

First principles prediction of the solar cell efficiency of chalcopyrite materials AgMX_2 (M=In, Al; X=S, Se, Te)

Bursty magnetic friction between polycrystalline thin films with domain walls

Realization of Free-Space Long-Distance Self-Healing Bessel Beams

Analytical computation of the demagnetizing energy of thin-film domain walls

Observation of PT-symmetric quantum interference

Magnetic non-contact friction from domain wall dynamics actuated by oscillatory mechanical motion

3-D mechanical modeling of 20 T HTS clover leaf end coils - Good practices and lessons learned

AlGaAs/AlGaInP VECSELs with Direct Emission at 740-770 nm

Exploration of Two Layer Nb_3Sn Designs of the Future Circular Collider Main Quadrupoles

Highly efficient charge separation in model Z-scheme $\text{TiO}_2/\text{TiSi}_2/\text{Si}$ photoanode by micropatterned titanium silicide interlayer

Temporal ghost imaging using wavelength conversion and two-color detection

0.6V threshold voltage thin film transistors with solution processable indium oxide (In_2O_3) Channel and Anodized High-k Al_2O_3 Dielectric

Investigating human skin using deep learning enhanced multiphoton microscopy

Nanoparticles in optical waveguides
A toolbox to promote lasers, amplifiers and sensors

Persistent luminescent glasses prepared using the direct doping method

Real-time measurements of ultrafast instabilities in nonlinear fiber optics
Recent advances

Towards efficient nonlinear plasmonic metasurfaces

Photovoltaic properties of low-bandgap (0.7–0.9eV) lattice-matched GaInNAsSb solar junctions grown by molecular beam epitaxy on GaAs

Energy density-method
An approach for a quick estimation of quench temperatures in high-field accelerator magnets

Multistep Bloch-line-mediated Walker breakdown in ferromagnetic strips

Artificial intelligence yesterday, today and tomorrow

Double-side pumped membrane external-cavity surface-emitting laser (MECSEL) with increased efficiency emitting > 3 W in the 780 nm region

Frequency Comb Generation in a Continuous-Wave Pumped Second-Order Nonlinear Waveguide Resonator

GaInAsSb/AlGa(In)AsSb type I quantum wells emitting in 3 μ m range for application in superluminescent diodes

High-Q resonance train in a plasmonic metasurface

Intelligent data service for farmers

Optical Frequency Comb Photoacoustic Spectroscopy

Screen printed temporary tattoos for skin-mounted electronics

Teaching for virtual work

Engineering of Chern insulators and circuits of topological edge states

Advancements in Solution Processable Devices using Metal Oxides For Printed Internet-of-Things Objects

Transverse deformation of a lamellar TiAl alloy at high temperature by in situ microcompression

Mining tailings as raw materials for reaction-sintered aluminosilicate ceramics
Effect of mineralogical composition on microstructure and properties

Ultrahigh-pressure form of Si O₂ glass with dense pyrite-type crystalline homology

Deformation of lamellar γ -TiAl below the general yield stress

A Fast Quench Protection System for High-Temperature Superconducting Magnets

Phosphate glasses with blue persistent luminescence prepared using the direct doping method

1.3 μ m U-bend traveling wave SOA devices for high efficiency coupling to silicon photonics

1.55- μ m wavelength wafer-fused OP-VECSELs in flip-chip configuration

405-nm pumped Ce³⁺-doped silica fiber for broadband fluorescence from cyan to red

Benchmarking of several disparity estimation algorithms for light field processing

MECSELs with direct emission in the 760 nm to 810 nm spectral range
A single- and double-side pumping comparison and high-power continuous-wave operation

Observation of local electroluminescent cooling and identifying the remaining challenges

On the limit of superhydrophobicity
Defining the minimum amount of TiO₂ nanoparticle coating

Single exposure lensless subpixel phase imaging

Reversible photodoping of TiO₂ nanoparticles

ICED - Inductively Coupled Energy Dissipater for Future High Field Accelerator Magnets

Cascaded crystalline raman lasers for extended wavelength coverage
Continuous-wave, third-stokes operation

Optical properties of GaAs_{1-x}Bi_x/GaAs quantum well structures grown by molecular beam epitaxy on (100) and (311)B GaAs substrates

Tunable Reflection Type Plasmon Induced Transparency with Graphene

Sensitivity Analysis of Inverse Thermal Modeling to Determine Power Losses in Electrical Machines

Demonstration of optical nonlinearity in InGaAsP/InP passive waveguides

Processing and Characterization of Bioactive Borosilicate Glasses and Scaffolds with Persistent Luminescence

Dilute nitride triple junction solar cells for space applications
Progress towards highest AM0 efficiency

Fluorescence bandwidth of 280nm from broadband Ce³⁺-doped silica fiber pumped with blue laser diode

Near-threshold high spin amplification in a 1300 nm GaInNAs spin laser

Geometry Analysis in Screen-Printed Stretchable Interconnects

Processing of printed silver patterns on an ETFE substrate

Exciton localization and structural disorder of GaAs_{1-x}Bi_x/GaAs quantum wells grown by molecular beam epitaxy on (311)B GaAs substrates

Fluid flow simulations meet high-speed video
Computer vision comparison of droplet dynamics

Mechanical stress analysis during a quench in CLIQ protected 16 T dipole magnets designed for the future circular collider

Evaluation of screen printed silver trace performance and long-term reliability against environmental stress on a low surface energy substrate

Fabrication and reliability evaluation of passive UHF RFID T-shirts

Progress on HL-LHC Nb₃Sn Magnets

The effect of carbon and nickel additions on the precursor synthesis of Cr₃C₂-Ni nanopowder

Influence of the phosphate glass melt on the corrosion of functional particles occurring during the preparation of glass-ceramics

Investigation of REBCO Roebel Cable Irreversible Critical Current Degradation Under Transverse Pressure

The effects of laser patterning 10CeTZP-Al₂O₃ nanocomposite disc surfaces
Osseous differentiation and cellular arrangement in vitro

Towards REBCO 20T+ Dipoles for Accelerators

Morphology evolution of PS-b-PDMS block copolymer and its hierarchical directed self-assembly on block copolymer templates

A study of electric transport in n- and p-type modulation-doped GaInNAs/GaAs quantum well structures under a high electric field

Quantum-well Laser Emitting at 1.2 μm-1.3 μm Window Monolithically Integrated on Ge Substrate

Membrane bound COMT isoform is an interfacial enzyme
General mechanism and new drug design paradigm

Graphene-based tunable plasmon induced transparency in gold strips

Optimization of an E3SPreSSO Energy-Extraction System for High-Field Superconducting Magnets

The EuCARD2 Future Magnets Program for particle accelerator high field dipoles
review of results and next steps

Multiwavelength surface contouring from phase-coded diffraction patterns

Sub-100 fs pulse generation from a Tm,Ho
CALYO laser mode-locked by a GaSb-based SESAM at ~2043 nm

Ultra-large mode area single frequency anisotropic MOPA with double clad Yb-doped tapered fiber

10 kA Joints for HTS Roebel Cables

Action recognition using the 3D dense microblock difference

Alpha radiation induced luminescence in solar blind spectral region

Better understanding of the role of SiO_2 , P_2O_5 and Al_2O_3 on the spectroscopic properties of Yb^{3+} doped silica sol-gel glasses

Design of a Nb₃Sn 400 T/m quadrupole for the Future Circular Collider

Development of efficient electrically pumped nanolasers based on InAlGaAs tunnel junction

Directional random laser by combining cavity-less lasing and spatial solitons in liquid crystals

Efficient photon upconversion at remarkably low annihilator concentrations in a liquid polymer matrix: when less is more

Electro-optic steering of random laser emission in liquid crystals

Essential Measurements for Finite Element Simulations of Magnetostrictive Materials

Frequency-doubled VECSEL employing a Volume Bragg Grating for linewidth narrowing

Frequency-doubled wafer-fused 638 nm VECSEL with an output power of 5.6 W

Highly-efficient Ho:KY(WO₄)₂ thin-disk lasers at 2.06 μm

High performance GaSb superluminescent diodes for tunable light source at 2 μm and 2.55 μm

Integrated multi-wavelength mid-IR light source for gas sensing

Light propagation analysis in nervous tissue for wireless optogenetic nanonetworks

Light-trapping enhanced thin-film III-V quantum dot solar cells fabricated by epitaxial lift-off

Magnetic and mechanical design of a 16 T common coil dipole for FCC

Narrow-linewidth 780 nm DFB lasers fabricated using nanoimprint lithography

Narrow-linewidth operation of folded VECSEL cavity with twist-mode configuration

Open Material Property Library With Native Simulation Tool Integrations - MASTO

Programming Photoresponse in Liquid Crystal Polymer Actuators with Laser Projector

Real-time full-field characterization of transient dissipative soliton dynamics in a mode-locked laser

Real-time measurements of nonlinear instabilities in optical fibers

Special Issue: Mid-infrared optical materials and their device applications

Stable blue phase polymeric Langmuir-Schaefer films based on unsymmetrical hydroxyalkadiynyl N-arylcarbamate derivatives

Sub-100 ps monolithic diamond Raman laser emitting at 573 nm

Sub-parts-per-trillion sensitivity in trace gas detection by cantilever-enhanced photo-acoustic spectroscopy

Surface topography studied by off-axis digital holography

Crystallization of supercooled liquid antimony
A density functional study

Generation of Sub-100 ps Pulses at 532, 355, and 266 nm Using a SESAM Q-Switched Microchip Laser

Investigating solvent effects on aggregation behaviour, linear and nonlinear optical properties of silver nanoclusters

Paraxial light beams in structured anisotropic media

Fluorimetric oxygen sensor with an efficient optical read-out for in vitro cell models

Investigation of long-term chemical stability of structured ZnO films in aqueous solutions of varying conditions

Novel Er³⁺ doped phosphate glass-ceramics for photonics

Statistical analysis of E-jet print parameter effects on Ag-nanoparticle ink droplet size

Development of dust test method for motor drives

Computational super-resolution phase retrieval from multiple phase-coded diffraction patterns
Simulation study and experiments

Hafnium oxide thin films as a barrier against copper diffusion in solar absorbers

Long-Range Observation of Exciplex Formation and Decay Mediated by One-Dimensional Bridges

Finite element method incorporating coupled magneto-elastic model for magneto-mechanical energy harvester

Capability assessment of inkjet printing for reliable RFID applications

Considerations on a Cost Model for High-Field Dipole Arc Magnets for FCC

Dynamic speckle analysis with smoothed intensity-based activity maps

First Cold Powering Test of REBCO Roebel Wound Coil for the EuCARD2 Future Magnet Development Project

Mechanical Effects of the Nonuniform Current Distribution on HTS Coils for Accelerators Wound With REBCO Roebel Cable

Quench Protection Study of the Eurocircol 16 T $\cos\theta$ Dipole for the Future Circular Collider (FCC)

Suitability of Different Quench Protection Methods for a 16 T Block-Type Nb_3Sn Accelerator Dipole Magnet

The 16 T Dipole Development Program for FCC

Catalytic Activity of AuCu Clusters on $\text{MgO}(100)$
Effect of Alloy Composition for CO Oxidation

Geometric Structure and Chemical Ordering of Large AuCu Clusters
A Computational Study

Fabrication and performance evaluation of 3D-printed graphene passive UHF RFID tags on cardboard

Two-part stretchable passive UHF RFID textile tags

Photoinduced Electron Injection from Zinc Phthalocyanines into Zinc Oxide Nanorods
Aggregation Effects

Halogen bonding stabilizes a cis-azobenzene derivative in the solid state
A crystallographic study

Simulation studies of DFB laser longitudinal structures for narrow linewidth emission

Effect of the addition of Al_2O_3 , TiO_2 and ZnO on the thermal, structural and luminescence properties of Er^{3+} -doped phosphate glasses

Chip-by-chip configurable interconnection using digital printing techniques

13.5 A 0.35-to-2.6GHz multilevel outphasing transmitter with a digital interpolating phase modulator enabling up to 400MHz instantaneous bandwidth

The effects of I/Q imbalance on wireless communications
A survey

Combination of E-jet and inkjet printing for additive fabrication of multilayer high-density RDL of silicon interposer

Very high dose electron irradiation effects on photoluminescence from $\text{GaInNAs}/\text{GaAs}$ quantum wells grown by molecular beam epitaxy

Architectures and codecs for real-time light field streaming

Continuous-wave, cascaded raman laser at 1.3, 1.5, and 1.7 μm

1180 nm GaInNAs quantum well based high power DBR laser diodes

Anisotropic ultra-large mode area Yb-doped tapered double clad fiber for ultrafast amplifiers

Computational wavelength resolution for in-line lensless holography
Phase-coded diffraction patterns and wavefront group-sparsity

Dynamic laser speckle metrology with binarization of speckle patterns

Electrical Contacts in SOI MEMS Using Aerosol Jet Printing

High-resolution coded-aperture design for compressive X-ray tomography using low resolution detectors

Mechanical behavior of a 16 T FCC dipole magnet during a quench

New multisoliton complex in Bi-doped fiber laser operated at 1450 nm

Non-destructive and wireless monitoring of biodegradable polymers

Optimization of convectively cooled heat sinks

Photophysical properties of porphyrin dimer-single-walled carbon nanotube linked systems

Picosecond MOPA with ytterbium doped tapered double clad fiber

Pipeline for effective denoising of digital mammography and digital breast tomosynthesis

Solar Irradiation Independent Expression for Photovoltaic Generator Maximum Power Line

Sub-10 optical-cycle mode-locked $\text{Tm}:(\text{Lu}_{2/3}\text{Sc}_{1/3})_2\text{O}_3$ mixed ceramic laser at 2057 nm

Three-color vector nematicon

Two cations, two mechanisms
Interactions of sodium and calcium with zwitterionic lipid membranes

Ultrafast picosecond MOPA with Yb-doped tapered double clad fiber

Nonlinear guided waves
Preface

Adaptive multiresolution method for MAP reconstruction in electron tomography

Laser angle-resolved photoemission as a probe of initial state k_z dispersion, final-state band gaps, and spin texture of Dirac states in the Bi_2Te_3 topological insulator

Crystallization processes in the phase change material $\text{Ge}_2\text{Sb}_2\text{Te}_5$
Unbiased density functional/molecular dynamics simulations

Photocatalytic and antibacterial properties of ZnO films with different surface topographies on stainless steel substrate

RF measurements to pinpoint defects in inkjet-printed, thermally and mechanically stressed coplanar waveguides

Thermal effects on the Wigner localization and Friedel oscillations in many-electron nanowires

Generalized slip transformations and air-gap harmonics in field models of electrical machines

Toward Graphene-Based Passive UHF RFID Textile Tags
A Reliability Study

1.3 μm InAs quantum dot semiconductor disk laser

Advanced scheme of amplifier similariton laser

State of polarization in anisotropic tapered fiber with extremely large core diameter

Simulation of photon-photon resonance enhanced direct modulation bandwidth of DFB lasers

Simulation studies of DFB laser longitudinal structures for narrow linewidth emission

Transverse structure optimization of laterally-coupled ridge waveguide DFB lasers

Effect of Epoxy Flux Underfill on Thermal Cycling Reliability of Sn-8Zn-3Bi Lead-Free Solder in a Sensor Application

Screen-Printed Stretchable Interconnects

Novel oxyfluorophosphate glasses and glass-ceramics

The red, purple and blue modifications of polymeric unsymmetrical hydroxyalkadiynyl-N-arylcarbamate derivatives in Langmuir-Schaefer films

Nonlocal soliton scattering in random potentials

Restoring Integral Images from Focal Stacks Using Compressed Sensing Techniques

Reliability of ACA interconnections on microvia HDI PCBs in thermal cycling conditions

Development of MQXF
The Nb_3Sn Low- β Quadrupole for the HiLumi LHC

Effect of incorporation of CdS NPs on performance of PTB7
PCBM organic solar cells

Protection Heater Design Validation for the LARP Magnets Using Thermal Imaging

Quench Protection Study of the Updated MQXF for the LHC Luminosity Upgrade (HiLumi LHC)

Roadmap on optical rogue waves and extreme events

Test Results of the LARP Nb₃Sn Quadrupole HQ03a

The Impact of Protection Heater Delays Distribution on the Hotspot Temperature in a High-Field Accelerator Magnet

Tuning electronic properties of graphene heterostructures by amorphous-to-crystalline phase transitions

Influence of As/group-III flux ratio on defects formation and photovoltaic performance of GaInNAs solar cells

Vortex stabilization by means of spatial solitons in nonlocal media

Effect of Hole Transporting Material on Charge Transfer Processes in Zinc Phthalocyanine Sensitized ZnO Nanorods

Thermal, structural and optical properties of Er³⁺ doped phosphate glasses containing silver nanoparticles

Wetting hysteresis induced by temperature changes
Supercooled water on hydrophobic surfaces

3-D Numerical Modeling of AC Losses in Multifilamentary MgB₂ Wires

Status of the Demonstrator Magnets for the EuCARD-2 Future Magnets Project

Structural and Electrical Characterization of Solution-Processed Electrodes for Piezoelectric Polymer Film Sensors

Evaluation of Aerosol, Superfine Inkjet, and Photolithography Printing Techniques for Metallization of Application Specific Printed Electronic Circuits

Piezoresistive natural rubber-multiwall carbon nanotube nanocomposite for sensor applications

Ambient-Pressure XPS Study of a Ni-Fe Electrocatalyst for the Oxygen Evolution Reaction

Effect of the glass melting condition on the processing of phosphate-based glass-ceramics with persistent luminescence properties

Effects of insertion of strain-engineering Ga(In)NAs layers on optical properties of InAs/GaAs quantum dots for high-efficiency solar cells

Ghost imaging in the time domain

Coherence of Supercontinuum Light

Compatibilization of natural rubber/nitrile rubber blends by sol-gel nano-silica generated by in situ method

Decreasing the extremely low-frequency electric field exposure with a Faraday cage during work tasks from a man hoist at a 400 kV substation

Dissolution behavior of the bioactive glass S53P4 when sodium is replaced by potassium, and calcium with magnesium or strontium

Dots-on-the-fly electron beam lithography

Fabrication and characterization of broadband superluminescent diodes for 2 μm wavelength

High performance corrosion resistant coatings by novel coaxial cold- and hot-wire laser cladding methods

High-power 1550 nm tapered DBR lasers fabricated using soft UV-nanoimprint lithography

Hot pen and laser writable photonic polymer films

Influence of environmental conditions on EMF levels in a span of overhead transmission lines

Influence of temperature-induced copper diffusion on degradation of selective chromium oxy-nitride solar absorber coatings

Integrating III-V, Si, and polymer waveguides for optical interconnects
RAPIDO

Linear and nonlinear light beam propagation in chiral nematic liquid crystal waveguides

Nonlinear optics applications
In memory of George I. Stegeman

Optical fiber amplifier with spectral compression elements for high-power laser pulse generation

Rapid and facile synthesis of graphene oxide quantum dots with good linear and nonlinear optical properties

Simultaneous binary hash and features learning for image retrieval

Site-controlled InAs Quantum Dots for Plasmonics

Evaluating transparent liquid screen overlay as a haptic conductor
Method of enhancing touchscreen based user interaction by a transparent deformable liquid screen overlay

Inkjet-printed dual microfluidic-based sensor integrated system

Rapid and sensitive detection of norovirus antibodies in human serum with a bilayer interferometry biosensor

A novel 3-D printed loop antenna using flexible NinjaFlex material for wearable and IoT applications

Single-source multibattery solar charger
Case study and implementation issues

Determination of beam incidence conditions based on the analysis of laser interference patterns

Observation of unusual metal-semiconductor interaction and metal-induced gap states at an oxide-semiconductor interface

The case of epitaxial BaO/Ge(100) junction

3GPP LTE-assisted Wi-Fi-direct

Trial implementation of live D2D technology

ESD qualification data used as the basis for building electrostatic discharge protected areas

Construction of an Interconnected Nanostructured Carbon Black Network

Development of Highly Stretchable and Robust Elastomeric Conductors

Superatom Model for Ag-S Nanocluster with Delocalized Electrons

Effects of thinning and heating for TiO₂/AlInP junctions

Electrospun Black Titania Nanofibers

Influence of Hydrogen Plasma-Induced Disorder on the Electronic Structure and Photoelectrochemical Performance

Bringing High-Performance GaInNAsSb/GaAs SOAs to True Data Applications

Localization of light at vanishingly small disorder-levels with heavy photons

Analysis of uncertainties in protection heater delay time measurements and simulations in Nb₃Sn high-field accelerator magnets

Evaluation of crushing strength of spray-dried MgAl₂O₄ granule beds

Photoinduced Electron Transfer in CdSe/ZnS Quantum Dot-Fullerene Hybrids

A novel strain sensor based on 3D printing technology and 3D antenna design

Inkjet printed single layer high-density circuitry for a MEMS device

Measuring optical anisotropy in poly(3,4-ethylene dioxythiophene) poly(styrene sulfonate) films with added graphene

Passive resonance sensor based method for monitoring particle suspensions

Accelerator-quality HTS dipole magnet demonstrator designs for the EuCARD-2 5-T 40-mm clear aperture magnet

Soft graphoepitaxy for large area directed self-assembly of polystyrene-block-poly(dimethylsiloxane) block copolymer on nanopatterned poss substrates fabricated by nanoimprint lithography

Study of quench protection for the Nb₃Sn low-β quadrupole for the LHC luminosity upgrade (HiLumi-LHC)

Suitability of bundle approximation in AC loss analysis of NbTi wires
Simulations and experiment

Test results of the LARP HQ02b magnet at 1.9 K

The EuCARD-2 future magnets European collaboration for accelerator-quality HTS magnets

Utilizing triangular mesh with MMEV to study hysteresis losses of round superconductors obeying critical state model

Comparison of three light doses in the photodynamic treatment of actinic keratosis using mathematical modeling

A Finite Element Simulation Tool for Predicting Hysteresis Losses in Superconductors Using an H-Oriented Formulation with Cohomology Basis Functions

An integrated "sense-and-communicate" broad-/narrow-band optically controlled reconfigurable antenna for cognitive radio systems

Hot spot temperature in an HTS Coil
Simulations with MIITs and finite element method

Localized surface plasmon resonance in silver nanoparticles
Atomistic first-principles time-dependent density-functional theory calculations

Dilute nitride SOAs for high-speed data processing in variable temperature conditions

Perfect magnetic mirror and simple perfect absorber in the visible spectrum

Antenna design considerations for far field and near field wireless body-centric systems

Anisotropic and strain-dependent model of magnetostriction in electrical steel sheets

Dynamics of photovoltaic-generator-interfacing voltage-controlled buck power stage

Identification of synchronous machine magnetization characteristics from calorimetric core-loss and no-load curve measurements

Resolving unoccupied electronic states with laser ARPES in bismuth-based cuprate superconductors

Design, fabrication, and testing of a low AC-loss conduction-cooled cryostat for magnetization loss measurement apparatus

Silver sulfide nanoclusters and the superatom model

Rational design of a printable, highly conductive silicone-based electrically conductive adhesive for stretchable radio-frequency antennas

Are coarse-grained models apt to detect protein thermal stability? the case of OPEP force field

Aryl end-capped quaterthiophenes applied as anode interfacial layers in inverted organic solar cells

1180nm VECSEL with 50 W output power

A method for predicting DCT-based denoising efficiency for grayscale images corrupted by AWGN and additive spatially correlated noise

A Novel Enhanced-Performance Flexible RFID-Enabled Embroidered Wireless Integrated Module for Sensing Applications

A perceptual quality metric for high-definition stereoscopic 3D video

Combining full-reference image visual quality metrics by neural network

Depth map occlusion filling and scene reconstruction using modified exemplar-based inpainting

Frequency modulation of semiconductor disk laser pulses

Generation of a broad IR spectrum and N-soliton compression in a longitudinally inhomogeneous dispersion-shifted fibre

Generation of bound states of pulses in a soliton laser with complex relaxation of a saturable absorber

Green (In,Ga,Al)P-GaP light-emitting diodes grown on high-index GaAs surfaces

>8W GaInNAs VECSEL emitting at 615 nm

Interstitial photodynamic therapy and glioblastoma
Light fractionation study on a preclinical model: Preliminary results

Machine learning for adaptive bilateral filtering

Measuring bend losses in large-mode-area fibers

Monolithic GaInNAsSb/GaAs VECSEL emitting at 1550 nm

Nonlinear optical activity effects in complex anisotropic three-dimensional media

No-reference visual quality assessment for image inpainting

Power and wavelength scaling using semiconductor disk laser - bismuth fiber MOPA systems

Preserving natural scene lighting by strobe-lit video

Real-time depth image-based rendering with layered dis-occlusion compensation and aliasing-free composition

SESAM mode-locked Tm
CALGO laser at 2 μm

Soliton enhancement of spontaneous symmetry breaking

Stimuli-Responsive Materials Based on Interpenetrating Polymer Liquid Crystal Hydrogels

Supercontinuum generation as a signal amplifier

Two-time coherence of pulse trains and the integrated degree of temporal coherence

Stimuli-responsive photonic polymer coatings

Study of second-harmonic generation from CdS nanostructured thin film

Computation of torque of an electrical machine with different types of finite element mesh in the air gap

Multisoliton complexes in fiber lasers

Advances in implantable and wearable antennas for wireless brain-machine interface systems

Enhanced-performance wireless conformal "smart skins" utilizing inkjet-printed carbon-nanostructures

Novel highly-efficient and misalignment insensitive wireless power transfer systems utilizing Strongly Coupled Magnetic Resonance principles

Unveiling and controlling the electronic structure of oxidized semiconductor surfaces: Crystalline oxidized InSb(100)(1 \times 2)-O
Crystalline oxidized InSb(100)(1 \times 2)-O

Bistable optical propagation in nematic liquid crystals

Composition dependent growth dynamics in molecular beam epitaxy of GaInNAs solar cells

Influence of the P2O5/Al2O3 co-doping on the local environment of erbium ions and on the 1.5 μm quantum efficiency of Er³⁺-borosilicate glasses

Fabrication of ssDNA/oligo(ethylene glycol) monolayers by promoted exchange reaction with thiol and disulfide substituents

Segregation of iron losses from rotational field measurements and application to electrical machine

Investigating the metallic behavior of Na clusters using site-specific polarizabilities

A hand-held immaterial volumetric display

All-fiber, high-power, picosecond Yb double clad tapered fiber amplifier

An Optical Sensor for Volatile Amines Based on an Inkjet-Printed, Hydrogen-Bonded, Cholesteric Liquid Crystalline Film

Broadband finite-Difference Time-Domain modeling of plasmonic organic photovoltaics

Compressive strain measurement using RFID patch antenna sensors

Mode coupling in few-mode large-mode-area fibers

Optical and topographic changes in water-responsive patterned cholesteric liquid crystalline polymer coatings

Pulsed high-power yellow-orange VECSEL

Symmetry-broken electronic structure and uniaxial Fermi surface nesting of untwinned CaFe_2As_2

Fabrication of ssDNA/Oligo(ethylene glycol) monolayers and patterns by exchange reaction promoted by ultraviolet light irradiation

Polymer stabilization enhances the orientational optical nonlinearity of oligothiophene-doped nematic liquid crystals

Residual stress development in cold sprayed Al, Cu and Ti coatings

Inkjet catalyst printing and electroless copper deposition for low-cost patterned microwave passive devices on paper

Irradiation promoted exchange reaction with disulfide substituents

A near-infrared optoelectronic approach to detection of road conditions

The sensitivity of random polymer brush-lamellar polystyrene-b-polymethylmethacrylate block copolymer systems to process conditions

Calculation of the scalar diffraction field from curved surfaces by decomposing the three-dimensional field into a sum of Gaussian beams

Cold test results of the LARP HQ Nb_3Sn quadrupole magnet at 1.9 K

Design and simulation of a slotted patch antenna sensor for wireless strain sensing

Germanium-on-glass solar cells
Fabrication and characterization

Inkjet printing of radio frequency electronics
Design methodologies and application of novel nanotechnologies

Iron losses, magnetoelasticity and magnetostriction in ferromagnetic steel laminations

Near-infrared photodetectors in evaporated ge
Characterization and TCAD simulations

Novel enhancement techniques for ultra-high-performance conformal wireless sensors and 'smart skins' utilizing inkjet-printed graphene

Photoinduced surface patterning of azobenzene-containing supramolecular dendrons, dendrimers and dendronized polymers

Preparation of water-based carbon nanotube inks and application in the inkjet printing of carbon nanotube gas sensors

Properties of nematicons in low-birefringence nematic liquid crystals

Strong localization in unintentional disordered photonics crystal waveguides

Block copolymer lithography
Feature size control and extension by an over-etch technique

Effect of sol-gel derived in situ silica on the morphology and mechanical behavior of natural rubber and acrylonitrile butadiene rubber blends

Refraction of nonlinear light beams in nematic liquid crystals

Cysteine-tagged chimeric avidin forms high binding capacity layers directly on gold

Scalar diffraction field calculation from curved surfaces via Gaussian beam decomposition

Halogen bonding versus hydrogen bonding in driving self-assembly and performance of light-responsive supramolecular polymers

Boron delta-doping dependence on Si/SiGe resonant interband tunneling diodes grown by chemical vapor deposition

Development of a new illumination procedure for photodynamic therapy of the abdominal cavity

Physisorption of benzene on a tin dioxide surface
Van der Waals interaction

Surface-relief gratings and stable birefringence inscribed using light of broad spectral range in supramolecular polymer-bisazobenzene complexes

Printable and flexible macroporous organosilica film with high protein adsorption capacity

Electro-optic steering of nematicons

Importance of iron-loss modeling in simulation of wound-field synchronous machines

Inkjet-printed graphene-based wireless gas sensor modules

Parametric conversion in micrometer and submicrometer structured ferroelectric crystals by surface poling

Performance enhancement of the RFID EPC Gen2 protocol by exploiting collision re-recovery

Thermal effects on a passive wireless antenna sensor for strain and crack sensing

Third order nonlinear optical response of TTF-based molecular corners

Self-orienting liquid crystal doped with polymer-azo-dye complex

Adsorption and dissociation of molecular oxygen on α -Pu (0 2 0) surface
A density functional study

Low-temperature germanium thin films on silicon

Thermally evaporated single-crystal Germanium on Silicon

Photoinduced bending upon pulsed irradiation in azobenzene-containing crosslinked liquid-crystalline polymers

Self-alignment of RFID dies on four-pad patterns with water droplet for sparse self-assembly

Towards universal enrichment nanocoating for IR-ATR waveguides

Detection of 3,4-methylenedioxymethamphetamine (MDMA, ecstasy) by displacement of antibodies

A 0.5-6MHz Active-RC LPF with Fine Gain Steps Using Binary Interpolated Resistor Banks

Comparison of the optical, thermal and structural properties of Ge-Sb-S thin films deposited using thermal evaporation and pulsed laser deposition techniques

A new power-consumption optimization technique for two-stage operational amplifiers

Strand and cable R&D for fast cycled magnets at CERN

Plasma etch technologies for the development of ultra-small feature size transistor devices

An ab initio study of $\text{PuO}_{2\pm 0.25}$, $\text{UO}_{2\pm 0.25}$, and $\text{U}_{0.5}\text{Pu}_{0.5}\text{O}_{2\pm 0.25}$

Micro-Raman characterization of Germanium thin films evaporated on various substrates

Optical power monitors in Ge monolithically integrated on SOI chips

Thermal evaporation of Ge on Si for near infrared detectors
Material and device characterization

Absorption profile and femtosecond intraband relaxation of the intense upper Davydov component in oligothiophenes

Interfacial design and structure of protein/polymer films on oxidized AlGaIn surfaces

Self-alignment in the stacking of microchips with mist-induced water droplets

A multi-band WCDMA SAW-less receivers with frequency selective feedback loop

Directional selectivity through the subwavelength slit in metallic gratings

Germanium-on-glass solar cells

Multicolor nonlinear pulse compression by consecutive optical parametric amplification in quasi-phase matched structures

Noise characterization of Ge/Si photodetectors

RFDNA

A wireless authentication system on flexible substrates

Thickness variation study of RFID-based folded patch antennas for strain sensing

Surface-induced charge state conversion of nitrogen-vacancy defects in nanodiamonds

FEM for directly coupled magneto-mechanical phenomena in electrical machines

Observation of cavity structures in composite metamaterials

Liquid crystal light valves

A versatile platform for nematicons

Observation of off-axis directional beaming via subwavelength asymmetric metallic gratings

Single KTiOPO₄ nanocrystals for nonlinear probing of local optical fields and interaction with a metallic nanostructure

The magical world of metamaterials

Cavity formation in split ring resonators

Transmission, refraction, and focusing properties of labyrinth based left-handed metamaterials

A genetic algorithm for scheduling tasks onto dynamically reconfigurable hardware

System-level design for partially reconfigurable hardware

Designing materials with desired electromagnetic properties

Labyrinth based left-handed metamaterials and sub-wavelength focusing of electromagnetic waves

Walking anisotropic spatial solitons and their steering in nematic liquid crystals

Physics and applications of photonic crystals

Radiation properties of sources inside photonic crystals

ATM switch for 2.488 Gbit/s CATV network on FPGA with a high-throughput buffering architecture

Calculated electronic density of states and structural properties of tetrahedral amorphous carbon

Diffusion on aluminum-cluster surfaces and the cluster growth

Molecular dynamics simulations for Xe absorbed in zeolites

Processor core for 32 kbit/s G.726 ADPCM codecs

Simulation of cluster growth using a lattice gas model

Instability of cuboctahedral copper clusters

Theoretical studies of structural properties of the high- T_c superconductor $Y_1Ba_2Cu_3O_{7-x}$

Near-surface defect profiling with slow positrons
Argon-sputtered Al(110)

Direct measurement of vapour-metal shifts in photo- and Auger electron spectra of Zn and Cd