

A1.1 (K. Busch)

- [A1.1:1] * A. Garcia-Martin, D. Hermann, K. Busch, and P. Wölfle, *Solid state theoretical methods for defect computations in Photonic Crystals*, Material Research Society Symposium Proceedings **722**, L1.1 (2002)
- [A1.1:2] * A. Garcia-Martin, D. Hermann, F. Hagmann, K. Busch, and P. Wölfle, *Defect computations in Photonic Crystals: a solid state theoretical approach*, Nanotechnology **14**, 177 (2003)
- [A1.1:3] K. Busch, S.F. Mingaleev, A. Garcia-Martin, M. Schillinger, and D. Hermann, Invited review *The Wannier function approach to photonic crystal circuits*, J. Phys. Cond. Mat. **15**, R1233 (2003)
- [A1.1:4] ‡ A.A. Asatryan, K. Busch, R.C. McPhedran, L.C. Botten, C.M. de Sterke, and N.A. Nicorovici, *Two-dimensional Green tensor and local density of states in finite-sized two-dimensional photonic crystals*, Waves in Random Media **13**, 9 (2003)
- [A1.1:5] S.F. Mingaleev and K. Busch, Scattering matrix approach to large-scale photonic crystal circuits, Opt. Lett. **28**, 619 (2003)
- [A1.1:6] K. Busch, M. Diem, M. Frank, A. Garcia-Martin, F. Hagmann, D. Hermann, S.F. Mingaleev, S. Pereira, M. Schillinger, and L. Tkeshelashvili, Invited book chapter *On the solid-state theoretical description of photonic crystals*, K. Busch, S. Lölkes, R.B. Wehrspohn and H. Föll eds., Wiley-VCH Verlag GmbH & Co. KGaA, p. 1-22 (2004)
- [A1.1:7] ‡ J. Zarbakhsh, F. Hagmann, S.F. Mingaleev, K. Busch, and K. Hingerl, *Arbitrary angle waveguiding applications of two-dimensional curvilinear-lattice photonic crystals*, Appl. Phys. Lett. **84**, 4687 (2004)
- [A1.1:8] S.F. Mingaleev, M. Schillinger, D. Hermann, and K. Busch, Tunable photonic crystal circuits: Concepts and designs based on single pore infiltration, Opt. Lett. **29**, 2858 (2004)
- [A1.1:9] * D.C. Meisel, M. Wegener, and K. Busch, 3D Photonic Crystals by holographic lithography using the umbrella-configuration: Symmetries and complete photonic band gaps, Phys. Rev. B **70**, 165104 (2004)
- [A1.1:10] M. Schillinger, S. F. Mingaleev, D. Hermann, and K. Busch, *Highly localized Wannier functions for the efficient modeling of photonic crystal circuits*, Proceedings of SPIE **5733**, 324 (2005)
- [A1.1:11] ‡ Y. Jiao, S. F. Mingaleev, M. Schillinger, D. A. B. Miller, S. Fan, and K. Busch, *Wannier Basis Design and Optimization of a Photonic Crystal Waveguide Crossing*, IEEE Phot. Tech. Lett. **17**, 1875 (2005)
- [A1.1:12] * ‡ K. Forberich, A. Gombert, S. Pereira, J. Crewett, U. Lemmer, M. Diem, and K. Busch, *Lasing mechanisms in organic photonic crystal lasers with two-dimensional distributed feedback*, [J. Appl. Phys. **100**, 023110 \(2006\)](#)
- [A1.1:13] * ‡ K. Forberich, M. Diem, J. Crewett, U. Lemmer, A. Gombert, and K. Busch, *Lasing action in two-dimensional photonic crystal lasers with hexagonal symmetry*, [Appl. Phys. B **82**, 539 \(2006\)](#)
- [A1.1:14] ‡ S.F. Mingaleev, A. Miroshnichenko, Y. Kivshar, and K. Busch, All optical switching, bistability, and slow light transmission in photonic crystal waveguide resonator structures, [Phys. Rev. E **74**, 046603 \(2006\)](#)
- [A1.1:15] * D.C. Meisel, M. Diem, M. Deubel, F. Perez-Willard, S. Linden, D. Gerthsen, K. Busch, and M. Wegener, *Shrinkage precompensation of holographic three-dimensional photonic-crystal templates*, [Adv. Mater. **18**, 2964 \(2006\)](#)

- [A1.1:16] * K. Busch, G. von Freymann, S. Linden, S. F. Mingaleev, L. Tkeshelashvili, and M. Wegener, *Periodic nanostructures for photonics*, [Phys. Rep. 444, 101 \(2007\)](#)
- [A1.1:17] ‡ M. Florescu, K. Busch, and J. Dowling, *Thermal Radiation in Photonic Crystals*. [Phys. Rev. B. 75, 201101\(R\) \(2007\)](#)
- [A1.1:18] * D. Hermann, M. Diem, S.F. Mingaleev, A. Garcia-Martin, P. Wölfle, and K. Busch, *Photonic Crystals with Anomalous Dispersion: Unconventional Propagating Modes in the Photonic Band Gap*, [Phys. Rev. B. 77, 035112 \(2008\)](#)
- [A1.1:19] D. Hermann, M. Schillinger, S.F. Mingaleev, and K. Busch, *Wannier-function based scattering-Matrix-Formalism for Photonic Crystal Circuitry*, [J. Opt. Soc. Am. B 25, 202 \(2008\)](#)
- [A1.1:20] * C.E. Kriegler, M.S. Rill, M. Thiel, E. Müller, S. Essig, A. Fröhlich, G. von Freymann, S. Linden, D. Gerthsen, H. Hahn, K. Busch, and M. Wegener, *Transition between corrugated metal films and split-ring-resonator arrays*, [Appl. Phys. B 96, 749 \(2009\)](#)
- [A1.1:21] ‡ M. Florescu and K. Busch, *Properties of Thermal Emission in Photonic Crystals*, [J. Opt. A 11, 114005 \(2009\)](#)
- [A1.1:22] ‡ C. Schuler, C. Wolff, K. Busch, and M. Florescu, *Thermal Emission from Finite Photonic Crystals*, [Appl. Phys. Lett. 95, 241103 \(2009\)](#)
- [A1.1:23] * G. von Freymann, A. Ledermann, M. Thiel, I. Staude, S. Essig, K. Busch, and M. Wegener, *Three-Dimensional Nanostructures for Photonics*, [Adv. Func. Mater. 20, 1038 \(2010\)](#)
- [A1.1:24] * I. Staude, M. Thiel, S. Essig, C. Wolff, K. Busch, G. von Freymann, and M. Wegener, *Fabrication and characterization of silicon woodpile photonic crystals with a complete bandgap at telecom wavelengths*, [Opt. Lett. 35, 1094 \(2010\)](#)
- [A1.1:25] ‡ S.G. Romanov, U. Peschel, W. Khunzin, S. Essig, and K. Busch, *Polarization anisotropy and cross-polarized transmission in thin film opal-based photonic crystals*, Proc. SPIE 7713, 771304 (2010)
- [A1.1:26] ‡ P.W. Nolte, D. Pergande, S.L. Schweizer, M. Geuss, R. Salzer, B.T. Makowski, M. Steinhart, P. Mack, D. Hermann, K. Busch, C. Weder, and R.B. Wehrspohn, *Photonic crystal devices with multiple dyes by consecutive local infiltration of single pores*, [Adv. Mater. 22, 4731 \(2010\)](#)
- [A1.1:27] ‡ S.G. Romanov, U. Peschel, M. Bardosova, S. Essig, and K. Busch, *Suppression of the critical angle of diffraction in thin-film opal-like photonic crystals*, [Phys. Rev. B 82, 115403 \(2010\)](#)
- [A1.1:28] ‡ C.J. Schuler, C. Wolff, K. Busch, and M. Florescu, *Thermal emission from finite photonic crystals*, Proc. SPIE 7756, 77560B (2010)
- [A1.1:29] S. Essig and K. Busch, *Generation of Adaptive Coordinates and their Use in the Fourier Modal Method*, [Opt. Express 18, 23258 \(2010\)](#)
- [A1.1:30] * L.-H. Shao, M. Ruther, S. Linden, S. Essig, K. Busch, J. Weissmüller, and M. Wegener, *Electrochemical Modulation of Photonic Metamaterials*, [Adv. Mater. 22, 5173 \(2010\)](#)
- [A1.1:31] * I. Staude, G. von Freymann, S. Essig, K. Busch, and M. Wegener, *Waveguides in three-dimensional photonic-band-gap materials by direct laser writing and silicon double inversion*, [Opt. Lett. 36, 67 \(2011\)](#)
- [A1.1:32] C. Blum, C. Wolff, and K. Busch, *Photonic-Crystal Time-Domain Simulations using Wannier Functions*, [Opt. Lett. 36, 307 \(2011\)](#)
- [A1.1:33] K. Busch, C. Blum, A.M. Graham, D. Hermann, M. Köhl, P. Mack, and C. Wolff, *The Photonic Wannier Function Approach to Photonic Crystal Simulations: Status*

and Perspectives, [J. Mod. Opt. 58, 365 \(2011\)](#)

- [A1.1:23] M. Köhl, C. Wolff, and K. Busch, *Cluster coherent potential approximation for disordered photonic crystals using photonic Wannier functions*, Opt. Lett. **37**, 560 (2012)
- [A1.1:24] ‡ U. Hoepppe, C. Wolff, J. Küchenmeister, J. Niegemann, M. Drescher, H. Benner, and K. Busch, *Direct Observation of Non-Markovian Radiation Dynamics in 3D Bulk Photonic Crystals*, Phys. Rev. Lett. **108**, 043603 (2012)
- [A1.1:25] J. Küchenmeister, T. Zebrowski, and K. Busch, *A construction guide to analytically generated meshes for the Fourier Modal Method*, Opt. Express **20**, 17319 (2012)
- [A1.1:26] * ‡ A. Vlad, A. Frölich, T. Zebrowski, C.A. Dutu, K. Busch, S. Melinte, M. Wegener, and I. Huynen, *Direct Transcription of Two-Dimensional Colloidal Crystal Arrays into Three-Dimensional Photonic Crystals*, Adv. Func. Mater. **23**, 1164 (2013)

Invited Talks at International Conferences

K. Busch, *The Wannier function approach to Photonic Crystal Circuits*, Hauptvortrag, DPG Frühjahrstagung, Frankfurt, Germany, March 2006

K. Busch, *Light propagation in periodic nanostructures: Interaction between individual elements and coupled-system dynamics*, SPIE Photonics Europe 2010, Brussels, Belgium, April 2010

K. Busch, *Thermal Radiation in Microstructured Photonic Reservoirs*, SPIE Optics+Photonics 2010, San Diego, U.S.A., August 2010

K. Busch, *Photonic Wannier Functions: Generation and Usage*, Wavepro Symposium, Crete, Greece, June 2011

K. Busch, *Non-Markovian Radiation Dynamics in 3D Photonic Band Gap Materials*, PECS-X – 10th International Symposium on Photonic and Electromagnetic Crystal Structures, Santa Fe, U.S.A., June 2012