Benchmarking five numerical simulation techniques for computing resonance wavelengths and quality factors in photonic crystal membrane line defect cavities

Research output: Research - peer-review › Journal article – Annual report year: 2018

Benchmarking state-of-the-art numerical simulation techniques for analyzing large photonic crystal membrane line defect cavities

Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

Which Computational Methods Are Good for Analyzing Large Photonic Crystal Membrane Cavities?

Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

Benchmarking five computational methods for analyzing large photonic crystal membrane cavities

Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

Comparison of Five Computational Methods for Computing Q Factors in Photonic Crystal Membrane Cavities

Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

Comparison of Five Numerical Methods for Computing Quality Factors and Resonance Wavelengths in Photonic Crystal Membrane Cavities

Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2017

Modeling open nanophotonic systems using the Fourier modal method: Generalization to 3D Cartesian coordinates

Häyrynen, T., Østerkryger, A. D., de Lasson, J. R. & Gregersen, N. 2017 In : Journal of the Optical Society of America A. 34, 9, p. 1632-1641
Research output: Research - peer-review › Journal article – Annual report year: 2017

Modelling open nanophotonic structures using the Fourier modal method in infinite domains

A modal approach to light emission and propagation in coupled cavity waveguide systems
Research output: Research › Conference abstract in proceedings – Annual report year: 2016

Comparison of four computational methods for computing Q factors and resonance wavelengths in photonic crystal membrane cavities
Research output: Research › Article in proceedings – Annual report year: 2016

Open-geometry Fourier modal method: modeling nanophotonic structures in infinite domains
Häyrynen, T., de Lasson, J. R. & Gregersen, N. 2016 In : Journal of the Optical Society of America A. 33, 7, p. 1298-1306
Research output: Research › Article in proceedings – Annual report year: 2016

Site-controlled quantum dots coupled to photonic crystal waveguides
Research output: Research › Conference abstract for conference – Annual report year: 2016

Spectral symmetry of Fano resonances in a waveguide coupled to a microcavity
Research output: Research › Journal article – Annual report year: 2016

Design and simulations of highly efficient single-photon sources
Research output: Research › Paper – Annual report year: 2015

Design of Slow and Fast Light Photonic Crystal Waveguides for Single-photon Emission Using a Bloch Mode Expansion Technique
Research output: Research › Conference abstract for conference – Annual report year: 2015

Impact of slow-light enhancement on optical propagation in active semiconductor photonic crystal waveguides
Research output: Research › Journal article – Annual report year: 2015

Investigations on the parity of Fano resonances in photonic crystals
Research output: Research › Poster – Annual report year: 2015

Modeling and simulations of light emission and propagation in open nanophotonic systems

Semi-analytical quasi-normal mode theory for the local density of states in coupled photonic crystal cavity-waveguide structures
Research output: Research › Letter – Annual report year: 2015

A Bloch modal approach for engineering waveguide and cavity modes in two-dimensional photonic crystals
A Bloch mode expansion approach for analyzing quasi-normal modes in open nanophotonic structures
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Calculation, normalization and perturbation of quasinormal modes in coupled cavity-waveguide systems
Research output: Research - peer-review › Journal article – Annual report year: 2014

Roundtrip matrix method for calculating the leaky resonant modes of open nanophotonic structures
Research output: Research - peer-review › Journal article – Annual report year: 2014

Scaling of the Surface Plasmon Resonance in Gold and Silver Dimers Probed by EELS
Research output: Research - peer-review › Journal article – Annual report year: 2014

Calibrating Au and Ag plasmonic rulers with EELS
Research output: Research - peer-review › Poster – Annual report year: 2013

Probing plasmon resonance’s dependence on gap size in silver dimers by EELS
Research output: Research - peer-review › Poster – Annual report year: 2013

Probing plasmon resonance’s dependence on gap size in silver dimers by EELS
Research output: Research - peer-review › Poster – Annual report year: 2013

Three-dimensional integral equation approach to light scattering, extinction cross sections, local density of states, and quasi-normal modes
Research output: Research - peer-review › Journal article – Annual report year: 2013

Electromagnetic Scattering in Micro- and Nanostructured Materials.
Research output: Research - peer-review › Report – Annual report year: 2012

Modeling of cavities using the analytic modal method and an open geometry formalism
Research output: Research - peer-review › Journal article – Annual report year: 2012

Multiple-scattering formalism beyond the quasistatic approximation: Analyzing resonances in plasmonic chains
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Projects:
Advanced simulation tools for nanophotonic devices
de Lasson, J. R., Gregersen, N., Kristensen, P. T., Mørk, J., Lavrinenko, A., Hughes, S., Søndergaard, T. & Hughes, S.
Institut stipendie (DTU) Samf.
01/10/2012 → 20/01/2016
Project: PhD

Activities:

**Nye forskere og Ph.D.-Studerende**
de Lasson, J. R. (Invited speaker)
Nov 2015
Activity: Talks and presentations › Conference presentations

**Nanofotonik og fotoniske krystaller – Tryllekunster med lys**
de Lasson, J. R. (Invited speaker)
Apr 2015
Activity: Talks and presentations › Conference presentations

**2015 Progress in Electromagnetics Research Symposium**
de Lasson, J. R. (Speaker)
2015
Activity: Talks and presentations › Conference presentations

**META’14**
de Lasson, J. R. (Speaker)
May 2014
Activity: Talks and presentations › Conference presentations

**Nanofotonik og fotoniske krystaller – Tryllekunster med lys**
de Lasson, J. R. (Invited speaker)
Apr 2014
Activity: Talks and presentations › Conference presentations

**SPIE Photonics Europe Conference 2014**
de Lasson, J. R. (Speaker)
Apr 2014
Activity: Talks and presentations › Conference presentations

**Les Houches Summer School**
de Lasson, J. R. (Participant)
Aug 2013 → …
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

**International Physics Olympiad**
de Lasson, J. R. (External examiner)
Jul 2013
Activity: Examinations and supervision › External examination

**5th International Workshop on Theoretical and Computational Nano-Photonics**
de Lasson, J. R. (Speaker)
Oct 2012
Activity: Talks and presentations › Conference presentations