

**List of publications and patents by Lucio Andreani
(updated 20 December 2020)**

Publications (including book chapters):

- [1] A. Quattropani, L.C. Andreani, F. Bassani: *Quantum Theory of Polaritons with Spatial Dispersion: Exact Solutions*, Il Nuovo Cimento D **7**, 55 (1986).
- [2] **Review paper** - F. Bassani, L.C. Andreani: *Exciton-Polariton States in Insulators and Semiconductors*, in *Excited State Spectroscopy in Solids*, edited by U. Grassano and N. Terzi (Editrice Compositori, Bologna, 1987), p. 1.
- [3] A. Quattropani, L.C. Andreani, F. Bassani: *Quantum Theory of Polaritons*, in *Excitons in Confined Systems*, edited by R. Del Sole, A. D'Andrea, A. Lapicciarella (Springer-Verlag, Berlin, 1988), p. 74.
- [4] L.C. Andreani, A. Pasquarello, F. Bassani: *Hole Subbands in Strained GaAs-Ga_{1-x}Al_xAs Quantum Wells: Exact Solution of the Effective-Mass Equation*, Phys. Rev. B **36**, 5887 (1987).
- [5] L.C. Andreani, A. Pasquarello: *Electronic Structure and Optical Properties of Superlattices*, in *Highlights of Spectroscopies of Semiconductors and Insulators*, edited by A. Balzarotti, A. Stella, M. Capizzi, and G. Guizzetti (World Scientific, Singapore, 1988), p. 33.
- [6] L.C. Andreani, A. Pasquarello: *Effect of Subband Coupling on Exciton Binding Energies and Oscillator Strengths in GaAs-Ga_{1-x}Al_xAs Quantum Wells*, Europhys. Lett. **6**, 259 (1988).
- [7] L.C. Andreani, F. Bassani, A. Quattropani: *Longitudinal-Transverse Splitting in Wannier Excitons and Polariton States*, Il Nuovo Cimento D **10**, 1473 (1988).
- [8] Y. Chen, R. Cingolani, L.C. Andreani, F. Bassani, J. Massies: *Photoluminescence in Quantum Well and Bulk GaAs: a Direct Comparative Study*, Il Nuovo Cimento D **10**, 847 (1988).
- [9] L.C. Andreani, A. Pasquarello: *Theory of Excitons in GaAs-Ga_{1-x}Al_xAs Quantum Wells Including Valence Band Mixing*, Superl. Microstr. **5**, 59 (1989).
- [10] A. Pasquarello, L.C. Andreani: *Binding Energies of p-type Shallow Acceptor States in GaAs-Ga_{1-x}Al_xAs Quantum Wells*, Helv. Phys. Acta **62**, 872 (1989).
- [11] A. Pasquarello, L.C. Andreani: *Binding Energies of Excited Shallow Acceptor States in GaAs-Ga_{1-x}Al_xAs Quantum Wells*, Phys. Rev. B **40**, 5602 (1989).
- [12] L.C. Andreani, F. Bassani, A. Pasquarello: *Symmetry Properties and Selection Rules of Excitons in Quantum Wells*, Quaderni della Scuola Normale Superiore, Pisa, 1989.
- [13] L.C. Andreani, F. Bassani: *Exchange Interaction and Polariton Effects in Quantum Well Excitons*, Phys. Rev. B **41**, 7536 (1990).
- [14] A. Pasquarello, L.C. Andreani: *Interpretation of Three-Photon Spectra in Alkali Halides*, Phys. Rev. B **41**, 12 230 (1990).
- [15] L.C. Andreani, S. Fraizzoli, A. Pasquarello: *Comment to: Effect of Biaxial Strain on Acceptor-Level Energies in In_yGa_{1-y}As/Al_xGa_{1-x}As (on GaAs) Quantum Wells*, Phys. Rev. B **42**, 7641 (1990).

- [16] L.C. Andreani, A. Pasquarello: *Accurate Theory of Excitons in GaAs-Ga_{1-x}Al_xAs Quantum Wells*, Phys. Rev. B **42**, 8928 (1990).
- [16bis] M.W Berz, L.C. Andreani, E.F. Steigmeier, F.-K. Reinhart: *Exchange splitting of light-hole excitons in Al_xGa_{1-x}As-GaAs quantum wells*, Solid State Commun. **80**, 553 (1991).
- [17] F. Tassone, F. Bassani, L.C. Andreani: *Resonant and Surface Polaritons in Quantum Wells*, Il Nuovo Cimento D **12**, 1673 (1990).
- [18] **Review paper** - L.C. Andreani: *Exciton-Polaritons in Quantum Wells*, Physica Scripta **T35**, 111 (1991).
- [19] L.C. Andreani, A. Pasquarello: *High Exciton Binding Energies in GaAs/GaAlAs Quantum Wells*, Superl. Microstr. **9**, 1 (1991).
- [20] L.C. Andreani, F. Tassone, F. Bassani: *Radiative Lifetime of Free Excitons in Quantum Wells*, Solid State Commun. **77**, 641 (1991).
- [21] L.C. Andreani, S. Fraizzoli, H. Beck: *Competition between Kondo Effect and RKKY Interaction: a Molecular Model*, Solid State Commun. **77**, 635 (1991).
- [22] L.C. Andreani, H. Beck: *A Zero-Temperature Variational Study of the Two-Impurity Anderson Model*, Solid State Commun. **79**, 17 (1991).
- [23] A. Pasquarello, L.C. Andreani: *Variational Calculation of Fano Linewidth: Application to Excitons in Quantum Wells*, Phys. Rev. B **44**, 3162 (1991).
- [24] P. Monachesi, L. C. Andreani, S. Fraizzoli: *Anderson Hybridisation in CeAg*, J. Magn. Magn. Mat. **104-107**, 1327 (1992).
- [25] L. C. Andreani, H. Beck: *A Variational Study of the Two-Impurity Anderson Model*, J. Magn. Magn. Mat. **108**, 53 (1992).
- [26] A. Pasquarello, L.C. Andreani, N. Binggeli, A. Quattropani: *Effective-State Approach to Second-Order Perturbation Theory*, Europhys. Lett. **17**, 387 (1992).
- [27] L.C. Andreani, F. Bassani, F. Tassone: *Polaritons in Confined Systems*, in Optics of Excitons in Confined Systems, edited by A. D'Andrea, R. Del Sole, R. Girlanda, and A. Quattropani (IOP Publishing, Bristol, 1992), p. 25.
- [28] A. Pasquarello, L.C. Andreani: *Resonance Width of the Light-Hole Exciton in GaAs-Ga_{1-x}Al_xAs Quantum Wells*, in Optics of Excitons in Confined Systems, edited by A. D'Andrea, R. Del Sole, R. Girlanda, and A. Quattropani (IOP Publishing, Bristol, 1992), p. 69.
- [29] S. Frisk, J.-L. Staehli, L.C. Andreani, A. Bosacchi, S. Franchi: *Quantitative Analysis of Transmission Spectra of GaAs/(Ga,Al)As Multiple Quantum Wells*, in Optics of Excitons in Confined Systems, edited by A. D'Andrea, R. Del Sole, R. Girlanda, and A. Quattropani (IOP Publishing, Bristol, 1992), p. 183.
- [30] F. Tassone, L. C. Andreani, F. Bassani: *Quantum-Well Reflectivity and Exciton-Polariton Dispersion*, Phys. Rev. B **45**, 6023 (1992).
- [31] U. Ekenberg, L. C. Andreani, A. Pasquarello: *Hole Subbands in Quantum Wells: Comparison between Theory and Hot-Electron-Acceptor Luminescence Experiments*, Phys. Rev. B **46**, 2625 (1992).

- [32] L. C. Andreani, A. D'Andrea, R. Del Sole: *Excitons in Confined Systems: from Quantum Well to Bulk Behavior*, Phys. Lett. A **168**, 451 (1992).
- [33] M. Gurioli, J. Martinez-Pastor, M. Colocci, A. Bosacchi, S. Franchi, L.C. Andreani: *Well-Width and Aluminum-Concentration Dependence of the Exciton Binding Energies in GaAs/Al_xGa_{1-x}As Quantum Wells*, Phys. Rev. B **47**, 15755 (1993).
- [34] F. Bassani, F. Tassone, L.C. Andreani: *Excitons and polaritons in quantum wells*, in Semiconductor Superlattices and Interfaces, Proc. of the International School of Physics "E. Fermi", CXVII Course, edited by A. Stella (North-Holland, Amsterdam, 1993), p. 187.
- [35] P. Santini, L.C. Andreani, H. Beck: *Magnetic Correlations in the Anderson Lattice: an Exact Diagonalization Study*, Phys. Rev. B **47**, 1130 (1993).
- [36] L.C. Andreani, H. Beck: *Two-Impurity Anderson Model: a Variational Study*, Phys. Rev. B **48**, 7322 (1993).
- [37] L.C. Andreani, H. Beck: *Two-Impurity Anderson Model: Variational Wavefunctions with Electron-Hole Excitations*, J. Appl. Phys. **73**, 6628 (1993).
- [38] P. Monachesi, L.C. Andreani, A. Continenza, A.K. McMahan: *Volume Dependence of Anderson Hybridisation in Cubic CeCd and CeAg*, J. Appl. Phys. **73**, 6634 (1993).
- [39] P. Santini, J. Solyom, L.C. Andreani, H. Beck: *Spin Correlations in Dense Kondo Systems*, J. Appl. Phys. **73**, 5403 (1993).
- [40] G. Oelgart, M. Proctor, D. Martin, F. Morier-Genaud, F.-K. Reinhart, B. Orschel, L.C. Andreani, H. Rhan: *Experimental and Theoretical Study of Excitonic Transition Energies in GaAs/Al(x)Ga(1-x)As Quantum Wells*, Phys. Rev. B **49**, 10456 (1994).
- [41] L.C. Andreani: *Exciton-Polaritons in Superlattices*, Phys. Lett. A **192**, 99 (1994).
- [42] L.C. Andreani, V. Savona, P. Schwendimann, A. Quattropani: *Polaritons in High-Reflectivity Microcavities: Semiclassical and full Quantum Treatment of Optical Properties*, Superl. Microstr. **15**, 453 (1994).
- [43] L.C. Andreani, E. Liviotti, P. Santini, G. Amoretti: *Moment Reduction in Kondo Systems with Crystal-Field Effects: Molecular Field Theory*, Physica B **206&207**, 138 (1995).
- [44] E. Pavarini, L.C. Andreani, G. Amoretti: *Magnetic Form Factor in Kondo Systems: Kondo Moment Reduction versus Conduction Electron Polarization*, Physica B **206&207**, 144 (1995).
- [45] L.C. Andreani: *Polaritons in Multiple Quantum Wells*, Physica Status Solidi b **188**, 29 (1995).
- [46] V. Savona, L.C. Andreani, P. Schwendimann, A. Quattropani: *Quantum Well Excitons in Semiconductor Microcavities: Semiclassical and Full Quantum Treatment of Optical Properties*, Solid State Commun. **93**, 733 (1995).
- [47] **Review paper** - L.C. Andreani: *Optical Transitions, Excitons, and Polaritons in Bulk and Low-Dimensional Semiconductor Structures*, in Confined Electrons and Photons: New Physics and Devices, edited by E. Burstein and C. Weisbuch (Plenum Press, New York, 1995), p. 57.
- [48] G. Panzarini, L.C. Andreani: *Double Quantum Well in a Semiconductor Microcavity: Three-Oscillator Model and Ultrafast Radiative Decay*, Phys. Rev. B **52**, 10780 (1995).

- [49] R. Iotti, L.C. Andreani: *A Model for Exciton Binding Energies in III-V and II-VI Quantum Wells*, *Semicond. Sci. Technol.* **10**, 1561 (1995).
- [50] L.C. Andreani, D. De Nova, S. Di Lernia, M. Geddo, G. Guizzetti, M. Patrini, A. Bosacchi, C. Bocchi, C. Ferrari, S. Franchi: *Optical Study of Strained and Relaxed Epitaxial $\text{In}_x\text{Ga}_{1-x}\text{As}$ on GaAs*, *J. Appl. Phys.* **78**, 6745 (1995).
- [51] L.C. Andreani, G. Panzarini: *Polaritons in Superlattices and in Microcavities*, *Il Nuovo Cimento D* **17**, 1211 (1995).
- [52] G. Panzarini, L.C. Andreani: *Theory of Exciton-Polariton Effects for a Double Quantum Well in a Microcavity*, *Il Nuovo Cimento D* **17**, 1651 (1995).
- [53] R.C. Iotti, L.C. Andreani: *Binding Energies and Oscillator Strengths of Excitons in Shallow Quantum Wells*, *Il Nuovo Cimento D* **17**, 1505 (1995).
- [54] A. Bitz, C. Jordan, M. Di Ventra, K.A. Mader, L.C. Andreani, J.F. Carlin, A. Rudra, J.L. Staehli: *Optical Study of Ultrathin InAs/InP Single Quantum Wells*, *Il Nuovo Cimento D* **17**, 1367 (1995).
- [55] V. Savona, F. Tassone, C. Piermarocchi, A. Quattropani, P. Schwendimann, L.C. Andreani: *Light Emission from Quantum Well Excitons in Semiconductor Microcavities*, *Il Nuovo Cimento D* **17**, 1713 (1995).
- [56] P. Tognini, L.C. Andreani, M. Geddo, A. Stella, P. Cheyssac, R. Kofman, A. Migliori: *Different quantum behavior of the E_1 and E_2 spectral structures in Ge nanocrystals*, *Phys. Rev. B* **53**, 6992 (1996).
- [57] L.C. Andreani, E. Liviotti, P. Santini, G. Amoretti: *Molecular-Field Theory of Moment Reduction in Kondo Systems with Crystal-Field Effects*, *Zeitschrift für Physik B* **100**, 95 (1996).
- [58] E. Pavarini, L.C. Andreani, G. Amoretti: *Theory of the Magnetic Form Factor in Reduced-Moment Kondo Systems*, *Int. J. Mod. Phys. B* **10**, 1167 (1996).
- [59] E. Pavarini, L.C. Andreani: *Hybridization versus Local Exchange Interaction in the Kondo Problem: a Two-Band Model*, *Phys. Rev. Lett.* **77**, 2762 (1996).
- [60] P. Tognini, L.C. Andreani, M. Geddo, A. Stella, P. Cheyssac, R. Kofman: *Above the band gap structures in Ge nanoparticles: optical absorption spectra*, *Il Nuovo Cimento D* **18**, 865 (1996).
- [61] G. Panzarini, L.C. Andreani: *Bulk polariton beatings and two-dimensional radiative decay: analysis of time-resolved transmission through a dispersive film*, *Solid State Commun.* **102**, 505 (1997).
- [62] L.C. Andreani, E. Pavarini, E. Liviotti, P. Santini, G. Amoretti: *Competition between Kondo effect and magnetic interaction in Kondo systems*, *Physica B* **230-232**, 523 (1997).
- [63] E. Pavarini, L.C. Andreani: *A two-band model with ferro- and antiferromagnetic exchange interactions*, *Physica B* **230-232**, 457 (1997).
- [64] G. Amoretti, L.C. Andreani, E. Bauer, B. Delley, R. Monnier, E. Pavarini, P. Santini: *Kondo reduction of magnetic moment under high external field in CeCu₂: theoretical interpretation*, *Solid State Commun.* **103**, 585 (1997).
- [65] R.C. Iotti, L.C. Andreani: *Crossover from strong to weak confinement for excitons in shallow or narrow quantum wells*, *Phys. Rev. B* **56**, 3922 (1997).

- [66] M. Geddo, S. Di Lernia, L.C. Andreani: *Step pseudomorphic asymmetric wells: an optical study in the framework of III-V strain-induced sub-two-dimensional quantum systems*, Semicond. Sci. Technol. **12**, 1121 (1997).
- [67] E. Pavarini, L.C. Andreani: *Stability of $SU(N)$ symmetry in the Coqblin-Schrieffer model by the perturbative renormalization group*, Phys. Rev. B **56**, 5073 (1997).
- [68] G. Panzarini, L.C. Andreani, A. Armitage, D. Baxter, M.S. Skolnick, J.S. Roberts, V.N. Astratov, M.A. Kaliteevski, A.V. Kavokin, M.R. Vladimirova: *Polariton dispersion and polarisation splitting for quantum well excitons in single and coupled microcavities*, Physica Status Solidi (a) **164**, 91 (1997).
- [69] A.V. Kavokin, M.R. Vladimirova, G. Panzarini, L.C. Andreani, J. Baumberg: *Exciton-light coupling in quantum wells in the presence of inhomogeneous broadening*, Physica Status Solidi (a) **164**, 189 (1997).
- [70] R.C. Iotti, M. Di Ventra, L.C. Andreani: *Microscopic theory of Wannier-Mott excitons bound to monolayer insertions: the InAs in GaAs case*, Physica Status Solidi (a) **164**, 129 (1997).
- [71] L.C. Andreani, G. Panzarini, A.V. Kavokin, M.R. Vladimirova: *Effect of inhomogeneous broadening on optical properties of excitons in quantum wells*, Phys. Rev. B **57**, 4670 (1998).
- [72] M. Henini, S. Sanguinetti, S.C. Fortina, E. Grilli, M. Guzzi, G. Panzarini, L.C. Andreani, M.D. Upward, P. Moriarty, P.H. Beton, L. Eaves: *Optical anisotropy in arrow-shaped InAs quantum dots*, Phys. Rev. B **57**, R6815 (1998).
- [73] E. Bauer, G. Amoretti, L.C. Andreani, B. Delley, M. Ellerby, K. McEwen, R. Monnier, E. Pavarini, P. Santini: *Magnetization and susceptibility of the Kondo compounds $CeCu_{5-x}Al_x$, $x=0,1,1.5,2$* , J. Phys: Cond. Matt. **10**, 4465 (1998).
- [74] R.C. Iotti, L.C. Andreani, M. Di Ventra: *Tight-binding approach to excitons bound to monolayer impurity planes: strong radiative properties of InAs in GaAs*, Phys. Rev. B **57**, R15072 (1998).
- [75] L.C. Andreani, R.C. Iotti, R. Schwabe, F. Pietag, V. Gottschalch, A. Bitz, J.-L. Staehli: *Minimum of oscillator strength of excitons in ultra-narrow GaAs/AlAs quantum wells: theory and experiment*, Physica E **2** (1-4), 151 (1998).
- [76] A. Armitage, M.S. Skolnick, V.N. Astratov, D.M. Whittaker, G. Panzarini, L.C. Andreani, T.A. Fisher, J.S. Roberts, A.V. Kavokin, M.A. Kaliteevski, M.R. Vladimirova: *Optically induced splitting of bright excitonic states in coupled quantum microcavities*, Phys. Rev. B **57**, 14877 (1998).
- [77] J. Tignon, O. Heller, P. Roussignol, J. Martinez-Pastor, P. Lelong, G. Bastard, R.C. Iotti, L.C. Andreani, V. Thierry-Mieg, R. Planel: *Excitonic recombination dynamics in shallow quantum wells*, Phys. Rev. B **58**, 7076 (1998).
- [78] L. Pavesi, G. Panzarini, L.C. Andreani: *All porous silicon coupled microcavities: experiment versus theory*, Phys. Rev. B **58**, 15794 (1998).
- [79] G. Panzarini, L.C. Andreani, A. Armitage, D. Baxter, M.S. Skolnick, V.N. Astratov, J.S. Roberts, A.V. Kavokin, M.R. Vladimirova, M.A. Kaliteevski: *Exciton-light coupling in single and coupled semiconductor microcavities: polariton dispersion and polarization splitting*, Phys. Rev. B **59**, 5082 (1999).
- [80] E. Pavarini, L.C. Andreani: *Coqblin-Schrieffer versus local exchange coupling: a perturbative renormalization group study*, Physica B **259-261**, 198 (1999).
- [81] E. Pavarini, L.C. Andreani: *Competition between Coqblin-Schrieffer and local exchange interactions in Kondo systems by the perturbative renormalization group*, Phys. Rev. B **59**, 8828 (1999).

- [82] G. Panzarini, L.C. Andreani, A. Armitage, D. Baxter, M.S. Skolnick, V.N. Astratov, J.S. Roberts, A.V. Kavokin, M.R. Vladimirova, M.A. Kaliteevski: *Exciton-light coupling in single and coupled semiconductor microcavities: polariton dispersion and polarization splitting*, Physics of the Solid State **41**, 1223 (1999).
- [83] S. Sanguinetti, S. Castiglioni, E. Grilli, M. Guzzi, G. Panzarini, L.C. Andreani, M. Henini: *Intrinsic polarized emission from InAs/GaAs(311)A Quantum dots*, Jpn. J. Appl. Phys. **38**, 4676 (1999).
- [84] L.C. Andreani, G. Panzarini, J.-M. Gérard: *Strong-coupling regime for quantum boxes in pillar microcavities: theory*, Phys. Rev. B **60**, 13276 (1999).
- [85] G. Panzarini, L.C. Andreani: *Quantum theory of exciton-polaritons in cylindrical semiconductor microcavities*, Phys. Rev. B **60**, 16799 (1999).
- [86] A. Lorenzoni, L.C. Andreani: *Rectangular quantum wires in a magnetic field: phase diagrams and subband dispersion*, Semicond. Sci. Technol. **14**, 1169 (1999).
- [87] L.C. Andreani, G. Panzarini, J.-M. Gérard: *Vacuum-field Rabi splitting for quantum boxes in pillar microcavities?* Phys. Status Solidi (a) **178**, 145 (2000).
- [88] G. Panzarini, L.C. Andreani: *Exciton-light coupling in cylindrical microcavities*, Phys. Status Solidi (a) **178**, 113 (2000).
- [89] A. Lorenzoni, L.C. Andreani, M. Lomascolo, M. Anni, M. De Giorgi, R. Rinaldi, A. Passaseo, R. Cingolani: *Electronic levels and recombination lifetimes for quantum wires in a magnetic field*, Phys. Status Solidi (a) **178**, 239 (2000).
- [90] M. Lomascolo, M. Anni, M. De Giorgi, R. Rinaldi, A. Passaseo, R. Cingolani, A. Lorenzoni, L.C. Andreani: *Time-resolved magnetospectroscopy of $In_xGa_{1-x}As/GaAs$ V-shaped quantum wires*, Phys. Rev. B **61**, 12658 (2000).
- [91] M. Agio, L.C. Andreani: *Complete photonic band gap in a two-dimensional chessboard lattice*, Phys. Rev. B **61**, 15519 (2000).
- [92] L.C. Andreani, G. Panzarini, J.-M. Gérard: *Exciton-light interaction in three-dimensional microcavities*, Phys. Status Solidi (a) **183**, 11 (2001).
- [93] S. Botti, L.C. Andreani: *Electronic states and optical properties of GaAs/AlAs and GaAs/vacuum superlattices by the linear combination of bulk bands method*, Phys. Rev. B **63**, 235313 (2001).
- [94] M. Falasconi, L.C. Andreani, A.M. Malvezzi, M. Patrini, V. Mulloni, L. Pavesi: *Bulk and surface contributions to second-order susceptibility in crystalline and porous silicon by second-harmonic generation*, Surf. Sci. **481**, 105 (2001).
- [95] L.C. Andreani: *Optical properties of excitons in semiconductor quantum wells and microcavities*, in *EPIOPTICS 2000*, Proceedings of the 19th Course of the International School of Solid State Physics, edited by A. Cricienti (World Scientific, Singapore, 2001), p.1
- [96] M. Falasconi, L.C. Andreani, M. Patrini, A.M. Malvezzi, V. Mulloni, L. Pavesi: *Measurements of second-order susceptibility in crystalline and porous silicon*, in *EPIOPTICS 2000*, Proceedings of the 19th Course of the International School of Solid State Physics, edited by A. Cricienti (World Scientific, Singapore, 2001), p.46.

- [97] L.C. Andreani, M. Agio, S. Botti: *Symmetry Properties of Two-Dimensional Photonic Crystals*”, in *Electrons and Photons in Solids – A Volume in Honor of Franco Bassani*, edited by G. Grosso, G. La Rocca, M. Tosi (Quaderni della Scuola Normale Superiore, Pisa, 2001), p. 71.
- [98] M. Galli, M. Agio, L. C. Andreani, M. Belotti, G. Guizzetti, F. Marabelli, M. Patrini, P. Bettotti, L. Dal Negro, Z. Gaburro, L. Pavesi, A. Lui, and P. Bellutti: *Spectroscopy of photonic bands in macroporous silicon photonic crystals*, Phys. Rev. B **65**, 113111 (2002).
- [99] D. Gerace, E. Pavarini, L.C. Andreani: *Low-temperature transport through a quantum dot: Finite-U results and scaling behaviour*”, Phys. Rev. B **65**, 155331 (2002).
- [100] M. Galli, M. Agio, L.C. Andreani, L. Atzeni, D. Bajoni, G. Guizzetti, L. Businaro, E. Di Fabrizio, F. Romanato, A. Passaseo: *Optical properties and photonic bands of GaAs photonic crystal waveguides with tilted square lattice*, Eur. Phys. J. B **27**, 79 (2002).
- [101] M. Patrini, M. Galli, F. Marabelli, M. Agio, L.C. Andreani, D. Peyrade, Y. Chen: *Photonic bands in patterned Silicon-on-Insulator waveguides*, IEEE J. Quantum Electron. **38**, 885 (2002).
- [102] L.C. Andreani, M. Agio: *Photonic bands and gap maps in a photonic crystal slab*, IEEE J. Quantum Electron. **38**, 891 (2002).
- [103] M. Malvezzi, F. Cattaneo, G. Vecchi, M. Falasconi, G. Guizzetti, L.C. Andreani, L. Businaro, F. Romanato, E. Di Fabrizio, A. Passaseo, M. De Vittorio: *Second-harmonic generation in reflection and diffraction by a GaAs photonic crystal waveguide*, J. Opt. Soc. Am. B **19**, 2122 (2002).
- [104] E. Pavarini, L.C. Andreani: *Etched distributed Bragg reflectors as three-dimensional photonic crystals: photonic bands and density of states*, Phys. Rev. E **66**, 036602 (2002).
- [105] D. Peyrade, Y. Chen, A. Talneau, M. Patrini, M. Galli, F. Marabelli, M. Agio, L.C. Andreani, E. Silberstein, P. Lalanne: *Fabrication and optical measurements of silicon on insulator photonic nanostructures*, Microelectronic Engineering **61-62**, 529 (2002).
- [106] M. Patrini, M. Galli, M. Belotti, L. C. Andreani, G. Guizzetti, G. Pucker, A. Lui, P. Bellutti, L. Pavesi: *Optical response of one-dimensional (Si/SiO₂)_m photonic crystals*, J. Appl. Phys. **92**, 1816 (2002).
- [107] L.C. Andreani: *Photonic bands and radiation losses in photonic crystal waveguides*, Physica Status Solidi (b) **234**, 129 (2002).
- [108] S. Botti, N. Vast, L. Reining, V. Olevano, L.C. Andreani: *Ab-initio calculations of the anisotropic dielectric tensor of GaAs/AlAs superlattices*, Phys. Rev. Lett. **89**, 216803 (2002).
- [109] F. Romanato, L. Businaro, E. Di Fabrizio, A. Passaseo, M. De Vittorio, R. Cingolani, M. Patrini, M. Galli, D. Bajoni, L.C. Andreani, F. Giacometti, M. Gentili, D. Peyrade, Y. Chen: *Fabrication by means of X-ray lithography of two-dimensional photonic crystals with an unconventional unit cell*, Nanotechnology **13**, 644 (2002).
- [110] D. Comoretto, R. Grassi, F. Marabelli, L.C. Andreani: *Growth and optical studies of opal films as three-dimensional photonic crystals*, Mater. Sci. Engin. C**23**, 61 (2003).
- [111] L. Businaro, F. Romanato, P. Candeloro, E. Di Fabrizio, M. Patrini, M. Galli, L.C. Andreani, M. De Vittorio, A. Passaseo: *High-resolution complex structures for two-dimensional photonic crystals realized by X-ray diffraction lithography*, J. Vac. Sci. Technol. B **21**, 748 (2003).
- [112] L.C. Andreani and M. Agio: *Intrinsic diffraction losses in photonic crystal waveguides with line defects*, Appl. Phys. Lett. **82**, 2011 (2003).

- [113] L.C. Andreani, F. Cattaneo, G. Guizzetti, A.M. Malvezzi, M. Patrini, G. Vecchi, F. Romanato, L. Businaro, E. Di Fabrizio, A. Passaseo, M. De Vittorio: *Second-harmonic generation measured on a GaAs photonic crystal planar waveguide*, Physica E **17**, 402 (2003).
- [114] M. Patrini, M. Galli, M. Agio, L.C. Andreani, D. Bajoni, G. Guizzetti, L. Businaro, E. Di Fabrizio, F. Romanato, A. Passaseo: *Linear optical properties and photonic mode dispersion in GaAs/AlGaAs photonic crystal slabs*, Physica E **17**, 418 (2003).
- [115] **Review paper** - L.C. Andreani: *Exciton-polaritons in confined systems*, Proceedings of the International School of Physics "E. Fermi", Course CL, edited by B. Deveaud, A. Quattropani, and P. Schwendimann (IOS Press, Amsterdam, 2003), p. 105.
- [116] L.C. Andreani, G. Guizzetti, M. Patrini, G. Vecchi, A.M. Malvezzi, L. Businaro, F. Romanato, E. Di Fabrizio, A. Passaseo: *Resonant second-harmonic generation and mode dispersion in photonic crystal waveguides*, Physica Status Solidi (b) **238**, 428 (2003).
- [117] F. Romanato, L. Businaro, L. Vaccari, S. Cabrini, P. Candeloro, M. De Vittorio, A. Passaseo, M.T. Todaro, R. Cingolani, E. Cattaruzza, M. Galli, C. Andreani, E. Di Fabrizio: *Fabrication of 3D metallic photonic crystals by X-ray lithography*, Microelectronic Engineering **67-68**, 479 (2003).
- [118] D. Comoretto, F. Marabelli, C. Soci, M. Galli, E. Pavarini, M. Patrini, L.C. Andreani: *Morphology and optical properties of base and polydiacetylenes-infiltrated opals*, Synthetic Metals **139**, 633 (2003).
- [119] L.C. Andreani, M. Agio, D. Bajoni, M. Belotti, M. Galli, G. Guizzetti, A.M. Malvezzi, F. Marabelli, M. Patrini, G. Vecchi: *Optical properties and mode dispersion in two-dimensional and waveguide-embedded photonic crystals*, Synthetic Metals **139**, 695 (2003).
- [120] A.M. Malvezzi, G. Vecchi, M. Patrini, G. Guizzetti, L.C. Andreani, F. Romanato, L. Businaro, E. Di Fabrizio, A. Passaseo, M. De Vittorio: *Resonant second-harmonic generation in a GaAs photonic crystal waveguide*, Phys. Rev. B **68**, 161306(R) (2003).
- [121] C. Jamois, R.B. Wehrspohn, L.C. Andreani, C. Hermann, O. Hess, U. Gösele: *Silicon-based two-dimensional photonic crystal waveguides*, Photonics and Nanostructures **1**, 1-13 (2003).
- [122] D. Gerace, M. Agio and L.C. Andreani: *Quantum theory of photonic crystal polaritons*, Physica Status Solidi (c) **1**, **446** (2004).
- [123] M. Galli, D. Bajoni, F. Marabelli, L.C. Andreani, L. Pavesi, G. Pucker: *Photonic bands and group-velocity dispersion in Si/SiO₂ photonic crystals from white-light Interferometry*, Phys. Rev. B **69**, 115107 (2004).
- [124] D. Gerace, L.C. Andreani: *Gap maps and intrinsic diffraction losses in one-dimensional photonic crystal slabs*, Phys. Rev. E **69**, 056603 (2004)
- [125] S. Botti, N. Vast, L. Reining, V. Olevano, L.C. Andreani: *Ab-initio and semiempirical dielectric response of superlattices*, Phys. Rev. B **70**, 045301 (2004)
- [126] D. Gerace, L.C. Andreani: *Disorder-induced losses in photonic crystal waveguides with line defects*, Opt. Lett. **29**, 1897 (2004)
- [127] M. Galli, M. Belotti, D. Bajoni, M. Patrini, G. Guizzetti, D. Gerace, M. Agio, L.C. Andreani, Y. Chen: *Excitation of radiative and evanescent defect modes in linear photonic crystal waveguides*, Phys. Rev. B **70**, 081307(R) (2004)

- [128] M. Belotti, M. Galli, D. Bajoni, L.C. Andreani, G. Guizzetti, D. Decanini, and Y. Chen: “*Investigation of SOI photonic crystals fabricated by both electron-beam lithography and nanoimprint lithography*”, *Microelectron. Eng.* **73-74**, 405-411 (2004).
- [129] L.C. Andreani, D. Gerace, M. Agio: *Gap maps, diffraction losses and exciton-polaritons in photonic crystal slabs*, *Photonics and Nanostructures* **2**, 103 (2004)
- [130] M. Liscidini, L.C. Andreani: “*Highly efficient second-harmonic generation in doubly-resonant planar microcavities*”, *Appl. Phys. Lett.* **85**, 1883 (2004)
- [131] D. Gerace, L.C. Andreani: “*Strong exciton-light coupling in photonic crystal nanocavities*”, *Physica Status Solidi (c)* **2**, 801-804 (2005)
- [132] D. Gerace, M. Agio, L.C. Andreani and P. Lalanne: “*Cavity modes in one-dimensional photonic crystal slabs*”, *Opt. Quantum Electron.* **37**, 277-292 (2005)
- [133] D. Gerace, L.C. Andreani: “*Low-loss guided modes in photonic crystal waveguides*”, *Optics Express* **13**, 4939-4951 (2005)
- [134] M. Galli, D. Bajoni, F. Paleari, M. Patrini, G. Guizzetti, D. Gerace, M. Agio, L.C. Andreani, D. Peyrade, Y. Chen: “*Measurement of Photonic Mode Dispersion and Linewidths in Silicon-on-Insulator Photonic Crystal Slabs*”, *IEEE Journal of Selected Areas in Communication* **23**, 1402-1410 (2005).
- [135] E. Pavarini, L.C. Andreani, C. Soci, M. Galli, F. Marabelli, D. Comoretto: “*Band structure and optical properties of opal photonic crystals*”, *Phys. Rev. B* **72**, 045102 (2005).
DOI: 10.1103/PhysRevB.72.045102
- [136] S. Cabrini, A. Carpentiero, R. Kumar, L. Businaro, P. Candeloro, M. Prasciolu, A. Gosparini, L.C. Andreani, M. De Vittorio, T. Stomeo, E. Di Fabrizio: “*Focused ion beam lithography for two dimensional array structures for photonic applications*”, *Microel. Eng.* **78-79**, 11-15 (2005).
DOI: 10.1016/j.mee.2004.12.006
- [137] C. Comaschi, G. Vecchi, A.M. Malvezzi, M. Patrini, G. Guizzetti, M. Liscidini, L.C. Andreani, D. Peyrade, Y. Chen: *Enhanced third-harmonic reflection and diffraction in Silicon on Insulator photonic waveguides*, *Appl. Phys. B* **81**, 305-311 (2005).
- [138] L.C. Andreani, D. Gerace and M. Agio, *Exciton-polaritons and nanoscale cavities in photonic crystal slabs*, *Physica Status Solidi (b)* **242**, 2197-2209 (2005).
- [139] M. Galli, D. Bajoni, M. Patrini, G. Guizzetti, D. Gerace, L.C. Andreani, M. Belotti, Y. Chen: *Single-mode versus multimode behavior in silicon photonic crystal waveguides measured by attenuated total reflectance*, *Phys. Rev. B* **72**, 125322 (2005).
- [140] M. Agio and L.C. Andreani: “*Photonic Bandgap Materials*”, in *Encyclopedia of Condensed Matter Physics*, edited by G.F. Bassani, G. Liedl and P. Wyder (Elsevier, 2005), pp. 286-294
- [141] S. Lettieri, F. Gesuele, P. Maddalena, M. Liscidini, L.C. Andreani, C. Ricciardi, V. Ballarini, F. Giorgis: *Second-harmonic generation in hydrogenated amorphous Si(1-x)N(x) doubly resonant microcavities with periodic dielectric mirrors*, *Appl. Phys. Lett.* **87**, 191110 (2005).
DOI: 10.1063/1.2125112
- [142] D. Gerace, M. Galli, D. Bajoni, G. Guizzetti, L. C. Andreani, F. Riboli, M. Melchiorri, N. Daldosso, L. Pavesi, G. Pucker, S. Cabrini, L. Businaro, and E. Di Fabrizio, *Wide-band transmittance of one-dimensional photonic crystals carved in Si₃N₄/SiO₂ channel waveguides*, *Appl. Phys. Lett.* **87**, 211116 (2005).

- [143] D. Gerace and L.C. Andreani: “*Effects of disorder on propagation losses and cavity Q-factors in photonic crystal slabs*”, *Photon. Nanostruct.* **3**, 120-128 (2005).
- [144] M. Belotti, J. Torres, E. Roy, A. Pépin, D. Gerace, L.C. Andreani, M. Galli, and Y. Chen: “*Fabrication of SOI photonic crystal slabs by soft UV-nanoimprint lithography*”, *Microelectron. Eng.* **83**, 1773 (2006).
- [145] M. Liscidini and L.C. Andreani: “*Second-harmonic generation in doubly-resonant microcavities with periodic dielectric mirrors*”, *Phys. Rev. E* **73**, 106613 (2006).
DOI: 10.1103/PhysRevE.74.036603
- [146] J.F. Galisteo-López, M. Galli, M. Patrini, A. Balestreri, L.C. Andreani, and C. López: “*Effective refractive index and group-velocity determination of three-dimensional photonic crystals by means of white-light interferometry*”, *Phys. Rev. B* **73**, 125103 (2006).
- [147] S. Strauf, K. Hennessy, M.T. Rakher, Y.-S. Choi, A. Badolato, L.C. Andreani, E.L. Hu, P.M. Petroff, and D. Bouwmeester, “*Self-tuned quantum dot gain in photonic crystals lasers*”, *Phys. Rev. Lett.* **96**, 127404 (2006).
DOI: 10.1103/PhysRevLett.96.127404
- [148] C. Ricciardi, V. Ballarini, M. Galli, M. Liscidini, L.C. Andreani, M. Losurdo, G. Bruno, F. Lettieri, F. Gesuele, P. Maddalena, and F. Giorgis: “*Amorphous Silicon Nitride: a suitable alloy for optical multilayered structures*”, *Journal of Non-Crystalline Solids* **352**, 1294-1297 (2006).
- [149] L. Pallavidino, D. Santamaria Razo, F. Geobaldo, A. Balestreri, D. Bajoni, M. Galli, L.C. Andreani, C. Ricciardi, E. Celasco, M. Quaglio, and F. Giorgis: “*Synthesis, characterization and modelling of Silicon based opals*”, *Journal of Non-Crystalline Solids* **352**, 1425-1429 (2006).
- [150] S. Cabrini, L. Businaro, M. Prasciolu, A. Carpentiro, D. Gerace, M. Galli, L.C. Andreani, F. Riboli, L. Pavesi, and E. Di Fabrizio: “*Focused ion beam fabrication of one-dimensional photonic crystals on Si₃N₄-SiO₂ channel waveguides*”, *J. Opt. A: Pure Appl. Opt.* **8**, S550-S553 (2006).
- [151] M. Ghulinyan, M. Galli, C. Toninelli, J. Bertolotti, S. Gottardo, F. Marabelli, D.S. Wiersma, L. Pavesi, and L.C. Andreani: “*Wide-band transmission of non-distorted slow waves in one-dimensional optical superlattices*”, *Appl. Phys. Lett.* **88**, 241103 (2006).
- [152] L.C. Andreani and D. Gerace: “*Photonic crystal slabs with a triangular lattice of triangular holes investigated using a guided-mode expansion method*”, *Phys. Rev. B* **73**, 235114 (2006).
DOI: 10.1103/PhysRevB.73.235114
- [153] M. Galli, A. Politi, M. Belotti, D. Gerace, M. Liscidini, M. Patrini, L.C. Andreani, M. Miritello, A. Irrera, F. Priolo, and Y. Chen, “*Strong enhancement of Er³⁺ emission at room temperature in silicon-on-insulator photonic crystal waveguides*”, *Appl. Phys. Lett.* **88**, 251114 (2006).
- [154] S.K. Das, S. Mukhopadhyay, N. Sinha, A. Saha, P.K. Datta, S.M. Satiel, and L.C. Andreani, “*Direct third-harmonic generation due to quadratic cascaded processes in periodically poled crystals*”, *Opt. Commun.* **262**, 108-113 (2006).
- [154bis] Michele Belotti, Jérémie Torres, Emanuel Roy, Anne Pépin, Yong Chen, Dario Gerace, Lucio Claudio Andreani, and Matteo Galli, “*Replication of photonic crystals by soft ultraviolet-nanoimprint lithography*”, *J. Appl. Phys.* **99**, 024309 (2006)
- [155] A. Balestreri, L.C. Andreani and M. Agio: “*Optical properties and diffraction effects in opal photonic crystals*”, *Phys. Rev. E* **74**, 036603 (2006).

- [156] J. Bertolotti, M. Galli, R. Sapienza, M. Ghulinyan, S. Gottardo, L.C. Andreani, L. Pavesi, and D. Wiersma: “*Wave transport in random systems: Multiple resonance character of necklace modes and their statistical behavior*”, Phys. Rev. E 74, 035602(R) (2006).
- [157] M. Galli, D. Gerace, A. Politi, M. Liscidini, M. Patrini, L.C. Andreani, A. Canino, M. Miritello, R. Lo Savio, A. Irrera, and F. Priolo, “*Direct evidence of light confinement and emission enhancement in active silicon-on-insulator slot waveguides*”, Appl. Phys. Lett. 89, 241114 (2006).
- [158] L.C. Andreani and D. Gerace, “*Disorder-induced losses in photonic crystal slabs*”, in *Proceedings of International Conference on Transparent Optical Networks - ICTON 2006*, Nottingham (U.K.), edited by M. Marciniak, vol. 2, p.1.
- [159] P. Bienstman, S. Selleri, L. Rosa, H. P. Uranus, W. C. L. Hopman, R. Costa, A. Melloni, L. C. Andreani, J. P. Hugonin, P. Lalanne, D. Pinto, S.S.A. Obayya, M. Dems and K. Panajotov: “*Modelling leaky photonic wires: A mode solver comparison*”, Opt. Quantum Electron. 38, 731-759 (2006).
DOI: 10.1007/s11082-006-9025-9
- [160] A.R. Alija, L.J. Martínez, P.A. Postigo, J. Sánchez-Dehesa, M. Galli, A. Politi, M. Patrini, L.C. Andreani, C. Seassal, and P. Viktorovitch: “*Theoretical and experimental study of the Suzuki-phase photonic crystal lattice by angle-resolved photoluminescence spectroscopy*”, Opt. Express 15, 704-713 (2007).
- [161] F. Gesuele, S. Lettieri, P. Maddalena, M. Liscidini, L.C. Andreani, C. Ricciardi, V. Ballarini, and F. Giorgis: “*Band-edge and cavity second-harmonic conversion in doubly-resonant microcavity*”, J. Phys. B: At. Mol. Opt. Phys. 40, 727-734 (2007).
- [162] J.F. Galisteo-López, M. Galli, A. Balestreri, L.C. Andreani, and C. López: “*Optical response of artificial opals oriented along the IX direction*”, Appl. Phys. Lett. 90, 231112 (2007).
- [163] J.F. Galisteo-López, M. Galli, L.C. Andreani, A. Mihi, R. Pozas, M. Ocana, and H. Míguez, “*Phase delay and group velocity determination at a planar defect state in three dimensional photonic crystals*”, Appl. Phys. Lett. 90, 101113 (2007).
- [164] **Review paper** - L.C. Andreani, M. Galli, M. Agio, D. Bajoni, M. Belotti, D. Gerace, M. Liscidini, M. Patrini, and A. Politi, “*Theory of optical properties of photonic crystal slabs*”, in “*Highlights on Spectroscopies of Semiconductors and Nanostructures*”, edited by G. Guizzetti, L.C. Andreani, F. Marabelli, and M. Patrini (Società Italiana di Fisica, Bologna, 2007).
ISBN 978-88-7438-035-0
- [165] D. Gerace and L.C. Andreani, “*Quantum theory of exciton-photon coupling in photonic crystal slabs with embedded quantum wells*”, Phys. Rev. B 75, 235325 (2007)
- [166] L.C. Andreani and D. Gerace, “*Light-matter interaction in photonic crystal slabs*”, Phys. Status Solidi (b) 244, 3528-3539 (2007).
DOI 10.1002/pssb.200743182
- [167] M. Liscidini, A. Locatelli, L.C. Andreani, and C. De Angelis, “*Maximum-exponent scaling behavior of optical second-harmonic generation in finite multilayer photonic crystals*”, Phys. Rev. Lett. 99, 053907 (2007).
DOI: 10.1103/PhysRevLett.99.053907
- [168] J. F. Galisteo-López, M. Galli, A. Balestreri, M. Patrini, L. C. Andreani, and C. López, “*Slow to superluminal light waves in thin 3D photonic crystals*,” Opt. Express 15, 15342-15350 (2007)
DOI: 10.1364/OE.15.015342

[169] P.A. Postigo, A.R. Alija, L.J. Martinez, M.L. Dotor, D. Golmayo D, J. Sanchez-Dehesa, C. Seassal, P. Viktorovitch, M. Galli, A. Politi, M. Patrini, L.C. Andreani “Laser nanosources based on planar photonic crystals as new platforms for nanophotonic devices”, *Photon. Nanostruct.* 5, 79-85 (2007).

[170] M. Liscidini, D. Gerace, L.C. Andreani, and J.E. Sipe: “*Scattering-matrix analysis of periodically patterned multilayers with asymmetric unit cells and birefringent media*”, *Phys. Rev. B* 77, 035324 (2008) (11 pages)

[171] J.-M. Brosi, C. Koos, L.C. Andreani, M. Waldow, J. Leuthold, and W. Freude, “*High-speed low-voltage electro-optic modulator with a polymer-infiltrated silicon photonic crystal waveguide*”, *Optics Express* 16, 4177-4191 (2008).
DOI: 10.1364/OE.16.004177

[172] L.J. Martinez, A. Rodriguez Alija, P.A. Postigo, J.F. Galisteo-Lopez, M. Galli, L.C. Andreani, C. Seassal, and P. Viktorovitch, “*Effect of implementation of a Bragg reflector in the photonic band structure of the Suzuki-phase photonic crystal lattice*”, *Opt. Express* 16, 8509-8518 (2008).

[173] M. Belotti, J.F. Galisteo-López, S. De Angelis, M. Galli, I. Maksymov, L.C. Andreani, D. Peyrade, and Y. Chen, “*All-optical switching in 2D silicon photonic crystals with low loss waveguides and optical cavities*”, *Optics Express* 16, 11624-11636 (2008).
<http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-16-15-11624>
doi:10.1364/OE.16.011624

[174] F. De Angelis, M. Patrini, G. Das, I. Maksymov, M. Galli, L. Businaro, L.C. Andreani, and E. Di Fabrizio, “*A Hybrid Plasmonic-Photonic Nanodevice for Label-Free Detection of a Few Molecules*”, *Nanoletters* 8, 2321-2327 (2008).
<http://pubs.acs.org/doi/abs/10.1021/nl801112e>

[175] T. P. White, L. O’Faolain, Juntao Li, L. C. Andreani, and T. F. Krauss, “*Silica-embedded silicon photonic crystal waveguides*”, *Optics Express* 16, 17076-17081 (2008).

[176] S. Vignolini, F. Riboli, F. Intonti, M. Belotti, M. Gurioli, Y. Chen, M. Colocci, L. C. Andreani, and D. S. Wiersma, “*Local nanofluidic light sources in silicon photonic crystal microcavities*”, *Phys. Rev. E* 78, 045603R (2008).
DOI: 10.1103/PhysRevE.78.045603
<http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=PLEEE8000078000004045603000001&idtype=cvips&gifs=yes>

[177] L. C. Andreani, A. Balestreri, J. F. Galisteo-López, M. Galli, M. Patrini, E. Descrovi, A. Chiodoni, F. Giorgis, L. Pallavidino, and F. Geobaldo, “*Optical response with threefold symmetry axis on oriented microdomains of opal photonic crystals*”, *Phys. Rev. B* 78, 205304 (2008).
DOI: 10.1103/PhysRevB.78.205304
<http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=PRBMD0000078000020205304000001&idtype=cvips&gifs=yes>

[178] C. Creatore and L.C. Andreani, “*Quantum theory of spontaneous emission in multilayer dielectric structures*”, *Phys. Rev. A* 78, 063825 (2008) [15 pages].
DOI: 10.1103/PhysRevA.78.063825

[179] M. Galli, S.L. Portalupi, M. Belotti, L.C. Andreani, L. O’Faolain, and T.F. Krauss, “Light scattering and Fano resonances in high-Q photonic crystal Nanocavities”, *Appl. Phys. Lett.* 94, 071101 (2009).

[180] C. Creatore, L. C. Andreani, M. Miritello, R. Lo Savio, and F. Priolo, “Modification of erbium radiative lifetime in planar silicon slot waveguides”, *Appl. Phys. Lett.* 94, 103112 (2009).
DOI: 10.1063/1.3098072

[181] A. Irrera, M. Galli, M. Miritello, R. LoSavio, F. Iacona, G. Franzò, A. Canino, A.M. Piro, M. Belotti, D. Gerace, A. Politi, M. Liscidini, M. Patrini, D. Sanfilippo, P.G. Fallica, L.C. Andreani, and F. Priolo: “*New approaches for enhancing light emission from Er-based materials and devices*”, *Physica E* 41, 891–898 (2009).
DOI: 10.1016/j.physe.2008.08.050

[182] L.J. Martinez, B. Alén, I. Prieto, J.F. Galisteo-López, M. Galli, L.C. Andreani, C. Seassal, P. Viktorovitch, and P.A. Postigo, “*Two-dimensional surface emitting photonic crystal laser with hybrid triangular-graphite structure*”, *Opt. Express* 17, 15043-15051 (2009).
DOI: 10.1364/OE.17.015043

[183] C. Creatore, L.C. Andreani, M. Galli, M. Miritello, R. Lo Savio, and F. Priolo, “Theoretical and experimental investigation of radiative decay rates in active slot waveguides”, *J. Opt. A: Pure Appl. Opt.* 11 (2009) 114011 (11pp)
DOI: 10.1088/1464-4258/11/11/114011

[184] D. Bajoni, D. Gerace, M. Galli, J. Bloch, R. Braive, I. Sagnes, A. Miard, A. Lemaître, M. Patrini, and L.C. Andreani, “*Exciton polaritons in two-dimensional photonic crystals*”, *Phys. Rev. B* **80**, 201308(R) (2009)
DOI: 10.1103/PhysRevB.80.201308

[185] F. De Angelis, G. Das, P. Candeloro, M. Patrini, M. Galli, A. Bek, M. Lazzarino, I. Maksymov, C. Liberale, L. C. Andreani, and E. Di Fabrizio, “*Nanoscale chemical mapping using three-dimensional adiabatic compression of surface plasmon polaritons*”, *Nature Nanotechnology* 5, 67-72 (2010)
DOI: 10.1038/nnano.2009.348

[186] M. Belotti, M. Galli, D. Gerace, L.C. Andreani, G. Guizzetti, A.R. Md Zain, N.P. Johnson, M. Sorel, and R. M. De La Rue, “All-optical switching in silicon-on-insulator photonic wire nano-cavities”, *Optics Express* 18, 1450-1461 (2010)
DOI: 10.1364/OE.18.001450

[187] S. Zanotto, M. Liscidini and L.C. Andreani, “Light trapping regimes in thin-film silicon solar cells with a photonic pattern”, *Opt. Express* 18, 4260-4274 (2010).
DOI: 10.1364/OE.18.004260

[188] E. Estephan, D. Bajoni, M. B. Saab, T. Cloitre, R. Aulombard, C. Larroque, L. C. Andreani, M. Liscidini, A. M. Malvezzi, and C. Gergely: “Sensing by Means of Nonlinear Optics with Functionalized GaAs/AlGaAs Photonic Crystals”, *Langmuir* 26, 10373-10379 (2010).
DOI: 10.1021/la1000792

[189] A. Auffèves, D. Gerace, J.-M. Gérard, M. França Santos, L. C. Andreani, and J.-P. Poizat, “Controlling the dynamics of a coupled atom-cavity system by pure dephasing”, *Phys. Rev. B* 81, 245419 (2010) [10 pages]
DOI: 10.1103/PhysRevB.81.245419

[190] S. L. Portalupi, M. Galli, C. Reardon, T. F. Krauss, L. O’Faolain, L. C. Andreani, and D. Gerace, “Planar photonic crystal cavities with far-field optimization for high coupling efficiency and quality factor”, *Optics Express* 18, 16064-16073 (2010)
DOI: 10.1364/OE.18.016064

- [191] S. Ferretti, L.C. Andreani, H. E. Türeci, and D. Gerace, “Photon correlations in a two-site nonlinear cavity system under coherent drive and dissipation”, *Phys. Rev. A* 82, 013841 (2010) [8 pages]
DOI: 10.1103/PhysRevA.82.013841
- [192] M. Galli, D. Gerace, K. Welna, T.F. Krauss, L. O’Faolain, G. Guizzetti, and L. C. Andreani, “Low-power continuous-wave generation of visible harmonics in silicon photonic crystal nanocavities”, *Optics Express* 18, 26613-26624 (2010)
DOI: 10.1364/OE.18.026613
- [193] L. Pallavidino, M. Liscidini, A. Virga, A. Chiodoni, E. Descrovi, J. Cos, L. C. Andreani, C. F. Pirri, F. Geobaldo, F. Giorgis:
“Synthesis of amorphous silicon/magnesia based direct opals with tunable optical properties”
Optical Materials 33, 563-569 (2011)
DOI:10.1016/j.optmat.2010.11.003
- [194] Davide Mascoli, Dario Gerace, Lucio Claudio Andreani, “Q-factor optimization for TM-like modes in pillar-based photonic crystal cavities with planar slot waveguides”, *Photonics and Nanostructures: Fundamental and Applications* 9, 63-69 (2011)
doi:10.1016/j.photonics.2010.10.001
- [195] R. Lo Savio, S. L. Portalupi, D. Gerace, A. Shakoor, T. F. Krauss, L. O’Faolain, L. C. Andreani, and M. Galli, “Room-temperature emission at telecom wavelengths from silicon photonic crystal nanocavities”, *Appl. Phys. Lett.* **98**, 201106 (2011)
doi:10.1063/1.3591174
- [196] S. L. Portalupi, M. Galli, M. Belotti, L. C. Andreani, T. F. Krauss, and L. O’Faolain, “Deliberate versus intrinsic disorder in photonic crystal nanocavities investigated by resonant light scattering”, *Phys. Rev. B* 84, 045423 (2011)
DOI: 10.1103/PhysRevB.84.045423
- [197] Angelo Bozzola, Marco Liscidini, and Lucio Claudio Andreani, “Photonic light-trapping versus Lambertian limits in thin film silicon solar cells with 1D and 2D periodic patterns”, *Optics Express* Vol. 20, Iss. S2, pp. A224–A244 (2012)
DOI: 10.1364/OE.20.00A224
- [198] L. Cavigli, A. Vinattieri, M. Colocci, D. Gerace, L.C. Andreani, A. Piana, D. Sanfilippo, A. Muscarà, E. Marcellino, D. Rodilosso, M.E. Castagna, M. Gurioli, “*Ultra-large tuning of photonic modes for efficient Er-doped silicon-based emitters*”, *Photon. Nanostr. Fundam. Appl.* 10, 547-552 (2012).
<http://dx.doi.org/10.1016/j.photonics.2012.04.008>
- [199] Lucio Claudio Andreani, Paolo Andrich, Matteo Galli, Dario Gerace, Liam O’Faolain, and Thomas F. Krauss, “*Nonlinear optics in silicon photonic crystal nanocavities*”, in “*Optical Properties of Photonic Structures: Interplay of Order and Disorder*”, edited by Mikhail F. Limonov and Richard M. De La Rue, ISBN 9781439871911 (Taylor & Francis – CRC Press, 2012), pp. 361-378
- [200] Filippo Alpeggiani, Stefania D’Agostino, and Lucio Claudio Andreani, “*Surface plasmons and strong light-matter coupling in metallic nanoshells*”, *Physical Review B* 86, 035421 (2012) [14 pages]
DOI: 10.1103/PhysRevB.86.035421
- [201] Stefano Azzini, Davide Grassani, Matteo Galli, Lucio Claudio Andreani, Marc Sorel, Michael J. Strain, L. G. Helt, J. E. Sipe, Marco Liscidini, and Daniele Bajoni, “From classical four-wave mixing to parametric fluorescence in silicon microring resonators”, *Optics Letters* 37, 3807-3809 (2012).
- [202] P. Kowalczewski, M. Liscidini and L.C. Andreani, “Engineering Gaussian disorder at rough interfaces for light trapping in thin-film solar cells”, *Optics Letters* 37, 4868-4870 (2012).

<http://dx.doi.org/10.1364/OL.37.004868>

[203] A. Shakoor, R. Lo Savio, S.L. Portalupi, D. Gerace L.C. Andreani, M. Galli, T.F. Krauss, and L. O'Faolain (2012). "Enhancement of room temperature sub-bandgap light emission from silicon photonic crystal nanocavity by Purcell effect", *Physica B: Condensed Matter* (ISSN:0921-4526) 407, 4027 - 4031 (2012).

DOI: 10.1016/j.physb.2011.12.115

[204] Cristian Bonato, Jenna Hagemeyer, Dario Gerace, Susanna M. Thon, Hyochul Kim, Lucio C. Andreani, Pierre M. Petroff, Martin P. van Exter, and Dirk Bouwmeester, "Far-field emission profiles from L3 photonic crystal cavity modes", *Photon. Nanostruct. Fundam. Appl.* 11, 37-47 (2013)

Web site: <http://www.sciencedirect.com/science/article/pii/S1569441012000880>

DOI: 10.1016/j.photonics.2012.07.003

[205] Stefania D'Agostino, Fabio Della Sala, Lucio Claudio Andreani, "Dipole Decay Rates Engineering via Silver Nanocones", *Plasmonics* 8, 1079-1086 (2013).

Web site: <http://link.springer.com/article/10.1007%2Fs11468-013-9512-3#>

DOI: 10.1007/s11468-013-9512-3

[206] Christian S. Schuster, Piotr Kowalczewski, Emiliano R. Martins, Maddalena Patrini, Mark G. Scullion, Marco Liscidini, Liam Lewis, Christopher Reardon, Lucio C. Andreani, and Thomas F. Krauss, "Dual gratings for enhanced light trapping in thin-film solar cells by a layer-transfer technique", *Optics Express* Vol. 21, Iss. S3, pp. A433–A439 (2013)

DOI: 10.1364/OE.21.00A433

URL: <http://www.opticsinfobase.org/oe/abstract.cfm?uri=oe-21-103-A433>

[207] Stefania D'Agostino, Fabio Della Sala, and Lucio Claudio Andreani, "Dipole-excited surface plasmons in metallic nanoparticles: Engineering decay dynamics within the discrete-dipole approximation", *Phys. Rev. B* 87, 205413 (2013) [13 pages]

DOI: 10.1103/PhysRevB.87.205413

[208] R. Lo Savio, M. Miritello, A. Shakoor, P. Cardile, K. Welna, L. C. Andreani, D. Gerace, T. F. Krauss, L. O'Faolain, F. Priolo, and M. Galli, "Enhanced 1.54 μm emission in Y-Er disilicate thin films on silicon photonic crystal cavities", *Optics Express* 21, 10278-10288 (2013)

DOI: 10.1364/OE.21.010278

[209] P. Kowalczewski, M. Liscidini and L.C. Andreani, "Light trapping in thin-film solar cells with randomly rough and hybrid textures", *Optics Express* 21 (S5), A808-A820 (2013).

DOI: 10.1364/OE.21.00A808

[210] Lee Carroll, Dario Gerace, Ilaria Cristiani, Sylvie Menezo, and Lucio C. Andreani, "Broad parameter optimization of polarization-diversity 2D grating couplers for silicon photonics", *Optics Express*, Vol. 21, Issue 18, pp. 21556-21568 (2013).

<http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-21-18-21556&origin=search>

Doi: 10.1364/OE.21.021556

[211] Stefania D'Agostino, Filippo Alpeggiani, and Lucio Claudio Andreani, "Strong coupling between a dipole emitter and localized plasmons: enhancement by sharp silver tips", *Optics Express* 21, 27602-27610 (2013)

<http://www.opticsinfobase.org/oe/abstract.cfm?uri=oe-21-23-27602>

DOI: 10.1364/OE.21.027602

[212] Stefania D'Agostino, Fabio Della Sala, and Lucio Claudio Andreani, "Radiative coupling of high-order plasmonic modes with far-field", *Photonics and Nanostructures – Fundamentals and Applications* 11, 335–344 (2013)

<http://www.sciencedirect.com/science/article/pii/S1569441013000382#>

DOI: 10.1016/j.photonics.2013.06.003

[213] Filippo Alpegiani and Lucio Claudio Andreani, "Josephson surface plasmons in spatially confined cuprate superconductors", *Phys. Rev. B* 88, 174513, 8 pages (2013)

DOI: 10.1103/PhysRevB.88.174513

URL: <http://link.aps.org/doi/10.1103/PhysRevB.88.174513>

[214] A. Bozzola, P. Kowalczewski, and L. C. Andreani, "Towards high efficiency thin-film crystalline silicon solar cells: The roles of light trapping and non-radiative recombinations", *J. Appl. Phys.* 115, 094501 (2014) (10 pages)

DOI: 10.1063/1.4867008

URL: <http://link.aip.org/link/?JAP/115/094501&aemail=author>

[215] Christian S Schuster, Angelo Bozzola, Lucio C Andreani, and Thomas F Krauss, "How to assess light trapping structures versus a Lambertian Scatterer for solar cells?", *Optics Express* 22, A542-A551 (2014).

DOI: 10.1364/OE.22.00A542

URL: <http://www.opticsinfobase.org/oe/abstract.cfm?uri=oe-22-S2-A542>

[216] **Review paper** - Lucio Claudio Andreani, "Exciton-polaritons in bulk semiconductors and in confined electron and photon systems", in "Strong Light-Matter Coupling: From Atoms to Solid-State Systems", edited by A. Auffèves, D. Gerace, M. Richard, S. Portolan, M. F. Santos, L.C. Kwek, and C. Miniatura (World Scientific, Singapore, 2014), pp. 37-82.

[217] R. Lo Savio, M. Galli, M. Liscidini, L. C. Andreani, G. Franzò, F. Iacona, M. Miritello, A. Irrera, D. Sanfilippo, A. Piana and F. Priolo, "Photonic crystal light emitting diode based on Er and Si nanoclusters co-doped slot waveguide", *Appl. Phys. Lett.* 104, 121107 (2014);

DOI: 10.1063/1.4869751

URL: <http://scitation.aip.org/content/aip/journal/apl/104/12/10.1063/1.4869751>

[218] Sthy Flores Daorta, Antonio Proto, Roberto Fusco, Lucio Claudio Andreani, and Marco Liscidini, "Cascade luminescent solar concentrators", *Appl. Phys. Lett.* 104, 153901 (2014);

DOI: 10.1063/1.4871481

URL: <http://scitation.aip.org/content/aip/journal/apl/104/15/10.1063/1.4871481>

[219] Filippo Alpegiani and Lucio Claudio Andreani, "Quantum Theory of Surface Plasmon Polaritons: Planar and Spherical Geometries", *Plasmonics* (2014);

DOI: 10.1007/s11468-014-9703-6

URL: <http://link.springer.com/article/10.1007%2Fs11468-014-9703-6>

[220] A. Bozzola, M. Liscidini, and L. C. Andreani, "Broadband light trapping with disordered photonic structures in thin-film silicon solar cells", *Progr. Photovolt: Res. Appl.* 22 (12), 1237–1245 (2014) (9 pages)

DOI: 10.1002/pip.2385

URL: <http://onlinelibrary.wiley.com/doi/10.1002/pip.2385/abstract>

[221] B Askenazi, A Vasanelli, A Delteil, Y Todorov, L C Andreani, G Beaudoin, I Sagnes, and C Sirtori, "Ultra-strong light-matter coupling for designer Reststrahlen band", *New Journal of Physics* 16, 043029 (2014) (15 pages)

DOI:10.1088/1367-2630/16/4/043029

URL: <http://iopscience.iop.org/1367-2630/16/4/043029>

[222] Lee Carroll, Dario Gerace, Ilaria Cristiani, and Lucio C. Andreani, "Optimizing polarization-diversity couplers for Si-photonics: reaching the -1dB coupling efficiency threshold", *Optics Express* 22 (12) 14769-14781 (2014).

DOI: 10.1364/OE.22.014769

URL: <http://www.opticsinfobase.org/oe/abstract.cfm?uri=oe-22-12-14769>

[223] Piotr Kowalczewski, Angelo Bozzola, Marco Liscidini, and Lucio Claudio Andreani, "Light trapping and electrical transport in thin-film solar cells with randomly rough textures", *J. Appl. Phys.* 115, 194504 (2014) (8 pages)

DOI: 10.1063/1.4876223

URL: <http://scitation.aip.org/content/aip/journal/jap/115/19/10.1063/1.4876223>

[224] Filippo Alpegiani and Lucio Claudio Andreani, "Semiclassical theory of multisubband plasmons: Nonlocal electrodynamics and radiative effects", *Phys. Rev. B* 90, 115311 (2014) (13 pp)

DOI: 10.1103/PhysRevB.90.115311

URL: <http://journals.aps.org/prb/abstract/10.1103/PhysRevB.90.115311>

[225] Lucio Claudio Andreani, Angelo Bozzola, Piotr Kowalczewski, and Marco Liscidini, "Photonic light trapping and electrical transport in thin-film silicon solar cells", *Solar Energy Materials and Solar Cells* 135, 78-92 (2015).

DOI: 10.1016/j.solmat.2014.10.012

URL: <http://www.sciencedirect.com/science/article/pii/S0927024814005431>

[226] Angelo Bozzola, Piotr Kowalczewski, and Lucio Claudio Andreani: Response to "Comment on 'Towards high efficiency thin-film crystalline silicon solar cells: The roles of light trapping and non-radiative recombinations'", *J. Appl. Phys.* 117, 026101 (2015).

DOI: 10.1063/1.4905183

URL: <http://scitation.aip.org/content/aip/journal/jap/117/2/10.1063/1.4905183>

[227] Stefania D'Agostino, Fabio Della Sala and Lucio Claudio Andreani: "Perturbations of Dipole Decay Dynamics Induced by Plasmonic Nano-antennas – A Study within the Discrete Dipole Approximation", *Nanomaterials and Nanotechnology* (2015).

doi: 10.5772/60566

URL:

[228] Angelo Bozzola, Lee Carroll, Dario Gerace, Ilaria Cristiani, and Lucio Claudio Andreani, "Optimising apodized grating couplers in a pure SOI platform to -0.5 dB coupling efficiency", *Optics Express* 23, 16289-16304 (2015).

DOI: 10.1364/OE.23.016289

URL: <https://www.osapublishing.org/oe/abstract.cfm?uri=oe-23-12-16289>

[229] Piotr Kowalczewski, and Lucio Claudio Andreani: "Towards the efficiency limits of silicon solar cells: How thin is too thin?", *Solar Energy Materials & Solar Cells* 143 (2015) 260–268.

DOI: 10.1016/j.solmat.2015.06.054

URL: <http://www.sciencedirect.com/science/article/pii/S0927024815003232>

[230] Filippo Alpegiani, Lucio Claudio Andreani, and Dario Gerace: Effective bichromatic potential for ultra-high Q-factor photonic crystal slab cavities", *Appl. Phys. Lett.* 107, 261110 (2015).

DOI: 10.1063/1.4938395

URL: <http://scitation.aip.org/content/aip/journal/apl/107/26/10.1063/1.4938395>

[231] Marco Liscidini and Lucio Claudio Andreani: "Photonic Crystals: An Introductory Survey", in *Organic and Hybrid Photonic Crystals*, edited by D. Comoretto (Springer International Publishing Switzerland 2015), pp. 3-29.

DOI 10.1007/978-3-319-16580-6_1

[232] Angelo Bozzola, Valentina Robbiano, Katia Sparnacci, Giulia Aprile, Luca Boarino, Antonio Proto, Roberto Fusco, Michele Laus, Lucio Claudio Andreani, and Davide Comoretto, "A Multi-optical Collector

of Sunlight Employing Luminescent Materials and Photonic Nanostructures”, *Advanced Optical Materials* 4, 147-155 (2016).

DOI: 10.1002/adom.201500327

URL: <http://onlinelibrary.wiley.com/doi/10.1002/adom.201500327/abstract>

[233] Piotr Kowalczewski, Lisa Redorici, Angelo Bozzola, and Lucio Claudio Andreani, “Silicon solar cells reaching the efficiency limits: from simple to complex modelling”, *Journal of Optics* 18 (5) 054001 (11pp) (2016).

DOI: 10.1088/2040-8978/18/5/054001

URL: <http://iopscience.iop.org/article/10.1088/2040-8978/18/5/054001/meta>

[234] M. Passoni, D. Gerace, L. Carroll, L.C. Andreani, “Grating couplers in silicon-on-insulator: The role of photonic guided resonances on lineshape and bandwidth”, *Appl. Phys. Lett.* 110, 041107 (2017);

doi: 10.1063/1.4974992

URL: <http://aip.scitation.org/doi/full/10.1063/1.4974992>

[235] A. Simbula, M. Schatzl, L. Zagaglia, F. Alpeggiani, L. C. Andreani, F. Schäffler, T. Fromherz, M. Galli, and D. Gerace, “Realization of high-Q/V photonic crystal cavities defined by an effective Aubry-André-Harper bichromatic potential”, *APL Photonics* 2, 056102 (6pp) (2017).

doi: 10.1063/1.4979708

URL: <http://dx.doi.org/10.1063/1.4979708>

[236] M. Passoni, D. Gerace, L. O’Faolain, and L.C. Andreani, “Optimizing band-edge slow light in Silicon-on-insulator waveguide gratings”, *Optics Express* 26 (7), 8470-8478 (2018).

DOI: 10.1364/OE.26.008470

URL: <https://doi.org/10.1364/OE.26.008470>

[237] C Mennucci, S Del Sorbo, S Pirotta, M Galli, L C Andreani, C Martella, M C Giordano and F Buatier de Mongeot, “Light scattering properties of self-organized nanostructured substrates for thin-film solar cells”, *Nanotechnology* 29 (2018) 355301 (11pp)

DOI: 10.1088/1361-6528/aac9ac

URL: <https://doi.org/10.1088/1361-6528/aac9ac>

[238] M. Passoni, F. Floris, H. Y. Hwang, L. Zagaglia, L. Carroll, L. C. Andreani, and P. O’Brien, “Co-optimizing grating couplers for hybrid integration of InP and SOI photonic platforms”, *AIP Advances* 8, 095109(7pp) (2018)

DOI: 10.1063/1.5046164

URL: <https://doi.org/10.1063/1.5046164>

[239] Antonio Fieramosca, Luisa De Marco, Marco Passoni, Laura Polimeno, Aurora Rizzo, Barbara L. T. Rosa, Giuseppe Cruciani, Lorenzo Dominici, Milena De Giorgi, Giuseppe Gigli, Lucio C. Andreani, Dario Gerace, Dario Ballarini, and Daniele Sanvitto, “Tunable Out-of-Plane Excitons in 2D Single-Crystal Perovskites”, *ACS Photonics* 5, 4179–4185 (2018)

DOI: 10.1021/acsp Photonics.8b00984

URL: <https://pubs.acs.org/doi/10.1021/acsp Photonics.8b00984>

[240] Lucio Claudio Andreani, Angelo Bozzola, Piotr Kowalczewski, Marco Liscidini, and Lisa Redorici: “Silicon solar cells: toward the efficiency limits”, *Advances in Physics X*, Vol. 4, no 1, art. no. 1548305, pp. 122-145 (2018)

DOI: 10.1080/23746149.2018.1548305

URL: <https://www.tandfonline.com/doi/full/10.1080/23746149.2018.1548305> or <https://doi.org/10.1080/23746149.2018.1548305>

[241] Saeid Rafizadeh, Karl Wienands, Patricia S. C. Schulze, Alexander J. Bett, Lucio Claudio Andreani, Martin Hermle, Stefan Glunz, and Jan Christoph Goldschmidt, “Efficiency Enhancement and Hysteresis

Mitigation by Manipulation of Grain Growth Conditions in Hybrid Evaporated–Spin-coated Perovskite Solar Cells”, ACS Appl. Mater. Interfaces 11, 722-729 (2019).

DOI: 10.1021/acsami.8b16963

URL: <https://pubs.acs.org/doi/10.1021/acsami.8b16963>

[242] M. Passoni, D. Gerace, L. O’Faolain, L.C. Andreani: “Slow light with interleaved p-n junction to enhance performance of integrated Mach-Zehnder silicon modulators”, Nanophotonics 8(9), 1485-1494 (2019) <https://doi.org/10.1515/nanoph-2019-0045>

[243] Saeid Rafizadeh, Karl Wienands, Laura E. Mundt, Alexander J. Bett, Patricia S. C. Schulze , Lucio Claudio Andreani, Martin Hermle, Stefan W. Glunz , and Jan Christoph Goldschmidt: “The Role of Surface Passivation Layer Preparation on Crystallization and Optoelectronic Performance of Hybrid Evaporated-Spincoated Perovskite Solar Cells”, IEEE J. Photov. 9 (5), 1428-2435 (2019)

DOI: 10.1109/JPHOTOV.2019.2922388

URL: <https://ieeexplore.ieee.org/document/8745671>

[244] Maarten van Eerden, Gerard J. Bauhuis,| Peter Mulder, Natasha Gruginskie, Marco Passoni, Lucio C. Andreani, Elias Vlieg, and John J. Schermer, “A facile light-trapping approach for ultrathin GaAs solar cells using wet chemical etching”, Prog Photovolt Res Appl. Vol. 28, issue 3, pp 200-209 (2020).

DOI: 10.1002/PIP.3220

URL: <https://onlinelibrary.wiley.com/doi/full/10.1002/pip.3220>

[245] Gianluca Timò, Alessio Martinelli and Lucio Claudio Andreani, “A new theoretical approach for the performance simulation of multijunction solar cells”, Progress in Photovoltaics – Research and Applications (2020) 1:16

DOI: 10.1002/pip.3225

URL: <https://onlinelibrary.wiley.com/doi/epdf/10.1002/pip.3225>

[246] Marco Passoni, Dario Gerace, Liam O’Faolain, and Lucio Claudio Andreani, “Optimizing interleaved p-n junction to reduce energy dissipation in silicon slow-light modulators”, Photonics Research 8, 457-466 (2020).

DOI: 10.1364/PRJ.382620

URL: <https://www.osapublishing.org/prj/abstract.cfm?uri=prj-8-4-457>

[247] E. Petronijevic, H. Ali, N. Zaric, A. Belardini, G. Leahu, T. Cesca, G. Mattei, L. C. Andreani, and C. Sibilina, “Chiral effects in low-cost plasmonic arrays of elliptic nanoholes”, Opt. Quantum Electron. Vol. 52, art. No. 176, 10pp (2020).

DOI: 10.1007/s11082-020-02279-8

URL: <https://link.springer.com/article/10.1007/s11082-020-02279-8>

[248] Momchil Minkov, Ian A. D. Williamson, Lucio C. Andreani, Dario Gerace, Beicheng Lou, Alex Y. Song, Tyler W. Hughes, and Shanhui Fan, “Inverse Design of Photonic Crystals through Automatic Differentiation”, ACS Photonics 7, 1729–1741 (2020).

DOI: 10.1021/acsp Photonics.0c00327

URL: <https://pubs.acs.org/doi/abs/10.1021/acsp Photonics.0c00327>

Patents:

2019: M. Passoni, D. Gerace, L. O’Faolain, L.C. Andreani: “Electro-optic modulator with periodic p-n junction in slow-light waveguide gratings”, IT patent filing no. 102019000006998, 20/05/2019. Università di Pavia & Cork Institute of Technology.

2015: R. Fusco, L. Andreani, A. Bozzola, D. Comoretto, V. Robbiano, M. Laus, K. Sparnacci: “Dispositivo fotovoltaico a concentrazione ibrida” MI2015A000091. “Hybrid concentrated photovoltaic device”, WO 2016/120264, PCT/EP2016/051557. ENI SpA & University of Pavia.

2013: R. Fusco, M. Liscidini, S.W. Flores Daorta, L. Andreani: "Dispositivo per la concentrazione della luce". MI2013A001062, Eni SpA & University of Pavia. EU extension underway.

2008: P. Postigo, ..., L.C. Andreani et al, "Uso de material modificado en su topografia superficial en dispositivos que generen una corriente electrica a partir de luz incidente" 200801231, CSIC, Univ. Politécnic de Madrid, Univ. di Pavia.