

Jonas Beermann Kristiansen
Mads Clausen Institute (MCI)
SDU Nano Optics
Email: job@mci.sdu.dk
Phone: +4565507344



Curriculum

Name: **Jonas Beermann**

Appointment: Associate Professor.

Place of work: Mads Clausen Institute (MCI), University of Southern Denmark, Campusvej 55, DK-5230 Odense M, Denmark.

Responsible for the lab facility on Nonlinear Scanning Optical Microscopy, Spectroscopy and Surface Enhanced Microscopy.

Tel: +45 65 50 73 44,
Fax: +45 65 50 73 84,

E-mail: job@mci.sdu.dk; web: www.sdu.dk/nano-optics

Foreign Languages: Fluent in English (spoken and written), German (spoken and written).

Education:

June 28th, 2001 - Cand. Scient. in Physics and Mathematics (Optics Engineer). M.Sc. project "Nonlinear optical properties of porous silicon". Institute of Physics, Aalborg University (AAU), Denmark.

May 3rd, 2006 - PhD Scient. for the thesis "Nonlinear far- and near-field scanning optical microscopy of nanostructures". Department of Physics and Nanotechnology, AAU, Denmark.

Appointments:

Aug. 2001 – Feb. 2005: PhD.-student at Department of Physics and Nanotechnology, AAU, "Nonlinear optical microscopy of nanostructures".

Feb. 2002 – July 2002: Leave of absence, military service, 6 months.

Feb. 2005 – July 2006: Post doc. at Department of Physics and Nanotechnology, AAU, "Field enhancement via multiple scattering of surface plasmon polaritons". The European Network of Excellence (NoE), project Plasmo-Nano-Devices (FP6-2002-IST-1-507879).

Aug. 2006 – Jan 2008: Post doc. at Department of Physics and Nanotechnology, AAU, "Plasmo-optical chip technology and spectroscopy". The Strategic Research Council, program committee for Nanoscience and technology, Biotechnology and IT (NABIIT), (Contract no. 2106-05-033).

Feb. 2008 – Dec 2010: Assistant Professor at Institute of Sensors, Signals and Electrotechnics (SENSE), University of Southern Denmark (SDU).

Jan. 2011 – Oct. 2011: Assistant Professor at ITI, SDU.

Oct. 2011 – Dec. 2011: Paternity leave, 3 months.

Nov. 2011 – May 2013: Associate Professor at ITI, SDU.

May 2013 – Present: Associate Professor, Center for Nano Optics, MCI, SDU.

Programming: Matlab, Labview, Comsol, LaTeX, Origin, AutoCAD, C++ (Turbo Pascal).

Project Management and Supervision:

1996 – 2001: Engaged member in 8 full-semester group-projects and 2 full-semester individual projects during the Cand. Scient. Study at Institute of Physics, AAU.

2003 – 2007: Principal supervisor on 3 student projects from 3rd – 6th sem., Co-supervisor on 4 student projects up to 8th sem. at Department of Physics and Nanotechnology, AAU.

2008 – 2011: Co-supervisor on 1 master project with optimization of laser diode properties and 2 bachelor projects at SENSE, SDU.

2012 – Present: Co-supervisor on two master projects (Solar Cells and Nanooptics), Supervisor on four bachelor projects, at least nine 2nd sem. student projects (Energy conversion) and five 1st sem. projects (Windmills) at ITI and MCI, SDU.

Lecturing: 2001 – Present: Teaching 11 courses in: Basic Physics; Fiber Optics; Lab work; Spectroscopy; Electro physics; Electro mechanics: (strengths, deformations, thermal designs and cooling); Advanced Mathematics; Signal processing; Fundamental and experimental Acoustics and Optics; Mathematics and Modeling; Physics; Mathematics.

Memberships: 2008 – Present: The Danish Optical Society (DOPS).

2008 – Present: The Material Research Society (MRS).

2008 – Present: The International Society for Optical Engineering (SPIE).

Reviewing: 2006 – Present: Reviewer for American Physical Society (APS) (Physical Review Letters, Physical Review A, Physical Review B, Physical Review E), American Chemical Society (ACS) (Nanoletters), Optical Society of America (OSA)(Optic Letters, Applied Optics, Optics Express), Material Research Society (MRS), Elsevier (Optics Communications, Optics and Lasers in Engineering), Springer (Journal of Infrared, Millimeter and Terahertz Waves), World Scientific Publishing (Surface Review Letters), Institute of Physics Publishing (Journal of Optics A: Pure and Applied Optics).

Scientific papers: 52 articles in peer-reviewed international journals, incl. 1 Nature Communications and 4 Nanoletters. +14 articles in popular journals and conference proceedings.

Web of Knowledge: H-index 19, Authored items found 68, Number of citations 1156 [by April, 2019]. Researcher ID is F-5471-2013. ORCID ID: 0000-0001-9809-2430. Scopus ID: 55940956400

Presentations: 35 talks (18 invited) and 31 posters presented at international conferences.

Prizes: 3 prizes for best poster presentation (2002, 2003, 2004), Awarded 2nd place in Business talent of Funen 2011 (“Årets fynske erhverstalent”) and among the 6 best in 2008.

Research interests: Nonlinear far- and near-field scanning optical microscopy; Field enhancements in metal nanostructures; Nano-optics and Plasmonics; Spectroscopy and Sensing; Raman microscopy; (Thermal)-Photovoltaics, and Absorption Engineering; Plasmonic Color Printing.

Employment

Mads Clausen Institute (MCI)

SDU

Sønderborg

1. May 2021 → present

Associate Professor

SDU Nano Optics

SDU

Odense M

1. May 2021 → present

Research outputs

CheckNano: nanoparticle detection and sizing

Fiutowski, J., Gupta, P., Laghrissi, A., Adam, J., Rubahn, H-G., Beermann, J., Yezekyan, T., Rehmann, H. & Labes, A., 5. Aug 2021.

Gap-surface plasmon metasurfaces for broadband circular-to-linear polarization conversion and vector vortex beam generation

Heiden, J. T., Ding, F., Linnet, J., Yang, Y., Beermann, J. & Bozhevolnyi, S. I., 3. May 2019, In: *Advanced Optical Materials*. 7, 9, 9 p., 1801414.

Laser Writing of Bright Colors on Near-Percolation Plasmonic Reflector Arrays

Roberts, A. S., Novikov, S. M., Yang, Y., Chen, Y., Boroviks, S., Beermann, J., Mortensen, N. A. & Bozhevolnyi, S. I., 2019, In: *A C S Nano*. 13, 1, p. 71-77

Highly stable silver nanoparticles for SERS applications

Novikov, S. M., Popok, V. N., Evlyukhin, A. B., Hanif, M., Morgen, P., Fiutowski, J., Beermann, J., Rubahn, H. G. & Bozhevolnyi, S. I., 1. Jan 2018, In: *Journal of Physics: Conference Series*. 1092, p. 1-6 012098.

Highly Stable Monocrystalline Silver Clusters for Plasmonic Applications

Novikov, S. M., Popok, V. N., Evlyukhin, A. B., Hanif, M., Morgen, P., Fiutowski, J., Beermann, J., Rubahn, H. G. & Bozhevolnyi, S. I., 2017, In: *Langmuir*. 33, 24, p. 6062-6070

Numerical simulations of nanostructured gold films

Repan, T., Frydendahl, C., Novikov, S. M., Beermann, J., Bozhevolnyi, S. I., Mortensen, N. A., Stenger, N., Willatzen, M. & Lavrinenko, A., 2017, *Proceedings of the 17th International Conference on Numerical Simulation of Optoelectronic Devices, NUSOD 2017*. IEEE, p. 5-6 8009963

Optical reconfiguration and polarization control in semi-continuous gold films close to the percolation threshold

Beermann, J., Novikov, S. M., Bozhevolnyi, S. I., Mortensen, N. A., Frydendahl, C., Repän, T., Geisler, M., Lavrinenko, A. V., Xiao, S. & Stenger, N., 2017, In: *Nanoscale*. 9, 33, p. 12014-12024

White Light Generation and Anisotropic Damage in Gold Films near Percolation Threshold

Novikov, S. M., Frydendahl, C., Beermann, J., Zenin, V., Stenger, N., Coello, V., Mortensen, N. A. & Bozhevolnyi, S. I., 2017, In: *ACS Photonics*. 4, 5, p. 1207-1215

Light extinction and scattering from individual and arrayed high-aspect-ratio trenches in metals

Roberts, A. S., Søndergaard, T., Chirumamilla, M., Pors, A. L., Beermann, J., Pedersen, K. & Bozhevolnyi, S. I., 4. Feb 2016, In: *Physical Review B*. 93, 7, p. 1-14 075413.

Enhancement of two-photon photoluminescence and SERS for low-coverage gold films

Novikov, S. M., Beermann, J., Frydendahl, C., Stenger, N., Coello, V., Mortensen, N. A. & Bozhevolnyi, S. I., 2016, In: *Optics Express*. 24, 15, p. 16743-16751

Plasmonic channel waveguides in random arrays of metallic nanoparticles

Pisano, E., Coello, V., García Ortíz, C. E., Chen, Y., Beermann, J. & Bozhevolnyi, S. I., 2016, In: *Optics Express*. 24, 15, p. 17080-17089

Scattering and extinction from high-aspect-ratio trenches

Roberts, A. S., Søndergaard, T., Chirumamilla, M., Pors, A. L., Beermann, J., Pedersen, K. & Bozhevolnyi, S. I., 19. Nov 2015. 1 p.

On-chip detection of radiation guided by dielectric-loaded plasmonic waveguides

Han, Z., Radko, I. P., Mazurski, N., Desiatov, B., Beermann, J., Albrektsen, O., Levy, U. & Bozhevolnyi, S. I., 2015, In: *Nano Letters*. 15, 1, p. 476-480

Plasmonic black metals via radiation absorption by two-dimensional arrays of ultra-sharp convex grooves

Beermann, J., Eriksen, R. L., Holmgaard, T., Pedersen, K. & Bozhevolnyi, S. I., 4. Nov 2014, In: *Scientific Reports*. 4, 7 p., 6904.

Optical spectroscopy of single Si nanocylinders with magnetic and electric resonances

Evlyukhin, A. B., Eriksen, R. L., Cheng, W., Beermann, J., Reinhardt, C., Petrov, A., Prorok, S., Eich, M., Chichkov, B. N. & Bozhevolnyi, S. I., 2014, In: Scientific Reports. 4, 7 p., 4126.

Plasmonic black metal polarizers for ultra-short laser pulses

Søndergaard, T., Skovsen, E., Lemke, C., Holmgaard, T., Leißner, T., Eriksen, R. L., Beermann, J., Bauer, M., Pedersen, K. & Bozhevolnyi, S. I., 2014, *Plasmonics: Metallic Nanostructures and Their Optical Properties XII*. Boardman, A. D. (ed.). SPIE - International Society for Optical Engineering, Vol. 9163. 11 p. 916308

Plasmonic black gold based broadband polarizers for ultra-short laser pulses

Skovsen, E., Søndergaard, T., Lemke, C., Holmgaard, T., Leißner, T., Eriksen, R. L., Beermann, J., Bauer, M., Pedersen, K., Bozhevolnyi, S. I. & Søndergaard, T., 18. Nov 2013, In: Applied Physics Letters. 103, 21, 211102.

Highly efficient absorption of visible and near infrared light in convex gold and nickel grooves

Eriksen, R. L., Beermann, J., Søndergaard, T., Holmgaard, T., Pedersen, K. & Bozhevolnyi, S. I., 28. May 2013. 1 p.

Plasmonic black metals by broadband light absorption in ultra-sharp convex grooves

Beermann, J., Eriksen, R. L., Søndergaard, T., Holmgaard, T., Pedersen, K. & Bozhevolnyi, S. I., 2013, In: New Journal of Physics. 15, 1, 16 p., 073007.

Extraordinary optical transmission with tapered slits: effect of higher diffraction and slit resonance orders

Søndergaard, T., Bozhevolnyi, S. I., Beermann, J., Novikov, S. M., Devaux, E. & Ebbesen, T. W., 2012, In: Journal of the Optical Society of America B: Optical Physics. 29, 1, p. 130-137

Field Enhancement in Plasmonic Gold Nanostructures on Templates of Anodized Aluminum for Sensor Applications

Nielsen, P., Albrektsen, O., Beermann, J. & Morgen, P., 2012, *Nanotechnological Basis for Advanced Sensors*. Reithmaier, J. P., Paunovic, P., Kulisch, W., Popov, C. & Petkov, P. (eds.). 1. Edition ed. berlin: Springer, p. 275-280 (NATO Science for Peace and Security Series B: Physics and Biophysics).

Identification of Abnormal Stem Cells Using Raman Spectroscopy

Harkness, L., Novikov, S. M., Beermann, J., Bozhevolnyi, S. I. & Kassem, M., 2012, In: Stem Cells and Development. 21, 12, p. 2152-9 9 p.

Optical properties of spherical gold mesoparticles

Evlyukhin, A. B., Kuznetsov, A. I., Novikov, S. M., Beermann, J., Reinhardt, C., Kiyani, R., Bozhevolnyi, S. I. & Chichkov, B. N., 2012, In: Applied Physics B. 106, 4, p. 841-848

Plasmonic black gold by adiabatic nanofocusing and absorption of light in ultra-sharp convex grooves

Søndergaard, T., Novikov, S. M., Holmgaard, T., Eriksen, R. L., Beermann, J., Han, Z. H., Pedersen, K. & Bozhevolnyi, S. I., 2012, In: Nature Communications. 3, p. 969

Polarization-resolved two-photon luminescence microscopy of V-groove arrays

Beermann, J., Novikov, S. M., Holmgaard, T., Eriksen, R. L., Albrektsen, O., Pedersen, K. & Bozhevolnyi, S. I., 2012, In: Optics Express. 20, 1, p. 654-662

Surface-enhanced Raman microscopy of hemispherical shells stripped from templates of anodized aluminum

Nielsen, P., Novikov, S. M., Beermann, J., Morgen, P., Bozhevolnyi, S. I. & Albrektsen, O., 2012, In: Journal of Raman Spectroscopy. 43, 7, p. 834-841

Field enhancement and extraordinary optical transmission by tapered periodic slits in gold films

Beermann, J., Søndergaard, T., Novikov, S. M., Bozhevolnyi, S. I., Devaux, E. & Ebbesen, TW., 2011, In: New Journal of Physics. 13, 11, 17 p., 063029.

Localized field enhancements in two-dimensional V-groove metal arrays

Beermann, J., Novikov, S. M., Søndergaard, T., Rafaelsen, J., Pedersen, K. & Bozhevolnyi, S. I., 2011, In: Journal of the Optical Society of America B: Optical Physics. 28, 3, p. 372-378

Tuning surface plasmons in interconnected hemispherical Au shells

Nielsen, P., Novikov, S. M., Beermann, J., Morgen, P., Bozhevolnyi, S. I. & Albrektsen, O., 2011, In: Optics Express. 20, 1, p. 534-546

Two-photon luminescence microscopy of large-area gold nanostructures on templates of anodized aluminum

Nielsen, P., Beermann, J., Albrektsen, O., Hassing, S., Morgen, P. & Bozhevolnyi, S. I., 2. Aug 2010, In: Optics Express. 18, 16, p. 17040-52

Two-Photon Luminescence Microscopy of Tunable Gold Nanostructures Randomly Distributed on Templates of Anodized Aluminum

Nielsen, P., Albrektsen, O., Beermann, J., Hassing, S., Morgen, P. & Bozhevolnyi, S. I., 2010.

Extraordinary optical transmission enhanced by nanofocusing

Søndergaard, T., Bozhevolnyi, S. I., Novikov, S. M., Beermann, J., Deavux, E. & Ebbesen, T., 2010, In: Nano Letters. 10, 8, p. 3123-3128

Field Enhancement in Plasmonic Gold Nanostructures on Templates of Anodized Aluminum for Sensor Applications

Nielsen, P., Albrektsen, O., Beermann, J. & Morgen, P., 2010.

Raman microscopy of individual living human embryonic stem cells

Novikov, S. M., Beermann, J., Bozhevolnyi, S. I., Harkness, L. & Kassem, M., 2010, In: Proceedings of SPIE. 7715, 771537.

Resonant plasmon nanofocusing by closed tapered gaps

Søndergaard, T., Bozhevolnyi, S. I., Beermann, J., Novikov, S. M., Devaux, E. & Ebbesen, T. W., 2010, In: Nano Letters. 10, 1, p. 291-295

Two-Photon Luminescence Microscopy of Tunable Gold Nanostructures Randomly Distributed on Templates of Anodized Aluminum

Nielsen, P., Beermann, J., Albrektsen, O., Hassing, S., Bozhevolnyi, S. I. & Morgen, P., 2010. 7 p.

Two-Photon Luminescence Microscopy of Tunable Gold Nanostructures Randomly Distributed on Templates of Anodized Aluminum

Nielsen, P., Albrektsen, O., Morgen, P., Beermann, J., Hassing, S. & Bozhevolnyi, S. I., 2010.

Plasmonic metasurfaces for waveguiding and field enhancement

Radko, I., Volkov, V. S., Beermann, J., Evlyukhin, A. B., Søndergaard, T., Boltasseva, A. & Bozhevolnyi, S. I., 1. Jan 2009, In: Laser & Photonics Reviews. 3, 6, p. 575-590

Surface enhanced Raman microscopy with metal nanoparticle arrays

Beermann, J., Novikov, S. M., Leosson, K. & Bozhevolnyi, S. I., 1. Jan 2009, In: Journal of Optics A: Pure and Applied Optics (Print Edition). 11, 7, 5 p., 075004.

Two-photon imaging of field enhancement by groups of gold nanostrip antennas

Novikov, S. M., Beermann, J., Søndergaard, T., Boltasseva, A. & Bozhevolnyi, S. I., 1. Jan 2009, In: Journal of the Optical Society of America B: Optical Physics. 26, 11, p. 2199-2203

Surface enhanced Raman imaging: periodic arrays and individual metal nanoparticles

Beermann, J., Novikov, S. M., Leosson, K. & Bozhevolnyi, S. I., 2009, In: Optics Express. 17, 15, p. 12698-12705

Surface-enhanced Raman imaging of fractal shaped periodic metal nanostructures

Beermann, J., Novikov, S. M., Albrektsen, O., Nielsen, M. G. & Bozhevolnyi, S. I., 2009, In: Journal of the Optical Society of America B: Optical Physics. 26, 12, p. 2370-2376

Theoretical analysis and experimental demonstration of resonant light scattering from metal nanostrips on quartz

Jung, J., Søndergaard, T., Beermann, J., Boltasseva, A. & Bozhevolnyi, S. I., 2009, In: Journal of the Optical Society of America B: Optical Physics. 26, 1, p. 121-124

Nonlinear microscopy of localized field enhancements in fractal shaped periodic metal nanostructures

Beermann, J., Evlyukhin, A., Boltasseva, A. & Bozhevolnyi, S. I., 2008, In: Journal of the Optical Society of America B: Optical Physics. 25, 10, p. 1585-1592

Slow-plasmon resonant-nanostrip antennas: Analysis and demonstration

Søndergaard, T., Beermann, J., Boltasseva, A. & Bozhevolnyi, S. I., 2008, In: Physical Review B. 77, 11, 115420.

Two-photon mapping of localized field enhancements in thin nanostrip antennas

Beermann, J., Novikov, S. M., Søndergaard, T., Boltasseva, A. & Bozhevolnyi, S. I., 2008, In: Optics Express. 16, 22, p. 17302-17309

Comparison of finite-difference time-domain simulations and experiments on the optical properties of gold nanoparticle arrays on gold film

Hohenau, A., Krenn, J. R., García-Vidal, F., Rodrigo, S. G., Martín-Moreno, L., Beermann, J. & Bozhevolnyi, S., 1. Sep 2007, In: Journal of Optics A: Pure and Applied Optics (Print Edition). 9, 9, p. 366-371

Spectroscopy and nonlinear microscopy of gold nanoparticle arrays on gold films

Hohenau, A., Krenn, J. R., Garcia-Vidal, F., Rodrigo, S. G., Martin-Moreno, L., Beermann, J. & Bozhevolnyi, S., 1. Feb 2007, In: Physical Review B. 75, 8, 085104.

Modeling of second-harmonic scanning optical microscopy of molecular quasi-one-dimensional aggregates

Lozovski, V. Z., Beermann, J. & Bozhevolnyi, S., 1. Jan 2007, In: Physical Review B. 75, 4, 045438.

Localized field enhancements in fractal shaped periodic metal nanostructures

Beermann, J., Radko, I., Boltasseva, A. & Bozhevolnyi, S. I., 2007, In: Optics Express. 15, 23, p. 15234-15241

Spectroscopy and nonlinear microscopy of Au nanoparticle arrays: Experiment and theory

Hohenau, A., Krenn, J. R., Beermann, J., Bozhevolnyi, S., Rodrigo, S. G., Martin-Moreno, L. & Garcia-Vidal, F., 1. Apr 2006, In: Physical Review B. 73, 15, p. 155404

Modeling of nonlinear microscopy of localized field enhancements in random metal nanostructures

Beermann, J., Bozhevolnyi, S. I. & Coello, V., 13. Mar 2006, In: Physical Review B. 73, 11, 115408.

Resolution measurements with scanning far- and near-field optical second-harmonic microscopes

Beermann, J., Vohnsen, B. & Bozhevolnyi, S., 2006.

Second-harmonic far-field microscopy of random metal nanostructures

Beermann, J., Coello, V. & Bozhevolnyi, S., 2006.

Second-harmonic far-field microscopy of random metal nanostructures

Beermann, J., Coello, V. & Bozhevolnyi, S., 2006.

Second-harmonic far-field microscopy of random metal nanostructures

Beermann, J., Bozhevolnyi, S. & Coello, V., 2006.

Second-harmonic far-field microscopy of random nanostructures

Beermann, J., Coello, V. & Bozhevolnyi, S., 2006.

Second-harmonic microscopy of poled glasses

Beermann, J. & Bozhevolnyi, S., 2006.

Two-photon luminescence microscopy of field enhancement at gold nanoparticles

Beermann, J. & Bozhevolnyi, S. I., 29. Nov 2005, In: Physica Status Solidi. C, Current topics in solid state physics. 2, 12, p. 3983-3987

Two-photon near-field mapping of local molecular orientations in hexaphenyl nanofibers

Beermann, J., Bozhevolnyi, S., Balzer, F. & Rubahn, H-G., 1. Oct 2005, In: Laser Physics Letters. 2, 10, p. 480-484

Two-photon near-field characterization of hexaphenyl nanofibers

Bozhevolnyi, S. I. & Beermann, J., 1. Aug 2005, In: Journal of the Korean Physical Society. 47, 9(1), p. 157-161 5 p.

Modelling of second-harmonic microscopy of random metal nanostructures

Beermann, J., Coello, V. & Bozhevolnyi, S., 2005.

Nonlinear microscopy of enhancement effects in periodic metal nanostructures

Beermann, J. & Bozhevolnyi, S., 2005.

Nonlinear microscopy of enhancement effects in periodic metal nanostructures

Beermann, J. & Bozhevolnyi, S., 2005.

Second-harmonic microscopy of enhancement effects in periodic metal nanostructures

Beermann, J. & Bozhevolnyi, S., 2005.

Two-photon mapping of molecular orientations in hexaphenyl microrings

Beermann, J., Marquart, C. & Bozhevolnyi, S., 1. May 2004, In: Laser Physics Letters. 1, 5, p. 264-268 5 p.

Second-harmonic near-field optical microscopy of periodic nanoholes in metal films

Beermann, J. & Bozhevolnyi, S. I., 27. Apr 2004, In: Laser Physics Letters. 1, 12, p. 592-597 6 p.

Microscopy of localized second-harmonic enhancement in random metal nanostructures

Beermann, J. & Bozhevolnyi, S., 1. Apr 2004, In: Physical Review B. 69, 15, 155429.

Two-photon mapping of local molecular orientations in hexaphenyl nanofibers

Beermann, J., Bozhevolnyi, S. I., Bordo, V. & Rubahn, H-G., 2004, In: Optics Communications. 237, 4-6, p. 423-429

Two-photon near-field mapping of molecular orientations in hexaphenyl nanofibers

Beermann, J. & Bozhevolnyi, S., 2004.

Two-photon near-field mapping of molecular orientations in hexaphenyl nanofibers

Beermann, J. & Bozhevolnyi, S., 2004.

Optically active organic microrings

Balzer, F., Beermann, J., Bozhevolnyi, S. I., Simonsen, A. C. & Rubahn, H-G., 1. Sep 2003, In: Nano Letters. 3, 9, p. 1311-1314

High-resolution second-harmonic microscopy of poled silica waveguides

Beermann, J., Bozhevolnyi, S. I., Pedersen, K. & Fage-Pedersen, J., 15. Jun 2003, In: Optics Communications. 221, 4-6, p. 295-300

Direct observation of localized second-harmonic enhancement in random metal nanostructures
Bozhevolnyi, S. I., Beermann, J. & Coello, V., 16. May 2003, In: Physical Review Letters. 90, 19, 197403.

Optically Active Organic Microrings

Balzer, F., Beermann, J., Bozhevolnyi, S. I., Simonsen, A. C. & Rubahn, H-G., 2003, In: Nano Letters. 3, 9, p. 1311-1314

Second-harmonic far-field microscopy of random metal nanostructures

Beermann, J., Bozhevolnyi, S. & Coello, V., 2003, In: D O P S - Nyt. 18, p. 16-20

Second-harmonic far-field microscopy of random metal nanostructures

Beermann, J., Bozhevolnyi, S. & Coello, V., 2003, *Proceedings of SPIE*. p. 530-540 10 p.

Second-harmonic far-field microscopy of random nanostructured gold surfaces

Coello, V., Beermann, J. & Bozhevolnyi, S., 2003, In: Physica Status Solidi. C, Current topics in solid state physics. 8, p. 3070-3074

Two-photon mapping of molecular orientations in hexaphenyl nanofibers and nanorings

Beermann, J., Bozhevolnyi, S. & Rubahn, H-G., 2003.

Second-harmonic microscopy of poled silica waveguides

Bozhevolnyi, S., Beermann, J. & Pedersen, K., 2002, In: D O P S - Nyt. 17, 2, p. 26-29 4 p.

Activities

Colours and Optics

Jonas Beermann (Lecturer)

3. Oct 2019

Optical sensor possibilities in simple gold structure?

Jonas Beermann (Lecturer)

22. Feb 2017

Enhancement of two-photon photoluminescence and SERS for low-coverage gold films

Jonas Beermann (Lecturer)

18. Nov 2016

Nanooptics: Micro and Nanotechnologies across the borders

Jonas Beermann (Lecturer)

28. Apr 2015

Plasmonic Black metals by broadband light absorption in ultra-sharp convex grooves

Jonas Beermann (Lecturer)

1. May 2014

Plasmonic black metals

Jonas Beermann (Lecturer)

22. Aug 2013

Plasmonic Black Gold and Black Nickel

Jonas Beermann (Lecturer)

14. Aug 2012

Localized field enhancement in periodic arrays of V-grooves and tapered metal slits

Jonas Beermann (Lecturer)

22. Sep 2011

Localized field enhancements in two-dimensional V-groove metal arrays

Jonas Beermann (Lecturer)

25. Aug 2011

Strong field enhancement from periodic metal nanoparticles

Jonas Beermann (Lecturer)

10. Nov 2010

Surface Enhanced Raman Microscopy with Metal Nanoparticle Arrays

Jonas Beermann (Lecturer)

5. Oct 2010

Imaging field enhancements in metal nanostructures

Jonas Beermann (Lecturer)

25. Aug 2010

Nanophotonics

Jonas Beermann (Lecturer)

15. Dec 2009

Field enhancement in thin nanostrip antennas

Jonas Beermann (Lecturer)

2. Oct 2008

Raman spectroscopy and on-chip perspectives

Jonas Beermann (Lecturer)

16. Sep 2008

Slow-plasmon resonant nano-strip antennas

Jonas Beermann (Lecturer)

16. Sep 2008

Press/Media

Gennembrud for fremtidens supercomputere

Jonas Beermann & Sergey I. Bozhevolnyi

31/03/2017

1 item of Media coverage

Manden der gør det umulige muligt

Jonas Beermann

23/01/2019

1 Media contribution

SDU - forskere styrer lys rundt om hjørner

Sergey I. Bozhevolnyi & Jonas Beermann

31/03/2017

1 item of Media coverage