

List of publications

R.W. Tjerkstra

Granted project proposals

1. A.P. Mosk and R.W. Tjerkstra, *Breakdown of universal transparency: is there symmetry between absorption and gain?*, project proposal accepted by FOM, April 14th, 2009.

Referenced publications

2. L.A. Woldering, A.P. Mosk, R.W. Tjerkstra, and W.L. Vos, *The influence of fabrication deviations on the photonic band gap of three-dimensional inverse woodpile nanostructures*, J.Appl. Phys. 105, 093108:1-10 (2009)
3. L.A. Woldering, A.P. Mosk, R.W. Tjerkstra and W.L. Vos, *The role of fabrication deviations on the photonic band gap of 3D inverse woodpile nanostructures*, J. Appl. Phys., 105 (2009), 93108
4. R.W. Tjerkstra, F. B. Segerink, J.J. Kelly, and W.L. Vos, *Fabrication of three-dimensional nanostructures by focused ion beam milling*, J. Vac. Sci. Technol. B, 26 (3) (2008), 973-977
5. L.A. Woldering, R.W. Tjerkstra, H.V. Jansen, I.D. Setija and W.L. Vos, *Periodic arrays of deep nanopores made in silicon with reactive ion etching and deep UV lithography*, Nanotechnology, 19 (2008), 145304:1-11
6. K.L. van der Molen, R.W. Tjerkstra, A.P. Mosk, and A. Lagendijk, *Spatial Extent of Random Laser Modes*, Phys. Rev. Lett., 98 (14) (2007), 143901
7. R.W. Tjerkstra, *Electrochemical formation of porous GaP in aqueous HNO₃*, Electrochem. Solid-State Lett., 9 (5) (2006), C81-C84
8. D. Clicq, R.W. Tjerkstra, J.G.E. Gardeniers, A. van den Berg, G.V. Baron and G. Desmet, *Porous silicon as a stationary phase for shear-driven chromatography*, J. Chromatogr. A 1032 (2004) 185-191
9. P. Ekkels, R. W. Tjerkstra, G. J. M Krijnen, J. W. Berenschot, J. Brugger and M. C. Elwenspoek, *Fabrication of functional structures on thin silicon nitride*

- membranes*, Microelec. Eng., 67-68 (2003), 422-429
- 10.M. Kolbel, R.W. Tjerkstra, G. Kim , J. Brugger, C.J.M. van Rijn, W. Nijdam, J. Huskens and D.N. Reinhoudt, *Self-assembled monolayer coatings on nanostencils for the reduction of materials adhesion*, Adv. Funct. Mater. 13 (3) (2003), 219-224
 - 11.M. Kolbel, R.W. Tjerkstra, J. Brugger, C.J.M. van Rijn, W. Nijdam, J. Huskens and D. N. Reinhoudt, *Shadow-mask evaporation through monolayer-modified nanostencils*, Nano lett. 2 (12) (2002), 1339-1343
 - 12.L. K. van Vugt, A. F. van Driel, R. W. Tjerkstra, L. Bechger, W. L. Vos, D. Vanmaekelbergh and J.J. Kelly, *Macroporous germanium by electrochemical deposition*, Chem. Commun. 18 (2002), 2054-2055
 - 13.J. Gomez Rivas, A. Lagendijk, R.W. Tjerkstra, D. Vanmaekelbergh, and J. J. Kelly, *Tunable photonic strength in porous GaP*, Appl. Phys. Lett, 80 (24) (2002), 4498-4500
 - 14.R.W. Tjerkstra, J. Gomez Rivas, D. Vanmaekelbergh and J.J. Kelly, *Porous GaP multilayers formed by electrochemical etching*, Electrochem. Sol. St. Lett., 5 (5) (2002), G32-G35
 - 15.R.W. Tjerkstra, J.G.E. Gardeniers, J.J. Kelly and A. van den Berg, *Multi Walled Microchannels: Free-standing porous silicon membranes for use in μ -TAS*, JMEMS 9 (4) (2000), 495-501
 - 16.M.J. de Boer, R.W. Tjerkstra, J.W. Berenschot, H.V. Jansen, J.G.E. Gardeniers, M. Elwenspoek and A. van den Berg, *Micromachining of Buried Micro Channels in Silicon*, JMEMS, 9 (1) (2000), 94-102
 - 17.R.W. Tjerkstra, M.de Boer, E. Berenschot, J.G.E. Gardeniers, A. van den Berg, M.C. Elwenspoek, *Etching technology for chromatography microchannels*, Electrochimica acta, 42 (20-22) (1997), 3399-3406
 - 18.R.W. Tjerkstra, M.L. Verdonk, J. Kroon, *Crystal and molecular structure of 2,4,6-tri-O-benzoyl-3-O-benzyl- β -D-idopyranosyl fluoride*, Carbohydrate research, 285 (8) (1996), 151-158
 - 19.D. Vanmaekelbergh, B.H. Erne, R.W. Tjerkstra, *On the increase of the photocurrent quantum efficiency of GaP photoanodes due to (photo)anodic pretreatments*, Electrochimica acta, 40 (6) (1995), 689-698

20. M.L. Verdonk, R.W. Tjerkstra, I.S. Ridder, J.A. Kanters, J. Kroon, W.J.M. van der Kempf, *ToBaD: A Method for the Estimation of Torsion Barriers from Crystal Structure Data; Conformational Analysis of N,N-Dimethylaniline and Derivatives*, J. Comp. Chem., 15 (12) (1994), 1429-1436

Intellectual property

1. R.W. Tjerkstra, *Method for electrochemically etching a p-type semiconductor material, and a substrate of at least partly porous semiconducting material*, International pat. #WO 99/45583 (1999)
2. R.W. Tjerkstra, *Werkwijze voor het elektronisch etsen van een p-type halfgeleidermateriaal, alsmede substraat van althans gedeeltelijk poreus halfgeleidermateriaal*, Dutch pat. #1010234 (1998)

Other articles

1. R.W. Tjerkstra, P. Ekkels, G. Krijnen, S. Egger, E. Berenschot, K.C. Ma and J. Brugger, *Fabrication of an active nanostencil with integrated microshutters*, accepted for Proc. Transducers (2003)
2. J.G.E. Gardeniers, R.W. Tjerkstra and A. van den Berg, *Fabrication and application of silicon-based microchannels*, Proc. IMRET 3 conference, Frankfurt, april 18 (1999)
3. R.W. Tjerkstra, J.G.E. Gardeniers, M.C. Elwenspoek, A. van den Berg, *Electrochemical fabrication of multi walled microchannels*, Proc. μ -TAS (1998), 133-6
4. R.W. Tjerkstra, M. de Boer, E. Berenschot, J.G.E. Gardeniers, A. van den Berg, M. Elwenspoek, *Etching technology for microchannels*, Proc. MEMS (1997), 147- 52

Oral presentations

1. R.W. Tjerkstra, *Fabrication of a 3D photonic crystal in GaP*, International Workshop on FIB for Photonics, June 14, 2008, Eindhoven
2. R.W. Tjerkstra, *Fabrication of a 3D photonic crystal in GaP*, Federation of 3TU One Day Workshop on Focused Ion Beam Instrumentation and Application, May

- 16, 2008, University of Twente, Enschede
3. R.W. Tjerkstra, *Nanofabrication of 3D photonic crystals*, MESA⁺ colloquium, 9 oktober 2007, Enschede, the Netherlands
 4. R.W. Tjerkstra, *Licht vangen met héle kleine gaatjes*, presentatie op het Arago Focus symposium, 23 mei 2007 te Enschede
 5. R.W. Tjerkstra, *Porous semiconductors for nanophotonics*, MESA⁺ day, September 30, 2004, Enschede, the Netherlands
 6. R.W. Tjerkstra, J.G.E. Gardeniers, M.C. Elwenspoek, A. van den Berg, oral presentation at the European Workshop on the Electrochemical Processing of Semiconductors, Paris, France, 5-8 Nov. 1996
 7. R.W. Tjerkstra, J.G.E. Gardeniers, M.C. Elwenspoek, A. van den Berg, oral presentation at the Electrochemical Microsystems Technologies Symposium, August 28-30, 1996 Grevenbroich, Germany

Poster presentations

1. Hannie van den Broek, Yanina Cesa, Christian Blum, Niels Zijlstra, Willem Tjerkstra, Allard Mosk, Willem Vos, Vinod Subramariam, *Measuring optical properties of fluorescent proteins by controlling the local density of optical states*, FOM days, Veldhoven, Jan. 10, 2009.
2. R. Willem Tjerkstra, Léon A. Woldering, Frans B. Segerink, Hannie van den Broek, Alex Hartsuiker, Bart H. Husken, Irwan D. Setija, John J. Kelly, Allard P. Mosk and Willem L. Vos, *Sculpting a prison to arrest light*, MESA+ dag, Sept. 23, 2008, Enschede
3. R.W. Tjerkstra, F.B. Segerink, and W.L. Vos, *Focused ion beam milling of 3D nanostructures with high precision*, NanoNed, 6 december 2007 te Nijmegen
4. L.A. Woldering, R.W. Tjerkstra, A. Hartsuiker, H.V. Jansen, I.D. Setija, and W.L. Vos, *Deep stuff: photonic arrays of nanopores in silicon*, MESA+ dag, 11 september 2007 te Enschede
5. L.A. Woldering, R.W. Tjerkstra, H.V. Jansen, F.B. Segerink, I.D. Setija, J.J. Kelly and W.L. Vos, *Carving three-dimensional nanophotonic structures using ions*, getoond op de NanoPhotonics gebruikerscommissievergadering, op 16 december

2006 te Eindhoven.

6. L.A. Woldering, R.W. Tjerkstra, H.V. Jansen, Setija and W.L. Vos, *Two-dimensional periodic arrays of deep nanopores etched in silicon with reactive ions*, getoond op NanoNed/MicroNed symposium, 16 en 17 november 2006 te Eindhoven
7. L.A. Woldering, R.W. Tjerkstra, H.V. Jansen, F.B. Segerink, I.D. Setija, J.J. Kelly and W.L. Vos, *Carving three-dimensional nanophotonic structures using ions*, MESA⁺ day, 28 september 2006, Enschede, the Netherlands
8. R.W. Tjerkstra, L.A. Woldering, A.M. Otter, R.A. van Loon, F.B. Segerink, and W.L. Vos, *Sculpting nanophotonic structures using focused ions*, NanoNed/MicroNed Symposium, 8 & 9 december 2005, Martini Plaza, Groningen
9. R.W. Tjerkstra, L.A. Woldering, A.M. Otter, R.A. van Loon, F.B. Segerink, and W.L. Vos, *Sculpting nanophotonic structures using focused ions*, MESA⁺-dag, Universiteit Twente, Enschede, 29 september 2005
10. R.W. Tjerkstra, F.B. Segerink, and W.L. Vos, *3D Photonic structures fabricated by Focused Ion Beam milling*, PECS-VI, 19 - 24 juni 2005, Heraklion, Greece
11. L.A. Woldering, R.V.A. van Loon, A.M. Otter, R.W. Tjerkstra, and W.L. Vos, *Focused Ion Beam milling of nano-boxes in self-assembled opal photonic crystals*, PECS-VI, 19 - 24 juni 2005, Heraklion, Greece
12. F.B. Segerink, J.G.M. Sanderink, H. van Vossen, V.J. Gadgil, R.W. Tjerkstra, N.F. van Hulst, W.L. Vos, L. Kuipers and H.L. Offerhaus, *Milling complex patterns*, first European FIB & Dual Beam Userclub Meeting, 25-27 april 2005, Eindhoven, the Netherlands
13. I.M. Vellekoop, R.W. Tjerkstra, P. Lodahl, B. Bret, B.C. Kaas, K.L. van der Molen, T. Savels, and A. Lagendijk, *A dynamic technique for characterizing random media*, MESA⁺ meeting 2004 September 30, 2004, Cinestar, Enschede, The Netherlands
14. I.M. Vellekoop, R.W. Tjerkstra, P. Lodahl, B. Bret, B.C. Kaas, K.L. van der Molen, T. Savels, and A. Lagendijk, *A dynamic technique for characterizing random media*, Wetenschappelijke FOM-dagen Gecondenseerde Materie, December 14-15, 2004, Veldhoven, The Netherlands
15. Transducers (2003), *Fabrication of an active nanostencil with integrated*

microshutters, Boston, USA

16. μ TAS (1998), *Electrochemical fabrication of multi walled microchannels*, Banff, Canada

17. MEMS (1997), *Etching technology for microchannels*, Nagoya, Japan

18. μ TAS (1996), *Isotropically etched channels for gas chromatography*, Basel, Switzerland, 19-22 nov.

Prize

First prize for the best poster, MESA⁺-day, University Twente, Enschede, 29 september 2005, for the poster by R.W. Tjerkstra, L.A. Woldering, A.M. Otter, R.A. van Loon, F.B. Segerink, and W.L. Vos, *Sculpting nanophotonic structures using focused ions*