Alexander Huck - DTU Orbit (07/10/2018)
Alexander Huck
Associate Professor
Department of Physics
Quantum Physics and Information Technology
Postal address:
Fysikvej
309, 214
2800
Kgs. Lyngby
Denmark
Email: Alexander.Huck@fysik.dtu.dk
Phone: 45253343
Fax: 4593 1669
Web address: http://www.qi.fysik.dtu.dk
Web: http://www.qi.fysik.dtu.dk

Publications:

Cavity-enhanced nitrogen-vacancy ensemble magnetometry
Publication: Research - peer-review › Article in proceedings – Annual report year: 2018

Contributed review: camera-limits for wide-field magnetic resonance imaging with a nitrogen-vacancy spin sensor
Publication: Research - peer-review › Journal article – Annual report year: 2018

Feasibility and resolution limits of opto-magnetic imaging of neural network activity in brain slices using color centers in diamond
Publication: Research - peer-review › Journal article – Annual report year: 2018

Nitrogen-vacancy ensemble magnetometry based on pump absorption
Publication: Research - peer-review › Journal article – Annual report year: 2018

Precision temperature sensing in the presence of magnetic field noise and vice-versa using nitrogen-vacancy centers in diamond
Publication: Research - peer-review › Journal article – Annual report year: 2018

Narrow-bandwidth sensing of high-frequency fields with continuous dynamical decoupling
Publication: Research - peer-review › Journal article – Annual report year: 2017

Nitrogen-vacancy ensemble magnetometry based on pump absorption
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Optimised frequency modulation for continuous-wave optical magnetic resonance sensing using nitrogen-vacancy ensembles
Publication: Research - peer-review › Journal article – Annual report year: 2017

Pump-Enhanced Continuous-Wave Magnetometry Using Nitrogen-Vacancy Ensembles
Publication: Research - peer-review › Journal article – Annual report year: 2017

Qudi: a modular python suite for experiment control and data processing
Publication: Research - peer-review › Journal article – Annual report year: 2017

Coupling single emitters to quantum plasmonic circuits
Publication: Research - peer-review › Journal article – Annual report year: 2016
Determining the internal quantum efficiency of shallow-implanted nitrogen-vacancy defects in bulk diamond
Publication: Research - peer-review › Journal article – Annual report year: 2016

Quantum enhanced optical sensing
Publication: Research › Ph.D. thesis – Annual report year: 2016

Extraction of light from a quantum emitter by tailoring the photonic environment
Publication: Research › Ph.D. thesis – Annual report year: 2015

Demonstration of a variable plasmonic beam splitter
Publication: Research › Conference article – Annual report year: 2014

Generation and Controlled Routing of Single Plasmons on a Chip
Publication: Research - peer-review › Journal article – Annual report year: 2014

High-quality MOVPE butt-joint integration of InP/AlGaInAs/InGaAsP-based all-active optical components
Publication: Research - peer-review › Journal article – Annual report year: 2014

Increasing the photon collection rate from a single NV center with a silver mirror
Publication: Research - peer-review › Journal article – Annual report year: 2014

Resonance Energy Transfer in Hybrid Devices in the Presence of a Surface
Publication: Research - peer-review › Journal article – Annual report year: 2014

A Variable Single Photon Plasmonic Beamsplitter
Publication: Research - peer-review › Paper – Annual report year: 2013

Coupling of a single quantum emitter to end-to-end aligned silver nanowires
Publication: Research - peer-review › Journal article – Annual report year: 2013

Coupling of single quantum emitters to plasmons propagating on mechanically etched wires
Publication: Research - peer-review › Journal article – Annual report year: 2013

Design and geometry of hybrid white light-emitted diodes for efficient energy transfer from the quantum well to the nanocrystals
Publication: Research - peer-review › Conference article – Annual report year: 2013

Efficient coupling of a single diamond color center to propagating plasmonic gap modes.
Publication: Research - peer-review › Journal article – Annual report year: 2013

Large Optical Nonlinearity of Surface Plasmon Modes on Thin Gold Films
Publication: Research - peer-review › Journal article – Annual report year: 2014

Continuous-wave spatial quantum correlations of light induced by multiple scattering
Publication: Research - peer-review › Journal article – Annual report year: 2012

Coupling of a single nitrogen vacancy center to the gap modes of a dual silver nanowire system
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012
Erratum: Observation of Spatial Quantum Correlations Induced by Multiple Scattering of Nonclassical Light [Phys. Rev. Lett. 102, 193901 (2009)]
Publication: Research - peer-review › Comment/debate – Annual report year: 2013

Propagation of plasmons in designed single crystalline silver nanostructures
Publication: Research - peer-review › Journal article – Annual report year: 2012

Controlled Coupling of a Single Nitrogen-Vacancy Center to a Silver Nanowire
Publication: Research - peer-review › Journal article – Annual report year: 2011

Controlling the Coupling of a Single Nitrogen Vacancy Center to a Silver Nanowire
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Generation and Characterisation of Non-Classical Surface Plasmons
Publication: Research › Ph.D. thesis – Annual report year: 2010

Continuous-variable quantum erasure correcting code
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Quantum optical coherence can survive photon losses using a continuous-variable quantum erasure-correcting code
Publication: Research - peer-review › Journal article – Annual report year: 2010

Continuous Variables Quantum Erasure-Correcting Code
Publication: Research › Paper – Annual report year: 2009

Correlation measurement of squeezed light
Publication: Research - peer-review › Journal article – Annual report year: 2009

Demonstration of quadrature squeezed surface-plasmons in a gold waveguide
Publication: Research › Article in proceedings – Annual report year: 2009

Demonstration of quadrature-squeezed surface plasmons in a gold waveguide
Publication: Research - peer-review › Journal article – Annual report year: 2009

Excitation and characterization of non-classical surface plasmon polaritons
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Experimental demonstration of spatial quantum correlations in multiple scattering media
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Observation of spatial quantum correlations induced by multiple scattering of nonclassical light
Publication: Research - peer-review › Journal article – Annual report year: 2009

Spatial quantum correlations generated by multiple scattering of squeezed light
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2009

Demonstration of a Quantum Nondemolition Sum Gate
Publication: Research - peer-review › Journal article – Annual report year: 2008

Electronic noise-free measurements of squeezed light
Publication: Research - peer-review › Journal article – Annual report year: 2008
Generation of Non-Classical Surface-Plasmon Polaritons
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Generation of Non-Classical Surface-Plasmon-Polaritons
Publication: Research › Sound/Visual production (digital) – Annual report year: 2008

Demonstration of deterministic and high fidelity squeezing of quantum information
Publication: Research - peer-review › Journal article – Annual report year: 2007

Polarization squeezing with photonic crystal fibers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Polarization squeezing with photonic crystal fibers
Publication: Research - peer-review › Journal article – Annual report year: 2007

Quantum optics in multiple scattering random media
Publication: Research - peer-review › Poster – Annual report year: 2007

Projects:

Quantum Thermodynamics and Quantum Information
Project: PhD

Highly sensitive quantum magnetometry using Nitrogen-Vacancy centers in diamond
Project: PhD

Coherent interaction between a solid-state spin and a mechanical oscillator
Project: PhD

Highly sensitive quantum magnetometry using Nitrogen-Vacancy centers in diamond
Project: PhD

Cavity-modified dynamics of Nitrogen-Vacancy centers in Diamond
Project: PhD

Experimental solid state Nano-Optics
Project: PhD

Improved collection efficiency of photons from NV centers for applications in magnetometry
Project: PhD

Development of measurement protocols for quantum magnetometry
Project: PhD

Entanglement Enhanced Quantum Communication and Bio-sensing
Project: PhD

Quantum Protocols with a Colour Centre in a Microcavity
Project: PhD
Coherent Coupling of a Nitrogen-Vacancy Center to Gap Modes in Integrated Structures  
Project: PhD

Generation and Characterisation of Non-Classical Surface Plasmons  
Project: PhD

Activities:

Dansk Optisk Selskabs Årsmøde 2008  
Activity: Attending an event » Participating in or organising workshops, courses, seminars etc.