability of rod fiber amplifiers: a semi-analytic approach

Multispectral mid-infrared imaging using frequency upconversion

Multi-THz spectroscopy of mobile charge carriers in P3HT:PCBM on a sub-100 fs time scale

New horizons for Supercontinuum light sources: from UV to mid-IR

Nonlinear spatial mode imaging of hybrid photonic crystal fibers

Nonlocal modification and quantum optical generalization of effective-medium theory for metamaterials

Photonic wires and trumpets for ultrabright single photon sources

Plasmonic modulator based on thin metal-semiconductor-metal waveguide with gain core

Platform based design of EAP transducers in Danfoss PolyPower A/S

Propagation and excitation of graphene plasmon polaritons

Quantum-dot micropillars for parametric THz emission

Spatial properties of a terahertz beam generated from a two-color air plasma

Speed enhancement in VCSELs employing grating mirrors
Systematic investigation of the temperature behavior of InAs/InP quantum nanostructure passively mode-locked lasers

Terahertz semiconductor nonlinear optics

The impact of external optical feedback on the degradation behavior of high-power diode lasers

The photonic nanowire: an emerging platform for highly efficient single-photon sources for quantum information applications

Thermal effect-resilient design of large mode area double-cladding Yb-doped photonic crystal fibers

Thermal-recovery of modal instability in rod fiber amplifiers

Tunable Resonant-Cavity-Enhanced Photodetector with Double High-Index-Contrast Grating Mirrors

VCSELs with a high-index-contrast grating for mode-division multiplexing

Wyner-Ziv Coding of Depth Maps Exploiting Color Motion Information

X-ray optics developments at ESA

X-ray optics for axion helioscopes

3D shape measurement using deterministic phase retrieval and a partially developed speckle field

A 3D CZT hard x-ray polarimeter for a balloon-borne payload

Absorption enhancement in metal nanoparticles for photoemission current for solar cells

Accelerator experiments with soft protons and hyper-velocity dust particles: application to ongoing projects of future X-ray missions

Active resonance tuning of stretchable plasmonic structures

An integrated payload design for the Exoplanet Characterisation Observatory (EChO)

Anti-symmetric hybrid photonic crystal fibers with enhanced filtering and bending properties

Application of an EMCCD camera for calibration of hard X-ray telescopes

Are there novel resonances in nanoplasmnic structures due to nonlocal response?

ATHENA optimized coating design
Avoided-crossing based modal cut-off analysis of 19-cell double-cladding photonic crystal fibers

Bio Optofluidics Cell Sorter – cell-BOCS Concept and Applications

Broadband Fourier domain mode-locked laser for optical coherence tomography at 1060 nm

Classification of Polarimetric SAR Data Using Dictionary Learning

Coherent fiber supercontinuum laser for nonlinear biomedical imaging

Combined Characterization Techniques to Understand the Stability of a Variety of Organic Photovoltaic Devices - the ISOS-3 inter-laboratory collaboration

Comparative study of the performance of semiconductor laser based coherent Doppler lidars

CW and pulsed performance of Tm-doped photonic crystal fiber lasers

Design optimization of the distributed modal filtering rod fiber for increasing single mode bandwidth

Development and characterization of coatings on Silicon Pore Optics substrates for the ATHENA mission

Development of a compact Bio-Optofluidic Cell Sorter

Development status of a CZT spectrometer prototype with 3D spatial resolution for hand x-ray astronomy

Effects of nonlocal response on the density of states of hyperbolic metamaterials

Enhanced light absorption in an ultrathin silicon solar cell utilizing plasmonic nanostructures

Exploiting the Error-Correcting Capabilities of Low Density Parity Check Codes in Distributed Video Coding using Optical Flow

External-cavity high-power dual-wavelength tapered amplifier with tunable THz frequency difference

Fiber design and realization of point-by-point written fiber Bragg gratings in polymer optical fibers

Fluorescent SiC with pseudo-periodic moth-eye structures

Frequency-doubled diode laser for direct pumping of Ti:sapphire lasers

Highly efficient high power single-mode fiber amplifier utilizing the distributed mode filtering bandgap rod fiber

High-power single-frequency photonic bandgap fiber amplifier at 1178 nm

High-speed polarization-sensitive OCT at 1060 nm using a Fourier domain mode-locked swept source
Improved space bandwidth product in image upconversion

Influence of micro- and nanofillers on electro-mechanical performance of silicone EAPs

Large amplitude oscillatory measurements as mechanical characterization methods for soft elastomers

Lasing in Thulium doped Polarizing Photonic Crystal Fibers (PCF)

LOFT - The large observatory for x-ray timing

Metamaterials modelling, fabrication, and characterisation techniques

Micromanipulation and microfabrication for optical microrobotics

Museum lighting for golden artifacts, with low correlated color temperature, high color uniformity and high color rendering index, using diffusing color mixing of red, cyan, and white-light-emitting diodes

Nonlinear propagation of strong-field THz pulses in doped semiconductors

Nonperturbative cavity-QED between a single quantum dot and a metal nanoparticle

Optical fiber sensors fabricated by the focused ion beam technique

Optical telescope BIRT in ORIGIN for gamma ray burst observing

Optimal local dimming for LED-backlit LCD displays via linear programming

Optimization of light quality from color mixing light-emitting diode systems for general lighting

Photonic crystal fibers for supercontinuum generation pumped by a gain-switched CW fiber laser

Quantum optics with quantum dots in photonic nanowires

Reducing dephasing in coupled quantum dot-cavity systems by engineering the carrier wavefunctions

Sampling conditions for gradient-magnitude sparsity based image reconstruction algorithms

Selectivity of spatial filtering velocimetry of objective speckles for measuring out-of-plane motion

Silicon pore optics developments and status

Slow-light enhancement of gain

Slow-light enhancement of spontaneous emission in active photonic crystal waveguides
Spectral Design Flexibility of LED Brings Better life

Speedup of optimization-based approach to local backlight dimming of HDR displays

Stability and degradation of organic photovoltaics fabricated, aged, and characterized by the ISOS 3 inter-laboratory collaboration

Stereo side information generation in low-delay distributed stereo video coding

Structure-mediated micro-to-nano coupling using sculpted light and matter

Supercontinuum - broad as a lamp, bright as a laser, now in the mid-infrared

Surface plasmon polariton modulator with optimized active layer

Temperature compensated, humidity insensitive, high-$T_g$ TOPAS FBGs for accelerometers and microphones

The LOFT wide field monitor

The LOFT wide field monitor simulator

The readout system and the trigger algorithm implementation for the UFFO Pathfinder

The slewing mirror telescope of the Ultra Fast Flash Observatory Pathfinder

THz quantum-confined Stark effect in semiconductor quantum dots

Truly single-mode polarization maintaining hollow core PCF

Ultra-Fast Flash Observatory for observation of early photons from gamma ray bursts

Using pico-LCoS SLMs for high speed cell sorting

VCSELs and silicon light sources exploiting SOI grating mirrors

Wave-front-engineered grating mirrors for VCSELs

WOW: light print, light propel, light point

Ytterbium-doped large-mode-area photonic crystal fiber amplifier with gain shaping for use at long wavelengths

870nm Bragg grating in single mode TOPAS microstructured polymer optical fibre

Advanced simulations of x-ray beam propagation through CRL transfocators using ray-tracing and wavefront propagation methods
All-fiber 7x1 signal combiner for incoherent laser beam combining

All-solid birefringent hybrid photonic crystal fiber based interferometric sensor for measurement of strain and temperature

A Monte Carlo approach for simulating the propagation of partially coherent x-ray beams

A simple model for 2D image upconversion of incoherent light

BioPhotonics Workstation: a university tech transfer challenge

Cavity quantum electrodynamics studies with site-controlled InGaAs quantum dots integrated into high quality microcavities

Coatings for the NuSTAR mission

Deposition of sol-gel sensor spots by nanoimprint lithography and hemi-wicking

Design, fabrication, and characterization of silicon pore optics for ATHENA/IXO

Developing our Next Generation BioPhotonics Workstation

Development of nanostructured protective "sight glasses" for IR gas sensors

Differential thermal analysis microsystem for explosive detection

Direct pumping of ultrashort Ti:sapphire lasers by a frequency doubled diode laser

Earth-Affecting Solar Causes Observatory (EASCO): a mission at the Sun-Earth L5

Electrically pumped photonic nanowire single-photon source with an efficiency of 89%

Enhancing slow- and fast-light effects in quantum dot semiconductor waveguides through ultrafast dynamics

ESA-led ATHENA/IXO optics development status

Experimental evaluation of a model for the influence of coherent wind lidars on their remote measurements of atmospheric boundary-layer turbulence

Extending JPEG-LS for low-complexity scalable video coding

Fabrication and characterization of woodpile structures

First results from the ground calibration of the NuSTAR flight optics

Frequency Stepped Pulse Train Modulated Wind Sensing Lidar
Functionalized 2PP structures for the BioPhotonics Workstation

High resolution 2D image upconversion of incoherent light

Hybrid large mode area photonic crystal fiber for distributed spectral filtering and single-mode operation

Low-NA single-mode LMA photonic crystal fiber amplifier

McXtrace: A modern ray-tracing package for X-ray instrumentation

Modeling LCD Displays with Local Backlight Dimming for Image Quality Assessment

MT_RAYOR: a versatile raytracing tool for x-ray telescopes

Multi-colorimetric sensor array for detection of explosives in gas and liquid phase

New elastomeric silicone based networks applicable as electroactive systems

NuSTAR ground calibration: The Rainwater Memorial Calibration Facility (RaMCaF)

Optical currents in vector fields

Passive synchronized Q-switching between a quasi-three-level and a four-level laser

Polymer PCF Bragg grating sensors based on poly(methyl methacrylate) and TOPAS cyclic olefin copolymer

Preliminary coating design and coating developments for ATHENA

Quenched transmission of light through ultrathin metal films

Sensing characteristics of birefringent microstructured polymer optical fiber

Single-mode 7-cell core hollow core photonic crystal fiber with increased bandwidth

Single-mode regime of 19-cell Yb-doped double-cladding photonic crystal fibers

Sparse principal component analysis in hyperspectral change detection

Spatial and spectral imaging of LMA photonic crystal fiber amplifiers

Spectral narrowing of a 980 nm tapered diode laser bar

Studies of plasmonic hot-spot translation by a metal-dielectric layered superlens

The mirror module design for the cryogenic x-ray imaging spectrometer on-board ORIGIN
Unified approach for retrieval of effective parameters of metamaterials

Xsense: a miniaturised multi-sensor platform for explosives detection

10-GHz 1.59-μm quantum dash passively mode-locked two-section lasers

3D characterization of the forces in optical traps based on counter-propagation beams shaped by a spatial light modulator

7+1 to 1 pump/signal combiner for air-clad fiber with 15 m MFD PM single-mode signal feed-through

80-nm-tunable high-index-contrast subwavelength grating long-wavelength VCSEL: Proposal and numerical simulations

A closer look at dynamic speckles and the use of their fine-structure for object measurements

A highly efficient single-photon source based on a quantum dot in a photonic nanowire

Alleviate photo darkening by single-mode RMO fiber design

Analysis of laser speckle patterns from fingertips

Analytic expressions for level crossing for stochastic signals with relevance in optics

Antenna-assisted enhanced transmission through subwavelength nanoholes

Autofluorescence of pigmented skin lesions using a pulsed UV laser with synchronized detection: clinical results

Cavity mode control in side-coupled periodic waveguides: theory and experiment

Counter-propagating patterns in the BioPhotonics Workstation

going more out of light for trapping and manipulation

Coupling of cavities - the way to impose control over their modes

Development of a 3D CZT detector prototype for Laue Lens telescope

Development of the colorimetric sensor array for detection of explosives and volatile organic compounds in air

Dynamical performance for science-mode stationkeeping with an external occulter

Dynamical properties of speckled speckles

Efficient multi-mode to single-mode conversion in a 61 port photonic lantern

Electrically tunable liquid crystal photonic bandgap fiber laser
Eyjafjallajökull volcano ash plume detection in the frame of the new constituting lidar network Leonet

FDML swept source at 1060 nm using a tapered amplifier

Fiber-optical microphones and accelerometers based on polymer optical fiber Bragg gratings [invited]

Fractal THz metamaterials

design, fabrication and characterisation

Hexabundles: imaging fibre arrays for low-light astronomical applications

Higher-order mode suppression in rod-type photonic crystal fibers with sectioned doping and enlarged core

High-index-contrast subwavelength grating VCSEL

High-power FDML laser for swept source-OCT at 1060 nm

Linear and kernel methods for multi- and hypervariate change detection

Metal-dielectric composites with tunable optical properties

Miniaturised optical sensors for industrial applications

Monolithic Yb-fiber femtosecond laser with intracavity all-solid PBG fiber and ex-cavity HC-PCF

Nanoimprinted polymer chips for light induced local heating of liquids in micro- and nanochannels

Nanoimprinted polymer photonic crystal dye lasers

Optical twisters

beams having twists in both phase and amplitude [invited]

Performance of multilayer coated silicon pore optics

Photonic integrated single-sideband modulator / frequency shifter based on surface acoustic waves

Plasmonic nanostructures: local versus nonlocal response

Polarization speckles and generalized Stokes vector wave: a review [invited]

Polymer-coated vertical-cavity surface-emitting laser diode vapor sensor

Power-scalable long-wavelength Yb-doped photonic bandgap fiber sources
Real-time reconfigurable counter-propagating beam-traps

Recent advances in slow and fast light for applications in microwave photonics [invited]

Rigorous analysis of non-magnetic cloaks

Spontaneous emission of quantum dots in disordered photonic crystal waveguides

Statistics of polarization speckle: theory versus experiment

Stimulated Raman scattering in microstructured polymer optical fibers

Structured light 3D tracking system for measuring motions in PET brain imaging

Surface plasmon polariton excitation and extraordinary optical transmission in metallic grating structures with subwavelength slits

The Nuclear Spectroscopic Telescope Array (NuSTAR)

Theory of second-harmonic generation in silica nanowires

Three-dimensional positioning with optofluidic microscope

Time-lens based optical packet pulse compression and retiming

Time-resolved terahertz spectroscopy of conjugated polymer/CdSe nanorod composites [invited]

Towards meta-devices

Transform domain Wyner-Ziv video coding with refinement of noise residue and side information

Ultrafast conductivity dynamics in optically excited InGaN/GaN multiple quantum wells, observed by transient THz spectroscopy

Waveguide-based optofluidics [invited]

Xsense: using nanotechnology to combine detection methods for high sensitivity handheld explosives detectors

Amplification and ASE suppression in a polarization-maintaining ytterbium-doped solid-core photonic bandgap fibre

An experimental investigation of Fang's Ag superlens suitable for integration

Coating of silicon pore optics
Control of ultrafast pulse propagation in semiconductor components
[invited]

Degradation and stability of R2R manufactured polymer solar cells

Evaluation of epoxy for use on NuSTAR optics

Inhibition of yeast growth during long term exposure to laser light around 1064 nm
[Invited paper]

Microsystem technology based diode lasers and Raman sensors for in situ food quality control

NuSTAR hard x-ray optics design and performance

Optimizations of Pt/SiC and W/Si multilayers for the Nuclear Spectroscopic Telescope Array

Photo darkening of ytterbium cw fiber lasers

Polymer photonic crystal dye lasers as label free evanescent cell sensors

Airclad fiber laser technology

A three-dimensional CZT detector as a focal plane prototype for a Laue Lens telescope

Design and clinical results from a fibre optic manometry catheter for oesophageal motility studies

Laser-induced plasma from pure and doped water-ice at high fluence by ultraviolet and infrared radiation - art. no. 70050X

Low atomic number coating for XEUS silicon pore optics

Photonic crystal couplers for slow light

Single-polarization single-transverse-mode rod-type photonic crystal fiber with mode-field-area of 2300 μm2

Wavelength converter placement in optical networks with dynamic traffic

Analysis of the dependence of the guided mode field distribution on the silica bridges in hollow-core Bragg fibers

Birefringent hollow core fibers

EDGE: Explorer of diffuse emission and gamma-ray burst explosions

Fabrication of plasmonic waveguides for device applications

Femtosecond laser-induced cavitations in the lens of the human eye
Charge transport in Fe2O3 films deposited on nanowire arrays

Laser doppler semiconductor anemometry of vortes flow behind the vane wheel rotor of the water turbine

Photoelectrochemical hydrogen production using nanostructured alpha-Fe2O3 electrodes

T-ray spectroscopy of biomolecules: from chemical recognition toward biochip analysis - horizons and hurdles

Numerical investigations on the performance of external-cavity mode-locked semiconductor lasers

Optical frequency up-conversion in multimode and single-mode fibre radio systems

Fabrication and performance of Constellation-X hard x-ray telescope prototype optics using segmented glass

The long duration flight of the TopHat experiment

B-MINE, the balloon-borne microcalorimeter nuclear line explorer

Coating of the HEFT telescope mirrors. Methods and results

Development and production of hard X-ray multilayer optics for HEFT

Development of precision hard X-ray multilayer optics with sub-arcminute performance

High resolution spectroscopic imaging mission (HIS)

Overview of segmented glass optics development for the Constellation-X hard X-ray telescope

Radiation damage effects in CZT drift strip detectors

SAO balloon-borne microcalorimeter nuclear line explorer

Semiconductor quantum-dot lasers and amplifiers

Thin plastic shell X-ray optics: an update

Antenna characteristics and air-ground interface deembedding methods for stepped-frequency ground-penetrating radar measurements

Resolution requirements for thermal detection of buried land mines

A novel DC Magnetron sputtering facility for space research and synchrotron radiation optics

Calibration and modelling of the SODART-OXS Bragg spectrometer onboard the SRG satellite
SODART optical block of the SRG satellite
Design and integration

A synchrotron radiation facility for x-ray astronomy

Development of grazing incidence multilayer mirrors for hard X-ray focusing telescopes

Integrated microfluidic - optical detection system on a chip

Investigation of Substrates and Mounting Techniques for the High Energy Focusing Telescope (HEFT)

Microfabricated flow system for manipulation and sorting of living cells

Novel Type of Highly Photosensitive Germanium Doped Silica Glass: Co-doping with Nitrogen

The Objective Crystal Spectrometer OXS on the Spectrum-X-γ Satellite Crystal Calibrations

Ultrastrong UV-written gratings in PECVD-grown germanosilicate waveguides

X-ray Calibration of the SODART Flight Telescope

Hard and soft x-ray study of the correlation between substrate quality and multilayer performance for Co/C coating produced by electron beam evaporation using ion polishing

Multilayer x-ray mirrors for the objective crystal spectrometer on the Spectrum Roentgen Gamma satellite

X-ray study of a SODART flight telescope using the expanded beam x-ray optics beamline at the Daresbury synchrotron

Expanded beam x-ray optics calibration facility at the Daresbury Synchrotron

Multilayer supermirrors: broadband reflection coatings for the 15- to 100-keV range

Preliminary results of a feasibility study for a hard x-ray Kirkpatrick-Baez telescope

X-ray study of a test quadrant of the SODART telescopes using the expanded beam x-ray optics facility at the Daresbury synchrotron

XSPECT telescopes on the SRG: optical performance

Analysis of rocking curve measurements of LiF flight crystals for the objective crystal spectrometer on SPECTRUM-X-GAMMA

High energy x-ray reflectivity and scattering study from spectrum-x-gamma flight mirrors

High-resolution x-ray scatter and reflectivity study of sputtered IR surfaces
High-resolution x-ray studies of an AXAF high-energy transmission grating

Measurement of multilayer reflectivities from 8 keV to 130 keV

Medium-sized grazing incidence high-energy X-ray telescopes employing continuously graded multilayers

Multilayered supermirror structures for hard x-ray synchrotron and astrophysics instrumentation

A graded d-spacing multilayer telescope for high-energy x-ray astronomy

Qualification study of LiF flight crystals for the objective crystal spectrometer on the SPECTRUM-X-GAMMA satellite

X-ray scattering measurements from thin-foil x-ray mirrors

Performance of microstrip proportional counters for x-ray astronomy on spectrum-roentgen-gamma

Measurements of X-ray relectivities of Au-coatings at several energies

A Test Facility For Astronomical X-Ray Optics

Status Of The Development Of A Thin Foil High Throughput X-Ray Telescope For The Soviet Spectrum X-Gamma Mission

X-Ray Measurements Of Total Reflectivity And Scattering From Au-Coated Foils.