ARTICLES IN PEER-REVIEWED JOURNALS

[1]
D. Solnyshkov and G. Malpuech, *Analog Time Machine in a Photonic System*, Physical Review B **103**, 054303 (2021).
[2]
L. Polimeno, A. Fieramosca, G. Lerario, L. De Marco, M. De Giorgi, D. Ballarini, L. Dominici, V. Ardizzone, M. Pugliese, C. Prontera, V. Maiorano, G. Gigli, C. Leblanc, G. Malpuech, D. Solnyshkov, and D. Sanvitto, *Experimental Investigation of a Non-Abelian Gauge Field in 2D Perovskite Photonic Platform*, Optica **8**, 1442 (2021).
[3]
Q. Liao, C. Leblanc, J. Ren, F. Li, Y. Li, D. Solnyshkov, G. Malpuech, J. Yao, and H. Fu, *Experimental Measurement of the Divergent Quantum Metric of an Exceptional Point*, Physical Review Letters **127**, 107402 (2021).
[4]
D. Solnyshkov, L. Bessonart, A. Nalitov, and G. Malpuech, *Kibble-Zurek Mechanism in Polariton Graphene*, Physical Review B **104**, 035423 (2021).
[5]
D. D. Solnyshkov, G. Malpuech, P. St-Jean, S. Ravets, J. Bloch, and A. Amo, *Microcavity Polaritons for Topological Photonics*, Optical Materials Express **11**, 1119 (2021).
[6]
J. Ren, Q. Liao, F. Li, Y. Li, O. Bleu, G. Malpuech, J. Yao, H. Fu, and D. Solnyshkov, *Nontrivial Band Geometry in an Optically Active System*, Nature Communications **12**, 1 (2021).
[7]
I. Septembre, S. Koniakhin, J. Meyer, D. Solnyshkov, and G. Malpuech, *Parametric Amplification of Topological Interface States in Synthetic Andreev Bands*, Physical Review B **103**, 214504 (2021).
[8]
D. Solnyshkov, C. Leblanc, L. Bessonart, A. Nalitov, J. Ren, Q. Liao, F. Li, and G. Malpuech, *Quantum Metric and Wave Packets at Exceptional Points in Non-Hermitian Systems*, Physical Review B **103**, 125302 (2021).
[9]
S. Koniakhin, G. Malpuech, D. Solnyshkov, and A. Nalitov, *Topological Turbulence in Spin-Orbit–Coupled Driven-Dissipative Quantum Fluids of Light Generates High-Angular-Momentum States (a)*, EPL (Europhysics Letters) **133**, 66001 (2021).
[10]
L. Polimeno, G. Lerario, M. De Giorgi, L. De Marco, L. Dominici, F. Todisco, A. Coriolano, V. Ardizzone, M. Pugliese, C. T. Prontera, V. Maiorano, A. Moliterno, C. Giannini, V. Olieric, G. Gigli, D. Ballarini, Q. Xiong, A. Fieramosca, D. Solnyshkov, G. Malpuech, and D. Sanvitto, *Tuning of the Berry Curvature in 2D Perovskite Polaritons*, Nature Nanotechnology **16**, 1349 (2021).
[11]
C. Leblanc, G. Malpuech, and D. Solnyshkov, *Universal Semiclassical Equations Based on the Quantum Metric for a Two-Band System*, Physical Review B **104**, 134312 (2021).
[12]
S. Koniakhin, O. Bleu, G. Malpuech, and D. Solnyshkov, *2D Quantum Turbulence in a Polariton Quantum Fluid*, Chaos, Solitons & Fractals **132**, 109574 (2020).
[13]
C. Leblanc, G. Malpuech, and D. Solnyshkov, *High-Frequency Exciton-Polariton Clock Generator*, Physical Review B **101**, 115418 (2020).
[14]
A. Gianfrate, O. Bleu, L. Dominici, V. Ardizzone, M. De Giorgi, D. Ballarini, G. Lerario, K. West, L. Pfeiffer, D. Solnyshkov, D. Sanvitto, and G. Malpuech, *Measurement of the Quantum Geometric Tensor and of the Anomalous Hall Drift*, Nature **578**, 381 (2020).
[15]
O. Bleu, D. Solnyshkov, and G. Malpuech, *Nonadiabatic Anomalous Hall Effect for Exciton-Polaritons*, (2020).
[16]

G. Lerario, S. V. Koniakhin, A. Maître, D. Solnyshkov, A. Zilio, Q. Glorieux, G. Malpuech, E. Giacobino, S. Pigeon, and A. Bramati, *Parallel Dark-Soliton Pair in a Bistable Two-Dimensional Exciton-Polariton Superfluid*, Physical Review Research **2**, 042041 (2020).
[17]
J. Ciers, D. Solnyshkov, G. Callsen, Y. Kuang, J.-F. Carlin, G. Malpuech, R. Butté, and N. Grandjean, *Polariton Relaxation and Polariton Nonlinearities in Nonresonantly Cw-Pumped III-Nitride Slab Waveguides*, Physical Review B **102**, 155304 (2020).
[18]
Z. Zhang, S. Liang, F. Li, S. Ning, Y. Li, G. Malpuech, Y. Zhang, M. Xiao, and D. Solnyshkov, *Spin–Orbit Coupling in Photonic Graphene*, Optica **7**, 455 (2020).
[19]
F. Claude, S. V. Koniakhin, A. Maître, S. Pigeon, G. Lerario, D. D. Stupin, Q. Glorieux, E. Giacobino, D. Solnyshkov, G. Malpuech, and A. Bramati, *Taming the Snake Instabilities in a Polariton Superfluid*, Optica **7**, 1660 (2020).
[20]
O. Jamadi, F. Réveret, D. Solnyshkov, P. Disseix, J. Leymarie, L. Mallet-Dida, C. Brimont, T. Guillet, X. Lafosse, S. Bouchoule, F. Semond, M. Leroux, J. Zuniga-Perez, and G. Malpuech, *Competition between Horizontal and Vertical Polariton Lasing in Planar Microcavities*, Physical Review B **99**, 085304 (2019).
[21]
N. C. Zambon, P. St-Jean, M. Milićević, A. Lemaître, A. Harouri, L. Le Gratiet, O. Bleu, D. Solnyshkov, G. Malpuech, I. Sagnes, S. Ravets, A. Amo, and J. Bloch, *Optically Controlling the Emission Chirality of Microlasers*, Nature Photonics **13**, 283 (2019).
[22]
Z. Zhang, F. Li, G. Malpuech, Y. Zhang, O. Bleu, S. Koniakhin, C. Li, Y. Zhang, M. Xiao, and D. Solnyshkov, *Particlelike Behavior of Topological Defects in Linear Wave Packets in Photonic Graphene*, Physical Review Letters **122**, 233905 (2019).
[23]
D. Solnyshkov, C. Leblanc, S. Koniakhin, O. Bleu, and G. Malpuech, *Quantum Analogue of a Kerr Black Hole and the Penrose Effect in a Bose-Einstein Condensate*, Physical Review B **99**, 214511 (2019).
[24]
S. Koniakhin, O. Bleu, D. Stupin, S. Pigeon, A. Maitre, F. Claude, G. Lerario, Q. Glorieux, A. Bramati, D. Solnyshkov, and G. Malpuech, *Stationary Quantum Vortex Street in a Driven-Dissipative Quantum Fluid of Light*, Physical Review Letters **123**, 215301 (2019).
[25]
O. Jamadi, F. Reveret, P. Disseix, F. Medard, J. Leymarie, A. Moreau, D. Solnyshkov, C. Deparis, M. Leroux, E. Cambril, S. Bouchoule, J. Zuniga-Perez, and G. Malpuech, *Edge-Emitting Polariton Laser and Amplifier Based on a ZnO Waveguide*, Light: Science & Applications **7**, 1 (2018).
[26]
O. Bleu, G. Malpuech, Y. Gao, and D. Solnyshkov, *Effective Theory of Nonadiabatic Quantum Evolution Based on the Quantum Geometric Tensor*, Physical Review Letters **121**, 020401 (2018).
[27]
M. Milićević, O. Bleu, D. Solnyshkov, I. Sagnes, A. Lemaitre, L. Le Gratiet, A. Harouri, J. Bloch, G. Malpuech, and A. Amo, *Lasing in Optically Induced Gap States in Photonic Graphene*, SciPost Physics **5**, 064 (2018).
[28]
O. Bleu, D. Solnyshkov, and G. Malpuech, *Measuring the Quantum Geometric Tensor in Two-Dimensional Photonic and Exciton-Polariton Systems*, Physical Review B **97**, 195422 (2018).
[29]
S. V. Koniakhin, O. I. Utesov, I. N. Terterov, A. V. Siklitskaya, A. G. Yashenkin, and D. Solnyshkov, *Raman Spectra of Crystalline Nanoparticles: Replacement for the Phonon Confinement Model*, The Journal of Physical Chemistry C **122**, 19219 (2018).
[30]
O. Bleu, G. Malpuech, and D. Solnyshkov, *Robust Quantum Valley Hall Effect for Vortices in an Interacting Bosonic Quantum Fluid*, Nature Communications **9**, 1 (2018).

[31]
D. Solnyshkov, O. Bleu, and G. Malpuech, *Topological Optical Isolator Based on Polariton Graphene*, Applied Physics Letters **112**, 031106 (2018).
[32]
S. Dufferwiel, T. Lyons, D. Solnyshkov, A. Trichet, A. Catanzaro, F. Withers, G. Malpuech, J. Smith, K. Novoselov, M. Skolnick, D. Krizhanovskii, and A. Tartakovskii, *Valley Coherent Exciton-Polaritons in a Monolayer Semiconductor*, Nature Communications **9**, 1 (2018).
[33]
D. Solnyshkov, O. Bleu, B. Teklu, and G. Malpuech, *Chirality of Topological Gap Solitons in Bosonic Dimer Chains*, Physical Review Letters **118**, 023901 (2017).
[34]
O. Bleu, D. Solnyshkov, and G. Malpuech, *Optical Valley Hall Effect Based on Transitional Metal Dichalcogenide Cavity Polaritons*, Physical Review B **96**, 165432 (2017).
[35]
O. Bleu, D. Solnyshkov, and G. Malpuech, *Photonic versus Electronic Quantum Anomalous Hall Effect*, Physical Review B **95**, 115415 (2017).
[36]
O. Bleu, D. Solnyshkov, and G. Malpuech, *Quantum Valley Hall Effect and Perfect Valley Filter Based on Photonic Analogs of Transitional Metal Dichalcogenides*, Physical Review B **95**, 235431 (2017).
[37]
S. Dufferwiel, T. P. Lyons, D. D. Solnyshkov, A. A. Trichet, F. Withers, S. Schwarz, G. Malpuech, J. M. Smith, K. S. Novoselov, M. S. Skolnick, D. Krizhanovskii, and A. Tartakovskii, *Valley-Addressable Polaritons in Atomically Thin Semiconductors*, Nature Photonics **11**, 497 (2017).
[38]
D. Solnyshkov and G. Malpuech, *Chirality in Photonic Systems*, Comptes Rendus Physique **17**, 920 (2016).
[39]
O. Bleu, D. Solnyshkov, and G. Malpuech, *Interacting Quantum Fluid in a Polariton Chern Insulator*, Physical Review B **93**, 085438 (2016).
[40]
D. Solnyshkov, A. Nalitov, and G. Malpuech, *Kibble-Zurek Mechanism in Topologically Nontrivial Zigzag Chains of Polariton Micropillars*, Physical Review Letters **116**, 046402 (2016).
[41]
B. Teklu, D. Solnyshkov, and G. Malpuech, *Non-Equilibrium Condensation in Periodic Polariton Lattices*, Superlattices and Microstructures **100**, 1 (2016).
[42]
O. Jamadi, F. Réveret, E. Mallet, P. Disseix, F. Médard, M. Mihailovic, D. Solnyshkov, G. Malpuech, J. Leymarie, X. Lafosse, S. Bouchoule, M. Leroux, F. Semond, and J. Zuniga-Perez, *Polariton Condensation Phase Diagram in Wide-Band-Gap Planar Microcavities: GaN versus ZnO*, Physical Review B **93**, 115205 (2016).
[43]
D. Solnyshkov, A. Nalitov, B. Teklu, L. Franck, and G. Malpuech, *Spin-Dependent Klein Tunneling in Polariton Graphene with Photonic Spin-Orbit Interaction*, Physical Review B **93**, 085404 (2016).
[44]
D. Solnyshkov, O. Bleu, and G. Malpuech, *All Optical Controlled-Not Gate Based on an Exciton–Polariton Circuit*, Superlattices and Microstructures **83**, 466 (2015).
[45]
V. Kalevich, M. Afanasiev, V. Lukoshkin, D. Solnyshkov, G. Malpuech, K. Kavokin, S. Tsintzos, Z. Hatzopoulos, P. Savvidis, and A. Kavokin, *Controllable Structuring of Exciton-Polariton Condensates in Cylindrical Pillar Microcavities*, Physical Review B **91**, 045305 (2015).
[46]
S. Dufferwiel, S. Schwarz, F. Withers, A. Trichet, F. Li, M. Sich, O. Del Pozo-Zamudio, C. Clark, A. Nalitov, D. Solnyshkov, G. Malpuech, K. Novoselov, J. Smith, M. Skolnick, D. Krizhanovskii, and A. Tartakovskii, *Exciton–Polaritons in van Der Waals Heterostructures Embedded in Tunable Microcavities*, Nature Communications **6**, 1 (2015).
[47]

C. Sturm, D. Solnyshkov, O. Krebs, A. Lemaître, I. Sagnes, E. Galopin, A. Amo, G. Malpuech, and J. Bloch, *Nonequilibrium Polariton Condensate in a Magnetic Field*, Physical Review B **91**, 155130 (2015).
[48]
A. Nalitov, D. Solnyshkov, and G. Malpuech, *Polariton Z Topological Insulator*, Physical Review Letters **114**, 116401 (2015).
[49]
A. Nalitov, G. Malpuech, H. Terças, and D. Solnyshkov, *Spin-Orbit Coupling and the Optical Spin Hall Effect in Photonic Graphene*, Physical Review Letters **114**, 026803 (2015).
[50]
V. Sala, D. Solnyshkov, I. Carusotto, T. Jacqmin, A. Lemaître, H. Terças, A. Nalitov, M. Abbarchi, E. Galopin, I. Sagnes, J. Bloch, G. Malpuech, and A. Amo, *Spin-Orbit Coupling for Photons and Polaritons in Microstructures*, Physical Review X **5**, 011034 (2015).
[51]
T. Boulier, H. Terças, D. Solnyshkov, Q. Glorieux, E. Giacobino, G. Malpuech, and A. Bramati, *Vortex Chain in a Resonantly Pumped Polariton Superfluid*, Scientific Reports **5**, 1 (2015).
[52]
C. Sturm, D. Tanese, H. Nguyen, H. Flayac, E. Galopin, A. Lemaître, I. Sagnes, D. Solnyshkov, A. Amo, G. Malpuech, and J. Bloch, *All-Optical Phase Modulation in a Cavity-Polariton Mach–Zehnder Interferometer*, Nature Communications **5**, 1 (2014).
[53]
T. Jacqmin, I. Carusotto, I. Sagnes, M. Abbarchi, D. Solnyshkov, G. Malpuech, E. Galopin, A. Lemaître, J. Bloch, and A. Amo, *Direct Observation of Dirac Cones and a Flatband in a Honeycomb Lattice for Polaritons*, Physical Review Letters **112**, 116402 (2014).
[54]
H. Terças, D. Solnyshkov, and G. Malpuech, *High-Speed Dc Transport of Emergent Monopoles in Spinor Photonic Fluids*, Physical Review Letters **113**, 036403 (2014).
[55]
D. Solnyshkov, H. Terças, K. Dini, and G. Malpuech, *Hybrid Boltzmann–Gross-Pitaevskii Theory of Bose-Einstein Condensation and Superfluidity in Open Driven-Dissipative Systems*, Physical Review A **89**, 033626 (2014).
[56]
C. Antón, D. Solnyshkov, G. Tosi, M. Martín, Z. Hatzopoulos, G. Deligeorgis, P. Savvidis, G. Malpuech, and L. Viña, *Ignition and Formation Dynamics of a Polariton Condensate on a Semiconductor Microcavity Pillar*, Physical Review B **90**, 155311 (2014).
[57]
H. Terças, H. Flayac, D. Solnyshkov, and G. Malpuech, *Non-Abelian Gauge Fields in Photonic Cavities and Photonic Superfluids*, Physical Review Letters **112**, 066402 (2014).
[58]
D. Solnyshkov, H. Terças, and G. Malpuech, *Optical Amplifier Based on Guided Polaritons in GaN and ZnO*, Applied Physics Letters **105**, 231102 (2014).
[59]
A. Nalitov, D. Solnyshkov, N. Gippius, and G. Malpuech, *Voltage Control of the Spin-Dependent Interaction Constants of Dipolaritons and Its Application to Optical Parametric Oscillators*, Physical Review B **90**, 235304 (2014).
[60]
F. Li, L. Orosz, O. Kamoun, S. Bouchoule, C. Brimont, P. Disseix, T. Guillet, X. Lafosse, M. Leroux, J. Leymarie, G. Malpuech, M. Mexis, M. Mihailovic, G. Patriarche, F. Reveret, D. Solnyshkov, and J. Zuniga-Perez, *Fabrication and Characterization of a Room-Temperature ZnO Polariton Laser*, Applied Physics Letters **102**, 191118 (2013).
[61]
F. Li, L. Orosz, O. Kamoun, S. Bouchoule, C. Brimont, P. Disseix, T. Guillet, X. Lafosse, M. Leroux, J. Leymarie, M. Mexis, M. Mihailovic, G. Patriarche, F. Reveret, D. Solnyshkov, J. Zuniga-Perez, and G. Malpuech, *From Excitonic to Photonic Polariton Condensate in a ZnO-Based Microcavity*, Physical Review Letters **110**, 196406 (2013).
[62]

M. Abbarchi, A. Amo, V. Sala, D. Solnyshkov, H. Flayac, L. Ferrier, I. Sagnes, E. Galopin, A. Lemaître, G. Malpuech, and J. Bloch, *Macroscopic Quantum Self-Trapping and Josephson Oscillations of Exciton Polaritons*, Nature Physics **9**, 275 (2013).
[63]
H. Flayac, D. Solnyshkov, G. Malpuech, and I. A. Shelykh, *Parametric Inversion of Spin Currents in Semiconductor Microcavities*, Physical Review B **87**, 075316 (2013).
[64]
D. Tanese, H. Flayac, D. Solnyshkov, A. Amo, A. Lemaitre, E. Galopin, R. Braive, P. Senellart, I. Sagnes, G. Malpuech, and J. Bloch, *Polariton Condensation in Solitonic Gap States in a One-Dimensional Periodic Potential*, Nature Communications **4**, 1 (2013).
[65]
J. Cuadra, D. Sarkar, L. Viña, J. M. Hvam, A. Nalitov, D. Solnyshkov, and G. Malpuech, *Polarized Emission in Polariton Condensates: Switching in a One-Dimensional Natural Trap versus Inversion in Two Dimensions*, Physical Review B **88**, 235312 (2013).
[66]
G. Pavlovic, G. Malpuech, and I. A. Shelykh, *Pseudospin Dynamics in Multimode Polaritonic Josephson Junctions*, Physical Review B **87**, 125307 (2013).
[67]
H. S. Nguyen, D. Vishnevsky, C. Sturm, D. Tanese, D. Solnyshkov, E. Galopin, A. Lemaître, I. Sagnes, A. Amo, G. Malpuech, and J. Bloch, *Realization of a Double-Barrier Resonant Tunneling Diode for Cavity Polaritons*, Physical Review Letters **110**, 236601 (2013).
[68]
D. Vishnevsky, H. Flayac, A. Nalitov, D. Solnyshkov, N. Gippius, and G. Malpuech, *Skyrmion Formation and Optical Spin-Hall Effect in an Expanding Coherent Cloud of Indirect Excitons*, Physical Review Letters **110**, 246404 (2013).
[69]
H. Flayac, H. Terças, D. Solnyshkov, and G. Malpuech, *Superfluidity of Spinor Bose-Einstein Condensates*, Physical Review B **88**, 184503 (2013).
[70]
H. Terças, D. Solnyshkov, and G. Malpuech, *Topological Wigner Crystal of Half-Solitons in a Spinor Bose-Einstein Condensate*, Physical Review Letters **110**, 035303 (2013).
[71]
H. Flayac, D. Solnyshkov, I. A. Shelykh, and G. Malpuech, *Transmutation of Skyrmions to Half-Solitons Driven by the Nonlinear Optical Spin Hall Effect*, Physical Review Letters **110**, 016404 (2013).
[72]
D. Tanese, D. Solnyshkov, A. Amo, L. Ferrier, E. Bernet-Rollande, E. Wertz, I. Sagnes, A. Lemaitre, P. Senellart, G. Malpuech, and J. Bloch, *Backscattering Suppression in Supersonic 1D Polariton Condensates*, Physical Review Letters **108**, 036405 (2012).
[73]
R. Hivet, H. Flayac, D. Solnyshkov, D. Tanese, T. Boulier, D. Andreoli, E. Giacobino, J. Bloch, A. Bramati, G. Malpuech, and A. Amo, *Half-Solitons in a Polariton Quantum Fluid Behave like Magnetic Monopoles*, Nature Physics **8**, 724 (2012).
[74]
L. Orosz, F. Réveret, F. Médard, P. Disseix, J. Leymarie, M. Mihailovic, D. Solnyshkov, G. Malpuech, J. Zúñiga-Pérez, F. Semond, M. Leroux, S. Bouchoule, X. Lafosse, M. Mexis, C. Brimont, and T. Guillet, *LO-Phonon-Assisted Polariton Lasing in a ZnO-Based Microcavity*, Physical Review B **85**, 121201 (2012).
[75]
D. Vishnevsky, D. Solnyshkov, N. Gippius, and G. Malpuech, *Multistability of Cavity Exciton Polaritons Affected by the Thermally Generated Exciton Reservoir*, Physical Review B **85**, 155328 (2012).
[76]
M. Galbiati, L. Ferrier, D. D. Solnyshkov, D. Tanese, E. Wertz, A. Amo, M. Abbarchi, P. Senellart, I. Sagnes, A. Lemaître, E. Galopin, G. Malpuech, and J. Bloch, *Polariton Condensation in Photonic Molecules*, Physical Review Letters **108**, 126403 (2012).
[77]

E. Wertz, A. Amo, D. Solnyshkov, L. Ferrier, T. C. H. Liew, D. Sanvitto, P. Senellart, I. Sagnes, A. Lemaître, A. Kavokin, G. Malpuech, and J. Bloch, *Propagation and Amplification Dynamics of 1D Polariton Condensates*, Physical Review Letters **109**, 216404 (2012).
[78]
H. Flayac, D. Solnyshkov, and G. Malpuech, *Separation and Acceleration of Magnetic Monopole Analogs in Semiconductor Microcavities*, New Journal of Physics **14**, 085018 (2012).
[79]
D. Solnyshkov, H. Flayac, and G. Malpuech, *Stable Magnetic Monopoles in Spinor Polariton Condensates*, Physical Review B **85**, 073105 (2012).
[80]
D. Solnyshkov, H. Flayac, and G. Malpuech, *Black Holes and Wormholes in Spinor Polariton Condensates*, Physical Review B **84**, 233405 (2011).
[81]
H. Flayac, D. Solnyshkov, and G. Malpuech, *Bloch Oscillations of an Exciton-Polariton Bose-Einstein Condensate*, Physical Review B **83**, 045412 (2011).
[82]
H. Flayac, D. Solnyshkov, and G. Malpuech, *Bloch Oscillations of Exciton-Polaritons and Photons for the Generation of an Alternating Terahertz Spin Signal*, Physical Review B **84**, 125314 (2011).
[83]
D. Vishnevsky, D. Solnyshkov, G. Malpuech, N. Gippius, and I. Shelykh, *Coherent Interactions between Phonons and Exciton or Exciton-Polariton Condensates*, Physical Review B **84**, 035312 (2011).
[84]
L. Ferrier, E. Wertz, R. Johne, D. D. Solnyshkov, P. Senellart, I. Sagnes, A. Lemaître, G. Malpuech, and J. Bloch, *Interactions in Confined Polariton Condensates*, Physical Review Letters **106**, 126401 (2011).
[85]
H. Flayac, D. Solnyshkov, and G. Malpuech, *Oblique Half-Solitons and Their Generation in Exciton-Polariton Condensates*, Physical Review B **83**, 193305 (2011).
[86]
A. Trichet, L. Sun, G. Pavlovic, N. A. Gippius, G. Malpuech, W. Xie, Z. Chen, M. Richard, and L. S. Dang, *One-Dimensional ZnO Exciton Polaritons with Negligible Thermal Broadening at Room Temperature*, Physical Review B **83**, 041302 (2011).
[87]
D. Solnyshkov, T. Weiss, G. Malpuech, and N. Gippius, *Polariton Laser Based on a ZnO Photonic Crystal Slab*, Applied Physics Letters **99**, 111110 (2011).
[88]
T. Liew, I. Shelykh, and G. Malpuech, *Polaritonic Devices*, Physica E: Low-Dimensional Systems and Nanostructures **43**, 1543 (2011).
[89]
J. Levrat, R. Butté, E. Feltin, J.-F. Carlin, N. Grandjean, D. Solnyshkov, and G. Malpuech, *Condensation Phase Diagram of Cavity Polaritons in GaN-Based Microcavities: Experiment and Theory*, Physical Review B **81**, 125305 (2010).
[90]
G. Pavlovic, G. Malpuech, and N. Gippius, *Dispersion and Polarization Conversion of Whispering Gallery Modes in Nanowires*, Physical Review B **82**, 195328 (2010).
[91]
I. Shelykh, R. Johne, D. Solnyshkov, and G. Malpuech, *Optically and Electrically Controlled Polariton Spin Transistor*, Physical Review B **82**, 153303 (2010).
[92]
M. Vladimirova, S. Cronenberger, D. Scalbert, K. Kavokin, A. Miard, A. Lemaître, J. Bloch, D. Solnyshkov, G. Malpuech, and A. Kavokin, *Polariton-Polariton Interaction Constants in Microcavities*, Physical Review B **82**, 075301 (2010).
[93]
R. Johne, I. Shelykh, D. Solnyshkov, and G. Malpuech, *Polaritonic Analogue of Datta and Das Spin Transistor*, Physical Review B **81**, 125327 (2010).
[94]

E. Magnusson, H. Flayac, G. Malpuech, and I. Shelykh, *Role of Phonons in Josephson Oscillations of Excitonic and Polaritonic Condensates*, Physical Review B **82**, 195312 (2010).
[95]
L. Pilozzi, M. Glazov, H. Ouerdane, G. Malpuech, A. Kavokin, and A. D'Andrea, *Spin-Dependent Polariton–Polariton Scattering in Planar Microcavities*, Superlattices and Microstructures **47**, 1 (2010).
[96]
E. Wertz, L. Ferrier, D. Solnyshkov, R. Johne, D. Sanvitto, A. Lemaître, I. Sagnes, R. Grousson, A. V. Kavokin, P. Senellart, G. Malpuech, and J. Bloch, *Spontaneous Formation and Optical Manipulation of Extended Polariton Condensates*, Nature Physics **6**, 860 (2010).
[97]
H. Flayac, I. Shelykh, D. Solnyshkov, and G. Malpuech, *Topological Stability of the Half-Vortices in Spinor Exciton-Polariton Condensates*, Physical Review B **81**, 045318 (2010).
[98]
D. Solnyshkov, R. Johne, I. Shelykh, and G. Malpuech, *Chaotic Josephson Oscillations of Exciton-Polaritons and Their Applications*, Physical Review B **80**, 235303 (2009).
[99]
R. Johne, N. A. Gippius, and G. Malpuech, *Entangled Photons from a Strongly Coupled Quantum Dot-Cavity System*, Physical Review B **79**, 155317 (2009).
[100]
D. Sanvitto, A. Amo, L. Vina, R. Andre, D. Solnyshkov, and G. Malpuech, *Exciton-Polariton Condensation in a Natural Two-Dimensional Trap*, Physical Review B **80**, 045301 (2009).
[101]
D. Solnyshkov, I. Shelykh, and G. Malpuech, *Phase Diagram of a Spinor Exciton-Polariton Condensate in a Disordered Microcavity in the Presence of a Magnetic Field*, Physical Review B **80**, 165329 (2009).
[102]
I. A. Shelykh, A. V. Kavokin, Y. G. Rubo, T. Liew, and G. Malpuech, *Polariton Polarization-Sensitive Phenomena in Planar Semiconductor Microcavities*, Semiconductor Science and Technology **25**, 013001 (2009).
[103]
M. Glazov, H. Ouerdane, L. Pilozzi, G. Malpuech, A. Kavokin, and A. d'Andrea, *Polariton-Polariton Scattering in Microcavities: A Microscopic Theory*, Physical Review B **80**, 155306 (2009).
[104]
I. Shelykh, G. Pavlovic, D. Solnyshkov, and G. Malpuech, *Proposal for a Mesoscopic Optical Berry-Phase Interferometer*, Physical Review Letters **102**, 046407 (2009).
[105]
E. Wertz, L. Ferrier, D. D. Solnyshkov, P. Senellart, D. Bajoni, A. Miard, A. Lemaître, G. Malpuech, and J. Bloch, *Spontaneous Formation of a Polariton Condensate in a Planar GaAs Microcavity*, Applied Physics Letters **95**, 051108 (2009).
[106]
D. Solnyshkov, E. Petrolati, A. Di Carlo, and G. Malpuech, *Theory of an Electrically Injected Bulk Polariton Laser*, Applied Physics Letters **94**, 011110 (2009).
[107]
D. Solnyshkov, I. Shelykh, N. Gippius, A. Kavokin, and G. Malpuech, *Dispersion of Interacting Spinor Cavity Polaritons out of Thermal Equilibrium*, Physical Review B **77**, 045314 (2008).
[108]
R. Johne, N. Gippius, G. Pavlovic, D. Solnyshkov, I. Shelykh, and G. Malpuech, *Entangled Photon Pairs Produced by a Quantum Dot Strongly Coupled to a Microcavity*, Physical Review Letters **100**, 240404 (2008).
[109]
J. Kasprzak, D. Solnyshkov, R. André, L. S. Dang, and G. Malpuech, *Formation of an Exciton Polariton Condensate: Thermodynamic versus Kinetic Regimes*, Physical Review Letters **101**, 146404 (2008).
[110]
I. Shelykh, D. Solnyshkov, G. Pavlovic, and G. Malpuech, *Josephson Effects in Condensates of Excitons and Exciton Polaritons*, Physical Review B **78**, 041302 (2008).

[111]
D. Solnyshkov, H. Ouerdane, and G. Malpuech, *Kinetic Phase Diagrams of GaN-Based Polariton Lasers*, Journal of Applied Physics **103**, 016101 (2008).
[112]
D. Solnyshkov, M. Glazov, I. Shelykh, A. Kavokin, E. Ivchenko, and G. Malpuech, *Magnetic Field Effect on Polarization and Dispersion of Exciton-Polaritons in Planar Microcavities*, Physical Review B **78**, 165323 (2008).
[113]
F. Stokker-Cheregi, A. Vinattieri, F. Semond, M. Leroux, I. Sellers, J. Massies, D. Solnyshkov, G. Malpuech, M. Colocci, and M. Gurioli, *Polariton Relaxation Bottleneck and Its Thermal Suppression in Bulk GaN Microcavities*, Applied Physics Letters **92**, 042119 (2008).
[114]
D. Scalbert, M. Vladimirova, A. Brunetti, S. Cronenberger, M. Nawrocki, J. Bloch, A. Kavokin, I. Shelykh, R. André, D. Solnyshkov, and G. Malpuech, *Polariton Spin Beats in Semiconductor Quantum Well Microcavities*, Superlattices and Microstructures **43**, 417 (2008).
[115]
J. Baumberg, A. Kavokin, S. Christopoulos, A. Grundy, R. Butté, G. Christmann, D. Solnyshkov, G. Malpuech, G. B. H. von Högersthal, E. Feltin, J.-F. Carlin, and N. Grandjean, *Spontaneous Polarization Buildup in a Room-Temperature Polariton Laser*, Physical Review Letters **101**, 136409 (2008).
[116]
R. Johne, D. Solnyshkov, and G. Malpuech, *Theory of Exciton-Polariton Lasing at Room Temperature in ZnO Microcavities*, Applied Physics Letters **93**, 211105 (2008).
[117]
D. Solnyshkov and G. Malpuech, *A Polariton Laser Based on a Bulk GaN Microcavity*, Superlattices and Microstructures **41**, 279 (2007).
[118]
D. Solnyshkov, H. Ouerdane, M. Glazov, I. Shelykh, and G. Malpuech, *Bose Glass and Superfluid Phase Transitions of Exciton–Polaritons in GaN Microcavities*, Solid State Communications **144**, 390 (2007).
[119]
G. Malpuech, D. Solnyshkov, H. Ouerdane, M. Glazov, and I. Shelykh, *Bose Glass and Superfluid Phases of Cavity Polaritons*, Physical Review Letters **98**, 206402 (2007).
[120]
J. Kasprzak, R. André, L. S. Dang, I. Shelykh, A. Kavokin, Y. G. Rubo, K. Kavokin, and G. Malpuech, *Build up and Pinning of Linear Polarization in the Bose Condensates of Exciton Polaritons*, Physical Review B **75**, 045326 (2007).
[121]
M. Glazov, I. Shelykh, G. Malpuech, F. Laussy, K. Kavokin, and A. Kavokin, *Control of Polarization of Polariton Lasers*, Physica Status Solidi c **4**, 638 (2007).
[122]
I. Sellers, F. Semond, M. Zamfirescu, F. Stokker-Cheregi, P. Disseix, M. Leroux, J. Leymarie, M. Gurioli, A. Vinattieri, F. Réveret, G. Malpuech, A. Vasson, and J. Massies, *From Evidence of Strong Light–Matter Coupling to Polariton Emission in GaN Microcavities*, Physica Status Solidi (b) **244**, 1882 (2007).
[123]
I. Shelykh, M. Kaliteevskii, A. Kavokin, S. Brand, R. Abram, J. Chamberlain, and G. Malpuech, *Interface Photonic States at the Boundary between a Metal and a Dielectric Bragg Mirror*, Physica Status Solidi (a) **204**, 522 (2007).
[124]
D. Solnyshkov, I. Shelykh, M. Glazov, G. Malpuech, T. Amand, P. Renucci, X. Marie, and A. Kavokin, *Nonlinear Effects in Spin Relaxation of Cavity Polaritons*, Semiconductors **41**, 1080 (2007).
[125]
C. Leyder, M. Romanelli, J. P. Karr, E. Giacobino, T. C. Liew, M. M. Glazov, A. V. Kavokin, G. Malpuech, and A. Bramati, *Observation of the Optical Spin Hall Effect*, Nature Physics **3**, 628 (2007).
[126]

W. Langbein, I. Shelykh, D. Solnyshkov, G. Malpuech, Y. Rubo, and A. Kavokin, *Polarization Beats in Ballistic Propagation of Exciton-Polaritons in Microcavities*, Physical Review B **75**, 075323 (2007).
[127]
N. Gippius, I. Shelykh, D. Solnyshkov, S. Gavrilov, Y. G. Rubo, A. Kavokin, S. Tikhodeev, and G. Malpuech, *Polarization Multistability of Cavity Polaritons*, Physical Review Letters **98**, 236401 (2007).
[128]
I. Shelykh, R. Johne, D. Solnyshkov, A. Kavokin, N. Gippius, and G. Malpuech, *Quantum Kinetic Equations for Interacting Bosons and Their Application for Polariton Parametric Oscillators*, Physical Review B **76**, 155308 (2007).
[129]
A. Kavokin, D. Solnyshkov, and G. Malpuech, *Quatron-Polaritons: Charged Quasi-Particles Having the Bosonic Statistics*, Journal of Physics: Condensed Matter **19**, 295212 (2007).
[130]
I. Shelykh, G. Malpuech, R. Johne, and A. Kavokin, *The System of Interacting Polaritons: Classical versus Quantum Kinetic Equation*, Solid State Communications **144**, 378 (2007).
[131]
S. Sorokin, D. Solnyshkov, I. Sedova, A. Toropov, S. Ivanov, and P. Kop'ev, *(ZnSe/MgS)/ZnCdSe DBRs Grown by Molecular Beam Epitaxy Using ZnS as a Sulphur Source*, Physica Status Solidi c **3**, 763 (2006).
[132]
A. Brunetti, M. Vladimirova, D. Scalbert, R. André, D. Solnyshkov, G. Malpuech, I. Shelykh, and A. Kavokin, *Coherent Spin Dynamics of Exciton-Polaritons in Diluted Magnetic Microcavities*, Physical Review B **73**, 205337 (2006).
[133]
D. Solnyshkov, S. Sorokin, I. Sedova, A. Toropov, and S. Ivanov, *Combined (ZnSe/MgS)/ZnCdSe Bragg Reflectors Grown Using ZnS as a Sulphur Source*, ACTA PHYSICA POLONICA SERIES A **108**, 873 (2006).
[134]
F. P. Laussy, I. A. Shelykh, G. Malpuech, and A. Kavokin, *Effects of Bose-Einstein Condensation of Exciton Polaritons in Microcavities on the Polarization of Emitted Light*, Physical Review B **73**, 035315 (2006).
[135]
G. Malpuech, M. Glazov, I. Shelykh, P. Bigenwald, and K. Kavokin, *Electronic Control of the Polarization of Light Emitted by Polariton Lasers*, Applied Physics Letters **88**, 111118 (2006).
[136]
I. Sedova, O. Lyublinskaya, S. Sorokin, A. Sitnikova, D. Solnyshkov, O. Rykhova, A. Toropov, and S. Ivanov, *Influence of CdTe Sub-Monolayer Stressor on CdSe Quantum Dot Self-Assembling in ZnSe*, Physica Status Solidi c **3**, 916 (2006).
[137]
L. Klopotowski, M. Martín, A. Amo, L. Viña, I. Shelykh, M. Glazov, G. Malpuech, A. Kavokin, and R. André, *Optical Anisotropy and Pinning of the Linear Polarization of Light in Semiconductor Microcavities*, Solid State Communications **139**, 511 (2006).
[138]
I. Shelykh, Y. G. Rubo, G. Malpuech, D. Solnyshkov, and A. Kavokin, *Polarization and Propagation of Polariton Condensates*, Physical Review Letters **97**, 066402 (2006).
[139]
D. Krizhanovskii, D. Sanvitto, I. Shelykh, M. Glazov, G. Malpuech, D. Solnyshkov, A. Kavokin, S. Ceccarelli, M. Skolnick, and J. Roberts, *Rotation of the Plane of Polarization of Light in a Semiconductor Microcavity*, Physical Review B **73**, 073303 (2006).
[140]
J. Kasprzak, M. Richard, R. André, R. Romestain, G. Malpuech, A. Kavokin, and L. Si Dang, *Spontaneous Phase Condensation of CdTe Exciton-Polaritons*, Physica Status Solidi c **3**, 797 (2006).
[141]
F. P. Laussy, M. M. Glazov, A. Kavokin, D. M. Whittaker, and G. Malpuech, *Statistics of Excitons in Quantum Dots and Their Effect on the Optical Emission Spectra of Microcavities*, Physical Review B **73**, 115343 (2006).

[142]
M. Glazov, I. Shelykh, G. Malpuech, K. Kavokin, A. Kavokin, and D. Solnyshkov, *Anisotropic Polariton Scattering and Spin Dynamics of Cavity Polaritons*, Solid State Communications **134**, 117 (2005).
[143]
I. Shelykh, G. Malpuech, and A. Kavokin, *Bogoliubov Theory of Bose-Condensates of Spinor Exciton-Polaritons*, Physica Status Solidi (a) **202**, 2614 (2005).
[144]
M. Richard, J. Kasprzak, R. André, R. Romestain, L. S. Dang, G. Malpuech, and A. Kavokin, *Experimental Evidence for Nonequilibrium Bose Condensation of Exciton Polaritons*, Physical Review B **72**, 201301 (2005).
[145]
A. Kavokin, I. Shelykh, and G. Malpuech, *Lossless Interface Modes at the Boundary between Two Periodic Dielectric Structures*, Physical Review B **72**, 233102 (2005).
[146]
F. P. Laussy, A. Kavokin, and G. Malpuech, *Multiplets in the Optical Emission Spectra of Large Quantum Dots in Microcavities*, Solid State Communications **135**, 659 (2005).
[147]
A. Kavokin, G. Malpuech, and I. Shelykh, *Negative Refraction of Light in Bragg Mirrors Made of Porous Silicon*, Physics Letters A **339**, 387 (2005).
[148]
I. Shelykh, L. Vina, A. Kavokin, N. Galkin, G. Malpuech, and R. André, *Non-Linear Coupling of Polariton and Dark Exciton States in Semiconductor Microcavities*, Solid State Communications **135**, 1 (2005).
[149]
A. Kavokin, G. Malpuech, and M. Glazov, *Optical Spin Hall Effect*, Physical Review Letters **95**, 136601 (2005).
[150]
A. Kavokin, I. Shelykh, and G. Malpuech, *Optical Tamm States for the Fabrication of Polariton Lasers*, Applied Physics Letters **87**, 261105 (2005).
[151]
V. Solov'ev, O. Lyublinskaya, A. Semenov, B. Y. Meltser, D. Solnyshkov, Y. V. Terent'ev, L. Prokopova, A. Toropov, S. Ivanov, and P. Kop'ev, *Room-Temperature 3.9–4.3 Mm Photoluminescence from InSb Submonolayers Grown by Molecular Beam Epitaxy in an InAs Matrix*, Applied Physics Letters **86**, 011109 (2005).
[152]
I. Shelykh, M. Glazov, D. Solnyshkov, N. Galkin, A. Kavokin, and G. Malpuech, *Spin Dynamics of Polariton Parametric Amplifiers*, Physica Status Solidi (c) **2**, 768 (2005).
[153]
F. P. Laussy, G. Malpuech, A. Kavokin, and P. Bigenwald, *Spontaneous Coherence Buildup in Polariton Lasers*, Solid State Communications **134**, 121 (2005).
[154]
S. Ivanov, A. Toropov, T. Shubina, S. Sorokin, R. Kyutt, A. Sitnikova, D. Solnyshkov, and O. Nekrutkina, *CdSe-Based Nanostructures: Growth, Properties, Lasers*, Physica Status Solidi (b) **241**, 531 (2004).
[155]
P. G. Lagoudakis, M. Martin, J. J. Baumberg, G. Malpuech, and A. Kavokin, *Coexistence of Low Threshold Lasing and Strong Coupling in Microcavities*, Journal of Applied Physics **95**, 2487 (2004).
[156]
F. Laussy, G. Malpuech, A. Kavokin, and P. Bigenwald, *Coherence Dynamics in Microcavities and Polariton Lasers*, Journal of Physics: Condensed Matter **16**, S3665 (2004).
[157]
T. Shubina, S. Ivanov, V. Jmerik, D. Solnyshkov, V. Vekshin, P. Kop'ev, A. Vasson, J. Leymarie, A. Kavokin, H. Amano, K. Shimono, A. Kasic, and B. Monemar, *Mie Resonances, Infrared Emission, and the Band Gap of InN*, Physical Review Letters **92**, 117407 (2004).
[158]

V. Agarwal, J. Del Río, G. Malpuech, M. Zamfirescu, A. Kavokin, D. Coquillat, D. Scalbert, M. Vladimirova, and B. Gil, *Photon Bloch Oscillations in Porous Silicon Optical Superlattices*, Physical Review Letters **92**, 097401 (2004).
[159]
P. Bigenwald, V. V. Nikolaev, D. Solnyshkov, A. Kavokin, G. Malpuech, and B. Gil, *Polariton Lasers Based on Semiconductor Quantum Microspheres*, Physical Review B **70**, 205343 (2004).
[160]
I. Shelykh, L. Viña, A. Kavokin, N. Galkin, G. Malpuech, and R. André, *Quantum Beats between Light and Dark Polariton States in Semiconductor Microcavities*, Physica Status Solidi (c) **1**, 1351 (2004).
[161]
K. Kavokin, I. Shelykh, A. Kavokin, G. Malpuech, and P. Bigenwald, *Quantum Theory of Spin Dynamics of Exciton-Polaritons in Microcavities*, Physical Review Letters **92**, 017401 (2004).
[162]
I. Shelykh, K. Kavokin, A. Kavokin, G. Malpuech, P. Bigenwald, H. Deng, G. Weihs, and Y. Yamamoto, *Semiconductor Microcavity as a Spin-Dependent Optoelectronic Device*, Physical Review B **70**, 035320 (2004).
[163]
I. Shelykh, G. Malpuech, K. Kavokin, A. Kavokin, and P. Bigenwald, *Spin Dynamics of Interacting Exciton Polaritons in Microcavities*, Physical Review B **70**, 115301 (2004).
[164]
F. P. Laussy, Y. Rubo, G. Malpuech, A. Kavokin, and P. Bigenwald, *Dissipative Quantum Theory of Polariton Lasers*, Physica Status Solidi (c) **0**, 1476 (2003).
[165]
Y. G. Rubo, F. Laussy, G. Malpuech, A. Kavokin, and P. Bigenwald, *Dynamical Theory of Polariton Amplifiers*, Physical Review Letters **91**, 156403 (2003).
[166]
A. Kavokin, I. Shelykh, K. Kavokin, P. Bigenwald, and G. Malpuech, *Exciton–Polariton Spin Rotation in Microcavities in Zero Magnetic Field*, Physica Status Solidi (c) **0**, 1405 (2003).
[167]
A. Kavokin and G. Malpuech, *Formation of Spin Domains in Semimagnetic Quantum Wells: Theory*, Physical Review B **68**, 205206 (2003).
[168]
A. Tartakovskii, D. Krizhanovskii, G. Malpuech, M. Emam-Ismail, A. Chernenko, A. Kavokin, V. Kulakovskii, M. Skolnick, and J. Roberts, *Giant Enhancement of Polariton Relaxation in Semiconductor Microcavities by Polariton-Free Carrier Interaction: Experimental Evidence and Theory*, Physical Review B **67**, 165302 (2003).
[169]
A. Toropov, A. Lebedev, S. Sorokin, D. Solnyshkov, S. Ivanov, P. Kop'ev, I. Buyanova, W. Chen, and B. Monemar, *Magneto-Photoluminescence Studies of Diluted Magnetic Semiconductor Type-II Quantum Wells ZnMnSe/ZnSSe*, Physica E: Low-Dimensional Systems and Nanostructures **17**, 352 (2003).
[170]
A. Toropov, S. Sorokin, T. Shubina, O. Nekrutkina, D. Solnyshkov, S. Ivanov, A. Waag, and G. Landwehr, *Optical Anisotropy of Non-Common-Atom Quantum Wells and Dots: Effects of Interface Symmetry Reduction*, Physica Status Solidi (a) **195**, 551 (2003).
[171]
A. Kavokin, G. Malpuech, P. Lagoudakis, J. Baumberg, and K. Kavokin, *Polarisation Rotation in Resonant Emission of Semiconductor Microcavities*, Physica Status Solidi (a) **195**, 579 (2003).
[172]
G. Malpuech, A. Kavokin, and F. P. Laussy, *Polariton Bose Condensation in Microcavities*, Physica Status Solidi (a) **195**, 568 (2003).
[173]
A. Kavokin, G. Malpuech, and F. P. Laussy, *Polariton Laser and Polariton Superfluidity in Microcavities*, Physics Letters A **306**, 187 (2003).
[174]

G. Malpuech, Y. Rubo, F. Laussy, P. Bigenwald, and A. Kavokin, *Polariton Laser: Thermodynamics and Quantum Kinetic Theory*, Semiconductor Science and Technology **18**, S395 (2003).
[175]
I. Shelykh, A. Kavokin, G. Malpuech, P. Bigenwald, and F. Laussy, *Polarization Beats in Emission from Polariton Lasers*, Physical Review B **68**, 085311 (2003).
[176]
A. Kavokin, P. Lagoudakis, G. Malpuech, and J. Baumberg, *Polarization Rotation in Parametric Scattering of Polaritons in Semiconductor Microcavities*, Physical Review B **67**, 195321 (2003).
[177]
T. Shubina, V. Jmerik, S. Ivanov, D. Solnyshkov, N. Cherkashin, K. Karlsson, P. Holtz, A. Waag, P. Kop'Ev, and B. Monemar, *Polarized Micro-Photoluminescence Spectroscopy of GaN Nanocolumns*, Physica Status Solidi (c) **0**, 2602 (2003).
[178]
A. Kavokin, G. Malpuech, and B. Gil, *Semiconductor Microcavities: Towards Polariton Lasers*, Materials Research Society Internet Journal of Nitride Semiconductor Research **8**, e3 (2003).
[179]
S. Ivanov, T. Shubina, I. Sedova, S. Sorokin, R. Kyutt, A. Sitnikova, D. Solnyshkov, O. Nekrutkina, A. Toropov, and P. Kop'ev, *Semiconductor Nanostructures with CdSe Quantum Dots: Formation by Molecular-Beam Epitaxy, Properties and Possible Application*, Poverkhnost'. Rentgenovskie, Sinkhrotronnye i Nejtronnye Issledovaniya 4 (2003).
[180]
R. Kyutt, T. Shubina, S. Sorokin, D. Solnyshkov, S. Ivanov, and M. Willander, *X-Ray Diffraction Determination of the Interface Structure of CdSe/BeTe Superlattices*, Journal of Physics D: Applied Physics **36**, A166 (2003).
[181]
A. Toropov, O. Nekrutkina, M. Nestoklon, S. Sorokin, D. Solnyshkov, S. Ivanov, A. Waag, and G. Landwehr, *Γ- X Electron Level Crossover in ZnSe/BeTe Multiple Quantum Wells*, Physical Review B **67**, 113307 (2003).
[182]
A. Kavokin, M. Zamfirescu, and G. Malpuech, *Charge Acceleration by Stimulated Scattering of Exciton-Polaritons in Microcavities*, Physica Status Solidi (a) **190**, 389 (2002).
[183]
A. Kavokin, M. Zamfirescu, G. Malpuech, and A. Di Carlo, *Electron Acceleration by Light in Semiconductor Microcavities*, Physica Status Solidi (a) **190**, 175 (2002).
[184]
M. Zamfirescu, B. Gil, N. Grandjean, G. Malpuech, A. Kavokin, P. Bigenwald, and J. Massies, *Exciton Oscillator Strength in GaN/AlGaN Quantum Wells*, Physica Status Solidi (a) **190**, 129 (2002).
[185]
A. Kavokin, G. Malpuech, A. Di Carlo, and J. Baumberg, *Exciton–Electron Scattering in Semiconductor Microcavities: Tool for Polariton Lasing*, Physica Status Solidi (a) **190**, 725 (2002).
[186]
T. Shubina, S. Ivanov, A. Toropov, S. Sorokin, A. Lebedev, R. Kyutt, D. Solnyshkov, G. Pozina, J. Bergman, B. Monemar, M. Willander, A. Waag, and G. Landwehr, *Interface Effects in Type-II CdSe/BeTe Quantum Dots*, Physica Status Solidi (b) **229**, 489 (2002).
[187]
G. Malpuech, A. Kavokin, A. Di Carlo, and J. Baumberg, *Polariton Lasing by Exciton-Electron Scattering in Semiconductor Microcavities*, Physical Review B **65**, 153310 (2002).
[188]
B. Sermage, V. Thierry-Mieg, G. Malpuech, and A. Kavokin, *Propagation and Scattering of Exciton-Polaritons in a Graded Semiconductor Microcavity*, Physica Status Solidi (a) **190**, 339 (2002).
[189]
G. Malpuech, A. Di Carlo, A. Kavokin, J. J. Baumberg, M. Zamfirescu, and P. Lugli, *Room-Temperature Polariton Lasers Based on GaN Microcavities*, Applied Physics Letters **81**, 412 (2002).
[190]

R. Butté, G. Delalleau, A. Tartakovskii, M. Skolnick, V. Astratov, J. Baumberg, G. Malpuech, A. Di Carlo, A. Kavokin, and J. Roberts, *Transition from Strong to Weak Coupling and the Onset of Lasing in Semiconductor Microcavities*, Physical Review B **65**, 205310 (2002).
[191]
I. Kozin, V. Davydov, I. Ignatiev, A. Kavokin, K. Kavokin, G. Malpuech, H.-W. Ren, M. Sugisaki, S. Sugou, and Y. Masumoto, *Zero-Field Spin Quantum Beats in Charged Quantum Dots*, Physical Review B **65**, 241312 (2002).
[192]
A. Toropov, A. Lebedev, S. Sorokin, D. Solnyshkov, S. Ivanov, P. Kop'ev, I. Buyanova, W. Chen, and B. Monemar, *ZnMnSe/ZnSSe Type-II Semimagnetic Superlattices: Growth and Magnetoluminescence Properties*, Semiconductors **36**, 1288 (2002).
[193]
M. Zamfirescu, A. Kavokin, B. Gil, G. Malpuech, and M. Kaliteevski, *ZnO as a Material Mostly Adapted for the Realization of Room-Temperature Polariton Lasers*, Physical Review B **65**, 161205 (2002).
[194]
B. Sermage, G. Malpuech, A. Kavokin, and V. Thierry-Mieg, *Drift and Diffusion of Exciton–Polaritons in a Graded Quantum Microcavity*, Physica Status Solidi (a) **183**, 23 (2001).
[195]
B. Gil, M. Zamfirescu, P. Bigenwald, G. Malpuech, and A. Kavokin, *Experimental and Theoretical Tools for the Study of Exciton Properties versus Disorder in Nitride-Based Quantum Structures*, Physica Status Solidi (b) **228**, 471 (2001).
[196]
M. Zamfirescu, B. Gil, N. Grandjean, G. Malpuech, A. Kavokin, P. Bigenwald, and J. Massies, *Extremely Sharp Dependence of the Exciton Oscillator Strength on Quantum-Well Width in the G a N/A l x Ga 1- x N System: The Polarization Field Effect*, Physical Review B **64**, 121304 (2001).
[197]
F. Semond, N. Antoine-Vincent, N. Schnell, G. Malpuech, M. Leroux, J. Massies, P. Disseix, J. Leymarie, and A. Vasson, *Growth by Molecular Beam Epitaxy and Optical Properties of a Ten-Period AlGaN/AlN Distributed Bragg Reflector on (111) Si*, Physica Status Solidi (a) **183**, 163 (2001).
[198]
G. Malpuech and A. Kavokin, *Picosecond Beats in Coherent Optical Spectra of Semiconductor Heterostructures: Photonic Bloch and Exciton-Polariton Oscillations*, Semiconductor Science and Technology **16**, R1 (2001).
[199]
B. Sermage, G. Malpuech, A. Kavokin, and V. Thierry-Mieg, *Polariton Acceleration in a Microcavity Wedge*, Physical Review B **64**, 081303 (2001).
[200]
G. Malpuech and A. Kavokin, *Propagation of Exciton–Polaritons in Nitride-Based Multiple Quantum Wells*, Physica Status Solidi (a) **183**, 75 (2001).
[201]
G. Malpuech and A. Kavokin, *Resonant Rayleigh Scattering of Exciton–Polaritons in Nitride-Based Multiple Quantum Wells*, Materials Science and Engineering: B **82**, 134 (2001).
[202]
G. Malpuech, A. Kavokin, G. Panzarini, and A. Di Carlo, *Theory of Photon Bloch Oscillations in Photonic Crystals*, Physical Review B **63**, 035108 (2001).
[203]
A. Kavokin, G. Malpuech, and W. Langbein, *Theory of Propagation and Scattering of Exciton–Polaritons in Quantum Wells*, Solid State Communications **120**, 259 (2001).
[204]
G. Malpuech and A. Kavokin, *Ultrafast Optical Processes in Nitrides*, Journal of Physics: Condensed Matter **13**, 7075 (2001).
[205]
G. Malpuech and A. Kavokin, *Vertical Motional Narrowing of Exciton-Polaritons in GaN Based Quantum Wells*, Materials Science and Engineering: B **82**, 167 (2001).
[206]

A. Kavokin, G. Malpuech, A. Di Carlo, P. Lugli, and F. Rossi, *Photonic Bloch Oscillations in Laterally Confined Bragg Mirrors*, Physical Review B **61**, 4413 (2000).
[207]
A. Kavokin, G. Malpuech, M. Vladimirova, A. Di Carlo, P. Lugli, and F. Rossi, *Polarization Grating in Semiconductor Films Induced by Exciton–Polaritons*, Physica Status Solidi (a) **178**, 581 (2000).
[208]
G. Malpuech, A. Kavokin, W. Langbein, and J. M. Hvam, *Resonant Rayleigh Scattering of Exciton-Polaritons in Multiple Quantum Wells*, Physical Review Letters **85**, 650 (2000).
[209]
G. Malpuech and A. Kavokin, *Vertical Motional Narrowing of Exciton Polaritons in GaN Based Multiple Quantum Wells*, Applied Physics Letters **76**, 3049 (2000).
[210]
G. Malpuech and A. Kavokin, *Absorption of Light by Inhomogeneously Broadened Excitons in Quantum Wells*, Semiconductor Science and Technology **14**, 1031 (1999).
[211]
A. V. Kavokin, G. Malpuech, A. Di Carlo, M. Vladimirova, P. Lugli, and F. Rossi, *Excitonic Polarization Grating in Semiconductors Induced by Short Light Pulses*, Physica B: Condensed Matter **272**, 509 (1999).
[212]
G. Malpuech, A. Kavokin, J. Leymarie, and A. Vasson, *Indirect Observation of Single-Exciton Quantum Beats in the Time-Resolved Reflection of a Single Quantum Well*, Solid State Communications **113**, 185 (1999).
[213]
A. Kavokin, G. Malpuech, and G. Panzarini, *Inhomogeneous Broadening of Excitons in Thin Films of GaN: Effect on the Time-Resolved Transmission Spectra*, Physica Status Solidi (b) **216**, 31 (1999).
[214]
A. V. Kavokin, G. Malpuech, A. Di Carlo, M. Vladimirova, P. Lugli, and F. Rossi, *Optical Polarization Grating in Semiconductors Induced by Exciton Polaritons*, Physical Review B **60**, 15554 (1999).
[215]
G. Malpuech, A. Kavokin, J. Leymarie, P. Disseix, and A. Vasson, *Optical Spectroscopy Study of the Phase of the Reflection Coefficient of a Single Quantum Well in the Exciton Resonance Region*, Physical Review B **60**, 13298 (1999).
[216]
A. Kavokin, G. Malpuech, A. Di Carlo, P. Lugli, and F. Rossi, *Photon Bloch Oscillations in Laterally Confined Bragg Mirrors*, Physica B: Condensed Matter **272**, 491 (1999).
[217]
G. Malpuech, A. Kavokin, and G. Panzarini, *Propagation of Exciton Polaritons in Inhomogeneous Semiconductor Films*, Physical Review B **60**, 16788 (1999).
[218]
G. Malpuech and A. Kavokin, *Temporary Dynamics of Exciton-Polaritons in GaN Films*, Physica Status Solidi (b) **216**, 41 (1999).

CONFERENCE PROCEEDINGS

[1]
T. Guillet, H. Souissi, M. Gromovyi, T. Gueye, C. Brimont, L. Doyennette, G. Kreyder, F. Réveret, P. Disseix, F. Médard, J. Leymarie, G. Malpuech, D. Solnyshkov, B. Alloing, S. Rennesson, F. Semond, J. Zuniga-Perez, E. Cambril, and S. Bouchoule, *How a Ridge Polariton Laser Is Different from a Standard Ridge Laser*, in *The European Conference on Lasers and Electro-Optics* (Optical Society of America, 2021), p. cb_7_3.
[2]
D. Ballarini, A. Gianfrate, O. Bleu, L. Polimeno, L. Dominici, V. Ardizzone, M. De Giorgi, G. Lerario, K. West, L. Pfeiffer, D. Solnyshkov, D. Sanvitto, and G. Malpuech, *I2: Direct Measurement of the Quantum Geometric Tensor and of the Anomalous Hall Drift in 2D Microcavities*, in *Online Conference Abstract Book* (2020), p. 8.
[3]

S. Dufferwiel, T. Lyons, D. Solynshkov, A. Trichet, F. Withers, S. Schwarz, G. Malpuech, J. Smith, K. Novoselov, M. Skolnick, D. Krizhanovskii, and A. Tartakovskii, *Valley Addressable Exciton-Polaritons in Atomically Thin MoSe2*, in *APS March Meeting Abstracts*, Vol. 2017 (2017), pp. C48-006.
[4]
T. Guillet, F. Li, L. Orosz, O. Kamoun, S. Bouchoule, C. Brimont, P. Disseix, X. Lafosse, M. Leroux, J. Leymarie, G. Malpuech, M. Mexis, M. Mihailovic, G. Patriarche, F. Reveret, D. Solnyshkov, and J. Zuniga-Perez, *Condensation of Polaritons up to 300K and In-Plane Propagation in a ZnO Microcavity*, in *13th International Conference on Optics of Excitons in Confined Systems (OECS13)* (2013).
[5]
T. Guillet, F. Li, L. Orosz, O. Kamoun, S. Bouchoule, C. Brimont, P. Disseix, X. Lafosse, M. Leroux, J. Leymarie, G. Malpuech, M. Mexis, M. Mihailovic, G. Patriarche, F. Reveret, D. Solnyshkov, and J. Zuniga-Perez, *Strongly Excitonic Polariton Condensates in a ZnO Microcavity*, in *14th International Conference on Light-Matter Coupling in Nanostructures (PLMCN14)* (2013).
[6]
A. Amo, M. Abbarchi, V. Sala, D. Solnyshkov, H. Flayac, L. Ferrier, P. Senellart, I. Sagnes, E. Galopin, A. Lemaitre, G. Malpuech, and J. Bloch, *Macroscopic Self-Trapping and Non-Linear Oscillations in Coupled Polariton Condensates*, in *Laser Science* (Optical Society of America, 2012), pp. LM3J-3.
[7]
R. Hivet, H. Flayac, D. Tanese, T. Boulier, D. Andreoli, J. Bloch, D. Solnyshkov, G. Malpuech, A. Amo, E. Giacobino, and A. Bramati, *Observation of Oblique Half-Solitons in Polariton Superfluids*, in *Quantum Electronics and Laser Science Conference* (Optical Society of America, 2012), pp. QM2C-3.
[8]
F. Li, S. Bouchoule, C. Brimont, P. Disseix, T. Guillet, X. Lafosse, J. Leymarie, G. Malpuech, M. Mexis, M. Mihailovic, L. Orosz, F. Reveret, D. Solnyshkov, and J. Zuniga-Perez, *ZnO-Based Polariton Laser*, in *31th International Conference on the Physics of Semiconductors (ICPS)* (2012).
[9]
D. Sanvitto, A. Amo, D. Ballarini, M. Martin, L. Viña, D. Solnyshkov, G. Malpuech, and R. André, *Effects of Disorder on the Polariton Condensates in CdTe Microcavities*, in *AIP Conference Proceedings*, Vol. 1199 (American Institute of Physics, 2010), pp. 159–160.
[10]
F. Médard, D. Lagarde, J. Zúñiga-Pérez, P. Disseix, J. Leymarie, M. Mihailovic, D. Solnyshkov, G. Malpuech, E. Frayssinet, S. Sergent, F. Semond, M. Leroux, and S. Bouchoule, *Toward Polariton Lasing in a Zinc Oxide Microcavity: Design and Preliminary Results*, in *Journal of Physics: Conference Series*, Vol. 210 (IOP Publishing, 2010), p. 012026.
[11]
G. Malpuech, D. Solnyshkov, and I. Shelykh, *Cavity Exciton-Polaritons, Bose Einstein Condensation and Spin Dynamics*, in *AIP Conference Proceedings*, Vol. 1176 (American Institute of Physics, 2009), pp. 21–22.
[12]
J. Baumberg, S. Christopoulos, G. B. H. von Hogersthal, A. Grundy, P. Lagoudakis, A. Kavokin, G. Christmann, R. Butté, E. Feltin, J. Carlin, N. Grandjean, D. Solnyshkov, and G. Malpuech, *Room Temperature Polariton Lasing and BEC in Semiconductor Microcavities*, in *2008 Conference on Lasers and Electro-Optics and 2008 Conference on Quantum Electronics and Laser Science* (IEEE, 2008), pp. 1–2.
[13]
D. Solnyshkov, A. Nalitov, H. Terças, and G. Malpuech, *Spin-Orbit Coupling in Polariton Graphene: Optical Spin Hall Effect and Z Topological Insulator*, in *META'08 Online Papers* (2008).
[14]
F. Laussy, M. Glazov, A. Kavokin, and G. Malpuech, *Single Quantum Dots in Microcavities*, in *Nanomodeling II*, Vol. 6328 (International Society for Optics and Photonics, 2006), p. 63280S.
[15]
T. Shubina, S. Ivanov, V. Jmerik, D. Solnyshkov, P. Kop'ev, A. Vasson, J. Leymarie, A. Kavokin, H. Amano, S. Kamiyama, M. Iwaya, I. Akasaki, H. Lu, W. Schaff, A. Kasic, and B. Monemar, *Mie Resonant Absorption and Infrared Emission in InN Related to Metallic Indium Clusters*, in *AIP Conference Proceedings*, Vol. 772 (American Institute of Physics, 2005), pp. 263–264.
[16]

I. Sellers, F. Semond, M. Leroux, J. Massies, P. Disseix, G. Malpuech, A. Henneghien, J. Leymarie, and A. Vasson, *Room Temperature Strong Coupling in Low Finesse GaN Microcavities*, in *MRS Online Proceedings Library (OPL)*, Vol. 892 (Cambridge University Press, 2005).
[17]
P. Lagoudakis, M. Martin, J. Baumberg, G. Malpuech, A. Kavokin, and L. Pfeiffer, *Quantum Dot Lasing in the Strong Coupling Regime in Semiconductor Microcavities*, in *Postconference Digest Quantum Electronics and Laser Science, 2003. QELS.* (IEEE, 2003), pp. 1-pp.
[18]
G. Malpuech, J. Baumberg, A. Kavokin, and A. Di Carlo, *Ultralow Threshold Polariton Lasing by Electron Cooling in Doped Microcavities*, in *Quantum Electronics and Laser Science Conference* (Optical Society of America, 2002), p. QTuC4.
[19]
G. Malpuech, M. Zamfirescu, A. Kavokin, and A. Di Carlo, *Propagation and Scattering of Exciton-Polaritons in Nitride-Based Multiple Quantum Wells*, in *MRS Online Proceedings Library (OPL)*, Vol. 639 (Cambridge University Press, 2000), p. G9.9.

BOOKS AND BOOK CHAPTERS

[1]
D. D. SOLNYSHKOV and G. MALPUECH, *Collective Topological Excitations in 1D Polariton Quantum Fluids*, in *Universal Themes of Bose-Einstein Condensation* (Cambridge University Press, 2017), pp. 477–492.
[2]
A. V. Kavokin, J. J. Baumberg, G. Malpuech, and F. P. Laussy, *Microcavities*, Vol. 21 (Oxford university press, 2017).
[3]
H. Flayac, D. D. Solnyshkov, and G. Malpuech, *Spin Effects in Polariton Condensates: From Half-Solitons to Analogues of Wormholes*, in *Physics of Quantum Fluids* (Springer, 2013), pp. 71–98.
[4]
G. Malpuech and D. Solnyshkov, *Disorder Effects on Exciton–Polariton Condensates*, in *Exciton Polaritons in Microcavities* (Springer, 2012), pp. 245–265.
[5]
A. Kavokin and G. Malpuech, *Cavity Polaritons* (Elsevier, 2003).