

Jan Linnros: List Of Publications

International Journals

1. B. Svensson, G. Holmén and J. Linnros, *Electron emission from silver under heavy atomic and molecular ion bombardment*, **Nucl. Instrum. Methods** 194, 429 (1982).
2. B. Svensson, J. Linnros and G. Holmén, *Ion-beam induced annealing of radiation damage in silicon on sapphire*, **Nucl. Instrum. Methods** 209/210, 755 (1983).
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7. G. Alestig, G. Holmén and J. Linnros, *Electrical properties of ion beam recrystallized and laser beam annealed arsenic-implanted silicon on sapphire*, **J. Appl. Phys.** 62, 409 (1987).
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14. J. Linnros, R.G. Elliman and W.L. Brown, *Divacancy control of the balance between ion-beam-induced epitaxial crystallization and amorphization in silicon*, **J. Mater. Res.** 3, 1208 (1988).
15. M.E. Gross, W.L. Brown, L.R. Harriott, K.D. Cummings, J. Linnros and H. Funsten, *Ion-beam direct-write mechanisms in palladium acetate films*, **J. Appl. Phys.** 66, 1403 (1989).
16. B.G. Svensson, J.T. Linnros and G. Holmén, *Boron implantation in silicon; isotope effects studied by secondary ion mass spectrometry*, **J. Appl. Phys.** 68, 73 (1990).
17. V. Grivickas and J. Linnros, *New contactless method for carrier diffusion measurements in silicon with a high precision*, **Appl. Phys. Lett.** 59, 72 (1991).
18. V. Grivickas, J. Linnros, A. Vigelis, J. Seckus, and J.A. Tellefsen, *A study of carrier lifetime in silicon by laser induced absorption: a perpendicular geometry measurement*, **Solid State Electronics** 35, 299 (1992).
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51. V. Grivickas, A. Galeckas, P. Grivickas, J. Linnros and V. Bikbajevas, *Excess free carrier optical excitation spectroscopy in indirect semiconductors*, **Materials science** (ISSN 1392-1320) Vol. 7, 203-208, No. 4. (2001).
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97. V. Grivickas, K. Gulbinas, G. Manolis, M. Kato and J. Linnros, *Internal stress in freestanding 3C-SiC grown on Si and relation to carrier lifetime*, **AIP Conf. Proc.** 1292, 91 (2010).
98. J. Valenta, B. Bruhn and J. Linnros, *Polarization of photoluminescence excitation and emission spectra of silicon nanorods within single Si/SiO₂ nanowires*, **Phys. Stat. Sol. C** 8, 1017-1020 (2011).
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100. K. Gulbinas, V. Grivickas, P. Grivickas, J. Linnros, *Conversion of laser pulse optical energy to photo-acoustic wave in nm-scale layered TlGaSe₂ crystals*, IOP Conf. Series: **Materials Science and Engineering** 68, 012004 (2014).

101. T. Chulapakorn, I. Sychugov, S.S. Suvanam, J. Linnros, M. Wolff, D. Primetzhofer, G. Possnert, A. Hallén, *Si-nanoparticle synthesis using ion implantation and MeV ion irradiation*, **Phys. Stat. Sol. C**, 12, 1301-1305 (2015).
102. M. Zhang, I. Sychugov, T. Schmidt, J. Linnros, *Optical detection of two-color-fluorophore barcode for nanopore DNA sensing*, **SPIE Microtechnologies** 95190G-95190G-7 (2015).
103. F. Pevere, B. Bruhn, F. Sangghaleh, Y. Hormozan, I. Sychugov, and J. Linnros, *Effect of X-ray irradiation on the blinking of single silicon nanocrystals*, **Phys. Stat. Solidi (a)**, 212 (12), 2692-2695, DOI 10.1002/pssa.201532652.
104. T. Chulapakorn, I. Sychugov, S.S. Suvanam, J. Linnros, D. Primetzhofer, A. Hallén, *MeV ion irradiation effects on the luminescence properties of Si-implanted SiO₂-thin films*, **Physica Status Solidi (c)** **13** (10-12), 921-926 (2016).
105. J. Linnros, T. Gregorkiewicz, M. Fujii, M. Reed, *Preface - Group IV semiconductors at the nanoscale*, **Physica Status Solidi (a)** **213** (11), 2861-2861 (2016).
106. T. Chulapakorn, D. Primetzhofer, I. Sychugov, S.S. Suvanam, J. Linnros, A. Hallén, *Impact of H₂ uptake from forming gas annealing and ion implantation on the photoluminescence of Si nanoparticles*, **Physica Status Solidi (a)** **215**, 1700444 (2018).
107. A. Marinins, A. Udalcovs, O. Ozolins, X. Pang, J.G.C. Veinot, G. Jacobsen, I. Sychugov, J. Linnros, S. Popov, *All-optical intensity modulation in polymer waveguides doped with Si quantum dots*, **CLEO: Science and Innovations**, JW2A. 31 (2018).

Invited Talks (> 2001)

1. J. Linnros, *Optical Properties of Silicon Nanocrystals and its Relevance in Semiconductor Applications and Astrophysics*, Invited talk at the University of Chemnitz, Germany, November 2001.
2. J. Linnros, *Silicon nanostructures: Fabrication and single quantum dot light emission*, department seminar at IFM, May 2002.
3. Jan Valenta, Robert Juhasz and Jan Linnros, *Photoluminescence and electroluminescence from single silicon quantum dots*, invited talk at E-MRS, Strassbourg, June 2002 (given by J. Linnros)
4. J. Linnros, *Spectroscopy of single silicon quantum dots*, invited talk at Zeeman-Van der Waal Institute, Amsterdam, Dec. 2002.
5. J. Valenta, J. Linnros, R. Juhasz, F. Cichos and J. Martin, *Optical spectroscopy of single silicon quantum dots*, OASIS workshop, Trento, Sept. 2002 (given by J. Linnros).
6. J. Linnros and J. Valenta, *Luminescence spectroscopy of single silicon quantum dots*, MRS spring meeting, San Francisco, 2003, opening talk of symposium I (given by J. Linnros).
7. J. Linnros, *Single nanocrystal spectroscopy*, Invited lecture in the course Nanotechnologies and nanoscience at UIMP University, Valencia, Spain, October 2003.
8. J. Linnros, *Silicon goes nano: New applications in electronics, photonics and biotechnology*, NANOTEC conference, November 2003, Älvsjömassan.
9. J. Linnros, *Luminescence spectroscopy of single silicon quantum dots*, QNANO meeting, December 2003, Sigtuna.
10. J. Linnros, *Spectroscopy of silicon quantum dots*, Kista photonics seminar series, April 2005.
11. J. Linnros, *Lecture I - Silicon nanotechnology, Lecture II – Single quantum dot spectroscopy*, lectures at IUVESTA international summer school, *Science and technology at nanoscale*, Tri Studne, June 2005.
12. J. Linnros, *Light emission from silicon nanocrystals: Probing a single quantum dot*, ACSIN-8 conference, Stockholm, June 2005.
13. J. Linnros, *Macro pore and pillar array formation in silicon by electrochemical etching*, Nordic Semiconductor Meeting in Oslo, August 2005.

14. J. Linnros, *Semiconductor nanowires for electrical detection of biomolecules*, Medicinteknikdagarna, Södertälje September 2005.
15. J. Linnros, *Kisel – ett lysande material*, Optopub, Kista September 2005.
16. J. Linnros, *Electrochemical etching of silicon: From nanopores to X-ray imaging applications*, NANOTEC Forum, 2006, Älvsjömassan.
17. I. Sychugov, R. Juhasz, J. Valenta and J. Linnros, *Probing the luminescence from a single silicon quantum dot*, MRS Boston, 2006 (given by J. Linnros) also given in Minneapolis.
18. J. Linnros, *Semiconductor quantum dots - including single dot spectroscopy*, lecture at Palanga summer school, Lithuania, August 2007.
19. J. Linnros, *X-ray imaging detectors*, IMAGIC seminar, 2007.
20. J. Linnros, *Probing the luminescence from a single silicon quantum dot*, Vilnius, invited seminar December 2007.
21. J. Linnros, Ilya Sychugov and Jan Valenta, *Probing the luminescence from a single silicon quantum dot*, invited presentation at Swedish-Japanese meeting Q-NANO, Lund, December 2007.
22. J. Linnros, *Luminescent Silicon Quantum Dots*, Phosphor Global Summit, San Diego, March 2008 (also given at Stanford and Caltech).
23. J. Linnros, *Single quantum dot spectroscopy: What can be learnt about silicon nanocrystals?*, invited to E-MRS, Strassbourg, May 2008.
24. J. Linnros, *Silicon nanowires and nanoribbons for label-free electrical detection of biomolecules*, invited to NANOSENS, Wien, September 2008.
25. J. Linnros, *Synthesis and properties of single silicon quantum dots*, SIBET workshop, Manchester 2009.
26. J. Linnros, *Silicon nanostructures: nanowires, nanopores and quantum dots*, Sino-Swedish workshop 2009.
27. J. Linnros, *Silicon Quantum Dots – Do they Exist?*, 2009 Sweden-Japan workshop on Nanophotonics, Stockholm 2009.
28. J. Linnros, *Silicon Quantum Dots – Do they Exist?*, Applied Physics Seminar 2009, Albanova, KTH.
29. J. Linnros, *Fabrication and characterization of single silicon quantum rods*, IBEDM, Tossa de Mar 2009.
30. J. Linnros, *Fabrication and characterization of single silicon quantum rods*, QNANO workshop, also given at Inst of Mat Science, Tsukuba 2009 and at Kyoto University 2009.
31. J. Linnros, *Single quantum dot spectroscopy*, NanoLum workshop, Porquerolles, France, 2010.
32. J. Linnros, *Spectroscopy of single silicon quantum dots*, MRS 2010, Boston.
33. J. Linnros, *Biomolecule sensing using silicon nanowires – a simple concept yet requiring mastering of several disciplines*, QNANO workshop, Visby, 2011.
34. J. Linnros, *Introduction to Quantum Dots and Single Quantum Dot Spectroscopy*, ADOPT Winter school, Romme Alpin 2012.
35. J. Linnros, *Silicon nano technology*, Nov2k symposium 2012, Karolinska Institutet.
36. J. Linnros, *Nanowires for biomolecule detection*, ICNBME – 2013 Moldavia, plenary talk.
37. J. Linnros, *Silicon nanoscience: nanowires, nanopores and quantum dots*, seminar in Norrköping LIU, 2013.
38. J. Linnros, *Single dot spectroscopy of silicon quantum dots*, Symposium on B. Svensson birthday, Oslo 2013.
39. J. Linnros, *Silicon quantum dots/nanocrystals: What can be learnt from single-dot spectroscopy?*, Zing conference on Nanomaterials, Mexico, 2013.
40. J. Linnros, *The search for a silicon light source*, ADOPT Winter school, Romme Alpin 2014.

41. J. Linnros, *Silicon nanoscience: nanowires, nanopores and quantum dots*, invited seminar in INSA Lyon, 2014.
42. J. Linnros, *Probing the physics of silicon quantum dots by single-dot spectroscopy*, E-MRS Strassbourg 2015.
43. J. Linnros, *Formation of silicon nanopore arrays by electro-chemical etching*, Swiss Nanopore Meeting, Switzerland 2015.
44. J. Linnros, *The physics of silicon quantum dots from single-dot studies*, Nanocon meeting, Brno, 2015.
45. J. Linnros, *Silicon Quantum Dots: From Single-Dot Studies to Highly Luminescent Ensembles*, ECS meeting, San Diego (2016).
46. J. Linnros, *Nanopore arrays in a silicon membrane for parallel single-molecule detection*, MRS Spring meeting, Phoenix (2016).
47. J. Linnros, *Silicon at the nanoscale using lithography control: Nanowires, nanopores and quantum dots*, Nanotechnology Materials and Devices Conference (NMDC), IEEE, Toulouse, 2016, plenary talk.
48. J. Linnros, *Probing luminescent and absorbing states in silicon quantum dots*, E-MRS, Strasbourg (2017).
49. J. Linnros, M. Zhang, I. Sychugov, *Nanopore arrays in a silicon membrane for parallel single-molecule optical detection*, E-MRS Warsaw (2017).
50. J. Linnros, M. Zhang, I. Sychugov, *Nanopore arrays for parallel single-molecule optical detection*, *Optics and Photonics*, Stockholm (2017).
51. J. Linnros, *Probing silicon quantum dots by single-dot techniques*, Mini-workshop, Prague (2018).
52. J. Linnros, *Silicon nanotechnology for biomolecule sensing*, Bioelectronic Medicine 2018, Stockholm.
53. J. Linnros, *The physics of silicon quantum dots as revealed by single emitters*, Faraday Discussions workshop in Bertinoro 2018.
54. J. Linnros, *Silicon nanotechnology for biomolecule sensing*, IEEE NMDC Portland, 2018.
55. J. Linnros, *Silicon nanotechnology for biomolecule sensing*, E-MRS meeting in Nice 2019.
56. J. Linnros, *Optical spectroscopy of semiconductor nanocrystals - focusing on single-dot spectroscopy and Si quantum dots*, Summer School, Alsace 2019.
57. J. Linnros, *Introduction to quantum dots and single quantum dot spectroscopy + Silicon nanotechnology for biomolecule sensing*, Invited lectures in Chisinau, Moldova 2020.

Book chapters

1. J. Linnros and V. Grivickas, *Carrier lifetime: Free carrier absorption, photoconductivity, and photoluminescence*, in Unit 5b.2 of *Methods in Material Research*, J. Wiley & Sons, Inc. (2000), 5b.2.1-5b.2.31. Revised and extended in 2012.
2. J. Valenta and J. Linnros, *Optical spectroscopy of individual silicon nanocrystals*, in 'Silicon nanophotonics', edited by L. Khriachtchev (World Scientific, 2008).
3. I. Sychugov and J. Linnros, *Optical properties of a silicon nanocrystal*, in 'Nanocrystals: Properties, Preparation and Applications', edited by Hongquig Hu (Nova Science Publishers, 2008).

Patents

1. S. Petersson, J. Linnros and C. Fröjd, *X-ray pixel detector device and fabrication method* (July 2000).

2. A. Fucikova, J. Linnros, I. Sychugov, *Synthesized thin shell passivated silicon nanocrystals with a narrow photoluminescence linewidth*, US Patent App. 15/252,265 (2018).

Popular presentations

1. J. Linnros, Nanoteknik – en revolution i det lilla, Öppen föreläsning, KTH (2017).