Invited Publications:

1. G. Biasiol and E. Kapon, "Formation of low-dimensional semiconductor nanostructures on corrugated surfaces", *Festkoerperprobleme/Advances in Solid State Physics* ***39****, 141 (1999)*.
2. G. Biasiol and L. Sorba, "Molecular beam epitaxy: principles and applications", in *Crystal growth of materials for energy production and energy-saving applications*, R. Fornari, L. Sorba, Eds. (Edizioni ETS, Pisa, 2001) pp. 66-83.
3. J. Eymery, G. Biasiol, E. Kapon, and T. Ogino, "Nanometric artificial structuration of semiconductor surfaces for crystalline growth", *C. R. Physique.* ***6****, 105 (2005).*
4. G. Biasiol and S. Heun, "Compositional Mapping of Semiconductor Quantum Dots and Rings", *Physics Reports (in press).*
5. G. Biasiol, S. Heun, and L. Sorba, "Photoemission microscopy studies of quantum dots and rings", *J. Nanoelectron. Optoe. (in press).*

Publications:

6. G. Bratina, L. Sorba, A. Antonini, G. Biasiol, and A. Franciosi, "AlAs-GaAs Heterojunction Engineering by Means of Group IV Elemental Interface Layers", *Phys. Rev. B Rap. Comm.* ***45*** *(8), 4528 (1992).*
7. G. Bratina, L. Sorba, G. Biasiol, L. Vanzetti, and A. Fanciosi, "AlAs-GaAs Heterojunction Engineering by Means of Group IV Interface Layers", *MRS Proceedings* ***240****, 603 (1992).*
8. G. Biasiol, L. Sorba, G. Bratina, R. Nicolini, A. Fanciosi, M. Peressi, S. Baroni, R. Resta, and A. Baldereschi, "Microscopic Capacitors and Neutral Interfaces in III-V/IV/III-V Semiconductor Heterostructures", *Phys. Rev. Lett.* ***69*** *(8), 1283 (1992).*
9. L. Sorba, G. Biasiol, G. Bratina, R. Nicolini, and A. Fanciosi, "Charged Versus Neutral Interfaces in III-V/Ge Quantum Wells", *J. Cryst. Growth* ***127****, 93 (1993).*
10. A. Franciosi, L. Sorba, G. Bratina, and G. Biasiol, "Modification of Heterojunction Band Offsets at III-V/IV/III-V Interfaces" *J. Vac. Sci. Technol. B* ***11*** *(4), 1628 (1993).*
11. X. Yu, A. Raisanen, G. Haugstad, N. Troullier, G. Biasiol, and A. Franciosi, "Nonmagnetic/semimagnetic Semiconductor Heterostructures: $Ge/Cd_{1-x}Mn_xTe(110)$", *Phys. Rev. B* ***48*** *(7), 4545 (1993).*
12. G. Bratina, L. Sorba, A. Antonini, G. Ceccone, R. Nicolini, G. Biasiol, A. Franciosi, J. E. Angelo, and W. W. Gerberich, "Band Offsets and Strain in CdTe-GaAs Heterostructures", *Phys. Rev. B* ***48*** *(12), 8899 (1993).*
13. G. Biasiol, L. Sorba, G. Bratina, R. Nicolini, and A. Fanciosi, "Modification of Heterojunction Band Offsets at III-V/IV/III-V Interfaces" in *Physical Concepts and Materials for Novel Optoelectronic Device Applications II,* F. Beltram and E. Gornik, Eds., *Proc. SPIE,* ***1985****, 92 (1993).*
14. A. Franciosi, L. Sorba, G. Bratina, L. Vanzetti, Guido Mula, G. Biasiol, and R. Nicolini, "Novel Materials for Optoelectronics", *Alta Frequenza (Italy)* ***5*** *(4), 214 (1993).*

15. L. Sorba, G. Bratina, G. Biasiol and A. Franciosi, "Microscopic Control of Band Offsets in Semiconductor Heterostructures", in *Formation of Semiconductor Interfaces*, B. Lengeler, H. Lüth, W. Mönch, and J. Pollmann, eds. (World Scientific, Singapore, 1994), pp. 589-596.
16. M. Cantile, L. Sorba, S. Yildirim, P. Faraci, G. Biasiol, A. Franciosi, T. J. Miller, and M. I. Nathan, "Silicon-Induced Local Interface Dipole in Al/GaAs(001) Schottky Diodes", *Appl. Phys. Lett.* ***64*** *(8), 988 (1994)*.
17. M. Cantile, L. Sorba, P. Faraci, G. Biasiol, G. Bratina, A. Franciosi, T. J. Miller, M. I. Nathan, and L. Tapfer: "Modification of Al/GaAs(001) Schottky Barriers by Means of Heterovalent Interface Layers", *J. Vac. Sci. Technol. B* ***12*** *(4), 2653 (1994)*.
18. G. Bratina, L. Vanzetti, L. Sorba, G. Biasiol, A. Franciosi, M. Peressi, and S. Baroni: "Lack of Band-Offset Transitivity for Semiconductor Heterojunctions with Polar Orientation: ZnSe-Ge(001), Ge-GaAs(001), and ZnSe-GaAs(001)", *Phys. Rev. B* ***50*** *(16), 11723 (1994).*
19. A. Franciosi, L. Vanzetti, A. Bonanni, L. Sorba, G. Bratina, and G. Biasiol, "Interfacial Engineering in Blue Laser Structures", in *II-VI Blue/Green Laser Diodes*, R.L. Gunshor and A.V. Nurmikko, Eds., *Proc. SPIE* ***2346****, 100 (1994)*.
20. G. Bratina, G. Biasiol, L. Vanzetti, A. Bonanni, L. Sorba, and A. Franciosi, "Nanosize Stress Concentrators at Facets in Zn1-xCdxSe/ZnSe Multiple Quantum Well Laser Structures", in *II-VI Blue/Green Laser Diodes*, R.L. Gunshor and A.V. Nurmikko, Eds., *Proc. SPIE* ***2346****, 180 (1994)*.
21. L. Sorba, L. Vanzetti, G. Biasiol, G. Bratina, A. Franciosi, T.J. Miller, and M.I. Nathan, "1eV-wide Tunability of Schottky Barriers in Al/Si/GaAs(001) Junctions", in *Proceedings 22th Int. Conf. on the Physics of Semiconductors*, D.J. Lockwood, Ed. (World Scientific, Singapore, 1995), 584-587.
22. E. Kapon, G. Biasiol, D. M. Hwang, and E. Colas, "Seeded Self Ordering of Low-Dimensional Quantum Structures by Nonplanar Epitaxy", in *Low Dimensional Structures Prepared by Epitaxial Growth or Regrowth on Patterned Semiconductor Substrates*, K. Eberl, P. M. Petroff, and P. Demeester, Eds., *NATO ASI Series E, Applied sciences* ***298****, 291* (Kluwer Academic Publishers, Dordrecht, The Netherlands, 1995).
23. A. Gustafsson, F. Reinhardt, G. Biasiol, and E. Kapon, "Low-Pressure Organometallic Chemical Vapour Deposition of Quantum Wires on V-Grooved Substrates", *Appl. Phys. Lett.* ***67****, 3673 (1995)*.
24. E. Kapon, G. Biasiol, D. M. Hwang, and E. Colas, "Seeded Self Ordering of GaAs/AlGaAs Quantum Wires on Nonplanar Substrates", *Microelectron. J.* ***26****, 881 (1995).*
25. A. Gustafsson, B. Dwir, F. Reinhardt, G. Biasiol, J.-M. Bonard, and E. Kapon, "Microscopy Characterization of Quantum Wires Grown on Grooved Substrates", *Inst. Phys. Conf. Ser.* ***146****, 375 (1995).*
26. E. Kapon, G. Biasiol, D.M. Hwang, M. Walther, and E. Colas, "Self-Ordering Mechanism of Quantum Wires Grown on Nonplanar Substrates", *Sol. St. Electron.* ***40****, 815 (1996).*
27. B. Dwir, F. Reinhardt, G. Biasiol, and E. Kapon, "Cross-Sectional Atomic Force Imaging of Semiconductor Heterostructures", *Mat. Sci. Engin.* ***B37****, 83 (1996).*

28. G. Biasiol, F. Reinhardt, A. Gustafsson, E. Martinet, and E. Kapon, "Structure and Formation Mechanisms of AlGaAs V-Groove Vertical Quantum Wells Grown by Low Pressure Organometallic Chemical Vapor Deposition", *Appl. Phys. Lett.* ***69****, 2710 (1996)*.
29. F. Reinhardt, B. Dwir, G. Biasiol, and E. Kapon, "Atomic Force Microscopy of III-V Nanostructures in Air", *Appl. Surf. Sci.* ***104/105****, 529 (1996).*
30. G. Biasiol, E. Martinet, F. Reinhardt, A. Gustafsson, and E. Kapon, "Low-Pressure OMCVD Growth of AlGaAs Vertical Quantum Wells on Nonplanar Substrates", *J. Cryst. Growth* ***170****, 600 (1997)* [Addendum: *Ibid.* ***181****, 318 (1997)*].
31. F. Reinhardt, B. Dwir, G. Biasiol, and E. Kapon, "Step Ordering during OMCVD Growth on Non-Planar Substrates", *J. Cryst. Growth* ***170****, 689 (1997).*
32. E. Martinet, A. Gustafsson, G. Biasiol, F. Reinhardt, E. Kapon, and K. Leifer, "Carrier Quantum Confinement in Self-Ordered AlGaAs V-Groove Quantum Wells", *Phys. Rev. B Rap. Comm.* ***56****, 7096 (1997)*.
33. G. Biasiol, Y. Ducommun, A. Rudra, F. Reinhardt, A. Gustafsson, and E. Kapon, "Self-limiting OMCVD growth of quantum wire superlattices on nonplanar substrates", *Proc. EWMOVPE* ***E13 4*** *440 (1997).*
34. G. Biasiol, F. Reinhardt, A. Gustafsson, and E. Kapon, "Self-Limiting Growth of GaAs Surfaces on Non-Planar Substrates", *Appl. Phys. Lett.* ***71****, 1831 (1997)*.
35. G. Biasiol, F. Reinhardt, A. Gustafsson, and E. Kapon, "Self-Limiting Growth of GaAs on V-Grooved Substrates with Application to InGaAs/GaAs Quantum Wires", *J. Electron. Mat* ***26****, 1194 (1997)*.
36. A. Gustafsson, G. Biasiol, B. Dwir, F. Reinhardt, and E. Kapon, "Electron Microscopy Characterization of Low-Dimensional Semiconductor Structures Grown on V-Grooved Substrates", *Inst. Phys. Conf. Ser.* ***157****, 373 (1997)*.
37. E. Martinet, F. Reinhardt, A. Gustafsson, C. Constantin, G. Biasiol, and E. Kapon, "Self-ordering and Confinement in Strained InGaAs/AlGaAs V-Groove Quantum Wires Grown by Low-Pressure Organometallic Chemical Vapor Deposition", *Appl. Phys. Lett.* ***72****, 702 (1998).*
38. E. Kapon, F. Reinhardt, G. Biasiol, and A. Gustafsson, "Surface and Interface Properties of Quantum Nanostructures Grown on Nonplanar Substrates", *Appl. Surf. Sci.* ***123/124****, 674 (1998)*.
39. G. Biasiol, E. Kapon, Y. Ducommun, and A. Gustafsson, "Self Ordering of Quantum Wire Superlattices on V-Grooved Substrates", *Phys. Rev. B. Rap. Comm* ***57****, 9416 (1998).*
40. Y. Ducommun, E. Martinet, H. Weman, G. Biasiol, A. Gustafsson, and E. Kapon, "Structure and Optical Properties of V-Groove Quantum Wire Superlattices", *Physica E* ***2****, 954 (1998).*
41. G. Biasiol and E. Kapon, "Mechanisms of self-ordering of quantum nanostructures grown on nonplanar surfaces", *Phys. Rev. Lett.* ***81****, 2962 (1998)*.
42. G. Biasiol, F. Lelarge, K. Leifer, and E. Kapon, "Mechanisms of self-ordering of nanostructures in nonplanar OMCVD growth", *J. Crystal Growth* ***195****, 596 (1998).*
43. F. Lelarge, G. Biasiol, A. Rudra, A. Condo, and E. Kapon, "Self-ordered nanostructures grown by OMCVD on V-grooved substrates: experiments and Monte-Carlo simulations", *Microelectron. J.* ***30****, 461 (1999).*

44. G. Biasiol and E. Kapon, "Mechanism of self-limiting epitaxial growth on nonplanar substrates", *J. Cryst. Growth* ***201-202****, 62 (1999).*

45. G. Biasiol, F. Lelarge, K. Leifer, and E. Kapon, "Mechanisms of self-ordering of nanostructures on corrugated substrates", in *Proceedings 24th Int. Conf. on the Physics of Semiconductors*, (World Scientific, Singapore, 1999), IIID4.

46. C. Constantin, E. Martinet, A. Rudra, K. Leifer, F. Lelarge, G. Biasiol, and E. Kapon, "Organometallic chemical vapor deposition of V-groove InGaAs/GaAs quantum wires incorporated in planar Bragg microcavities", *J. Cryst. Growth* ***207****, 161 (1999).*

47. K. Leifer, A. Rudra, G. Biasiol, H. Michler, E. Blank, P. A. Buffat, and E. Kapon, "PEELS imaging and linescan study of concentration anisotropies in $Al_xGa_{1-x}As$ and in $In_yGa_{1-y}As$ heterostructures grown on non-planar substrates", *Inst. Phys. Conf. Ser.* ***164****, 27 (1999)*.

48. E. Martinet, M.-A. Dupertuis, F. Reinhardt, G. Biasiol, E. Kapon, O. Stier, M. Grundmann, and D. Bimberg, "Separation of strain and quantum-confinement effects in the optical spectra of quantum wires", *Phys. Rev. B* ***61****, 4488 (2000)*.

49. G. Biasiol, K. Leifer, and E. Kapon, "Self-Formation of Semiconductor Vertical Quantum Barriers by Epitaxial Growth on Corrugated Surfaces", *Phys. Rev. B* ***61****, 7223 (2000)*.

50. I. Kelson, C. V. Kaiser, Y. Levy, G. Biasiol, and E. Kapon, "Mapping of non-planar surfaces and film conformality by alpha-particle energy loss spectroscopy", *Nucl. Instrum. Meth. Phys. Res. B* ***170****, 483 (2000).*

51. G. Biasiol, A. Gustafsson, K. Leifer, and E. Kapon, "Mechanisms of self-ordering in nonplanar epitaxy of semiconductor nanostructures", *Phys. Rev. B* ***65****, 205306 (2002).*

52. S. Heun, M. Rudolf, M. Lazzarino, B. Bonanni, L. Gregoratti, A. Barinov, B. Kaulich, G. Biasiol, and L. Sorba, "Morphology and chemistry of S-treated GaAs(001) surfaces", *Surf. Rev. Lett.* ***9****, 413 (2002).*

53. Z. Zanolli, G. Scamarcio, F. Rizzi, M.S. Vitiello, A. Sabato, A. Elia, I.M. Catalano, P.M. Lugarà, M. Sibilano, P. Calabrese, L. Sorba, G. Biasiol, and M. Lazzarino, "GaAs-based Quantum Cascade Lasers: design, fabrication and perspective", *Atti del XVI Congresso dell'Associazione Italiana del Vuoto, 283 (2002).*

54. E. Prati, S. Faralli, M. Martinelli, G. Annino, G. Biasiol, and L. Sorba, "Improved microwave Hall effect measurements method", *Rev. Sci. Instr.* ***74****, 154 (2003)*.

55. S. Roddaro, V. Pellegrini, F. Beltram, G. Biasiol, L. Sorba, R. Raimondi, and G. Vignale, "Nonlinear quasiparticle tunneling between fractional quantum Hall edges", *Phys. Rev. Lett.* ***90****, 046805 (2003).*

56. D. Dini, R. Köhler, A. Tredicucci, G. Biasiol, L. Sorba, and F. Beltram, "Microcavity Polariton Splitting of Intersubband Transitions", *Phys. Rev. Lett.* ***90****, 116401 (2003).*

57. G. Biasiol, L. Sorba, D. Dini, R. Köhler, A. Tredicucci, and F. Beltram, "Electron-Photon Strong Coupling in Intersubband Resonators", *Inst. Phys. Conf. Ser.* **1*74****, 389 (2003).*

58. M. Lazzarino, G. Mori, D. Ercolani, G. Biasiol, B. Ressel, A. Colli, L. Sorba, A. Locatelli, S. Cherifi, A. Ballestrazzi, and S. Heun, "AFM anodization studied by Spectromicroscopy", *Nanotech 2003* ***3****, 51 (2003).*

59. G. Mori, M. Lazzarino, D. Ercolani, G. Biasiol, and L. Sorba, "Magnetic field and temperature dependence of an AFM-defined quantum point contact", *J. Vac. Sci. Technol. B **22**, 570 (2004).*

60. F. Capotondi, G. Biasiol, I. Vobornik, L. Sorba, F. Giazotto, A. Cavallini, and B. Fraboni, "Two-dimensional electron gas formation in undoped $In_{0.75}Ga_{0.25}As/In_{0.75}Al_{0.25}As$ quantum wells", *J. Vac. Sci. Technol. B **22**, 702 (2004).*

61. S. Roddaro, V. Pellegrini, F. Beltram, G. Biasiol, L. Sorba, R. D'Agosta, R. Raimondi, and G. Vignale, "Quasi-particle Tunneling between Fractional Quantum Hall Edges", *Physica E **22**, 185 (2004).*

62. A.Cavallini, B.Fraboni, F.Capotondi, L. Sorba, and G. Biasiol, "Deep levels in MBE grown AlGaAs/GaAs heterostructures", *Microelectron. Engin. **73-74**, 954 (2004).*

63. W. Desrat, F. Giazotto, V. Pellegrini, F. Beltram, F. Capotondi, G. Biasiol, L. Sorba, and D.K. Maude, "Magnetotransport in high-g factor, low-density two-dimensional electron systems confined in $In_{0.75}Ga_{0.25}As/In_{0.75}Al_{0.25}As$ quantum wells", *Phys. Rev. B **69**, 245324 (2004).*

64. S. Roddaro, V. Pellegrini, F. Beltram, G. Biasiol, and L. Sorba, "Inter-edge strong-to-weak scattering evolution at a constriction in the fractional quantum Hall regime", *Phys. Rev. Lett. **93**, 046801 (2004).*

65. C. Faugeras, G. Martinez, F. Capotondi, G. Biasiol, and L. Sorba, "Electron-phonon coupling in the two phonon mode ternary alloy $Al_{0.25}In_{0.75}As/Ga_{0.25}In_{0.75}As$ quantum well", *Europhys. Lett. **67**, 1031 (2004).*

66. E. Prati, M. Fanciulli, A. Kovalev, J. Caldwell, C.R. Bowers, F. Capotondi, G. Biasiol, and L. Sorba, "Electrically Detected Electron Spin Resonance in Low Density Two Dimensional Electron Gas in GaAs/AlGaAs Single Quantum Wells", *IEEE Trans. Nanotech. **4**, 100 (2005).*

67. C. Scheck, P. Evans, R. Schad, G. Zangari, L. Sorba, G. Biasiol, S. Heun, "Selective metal electrodeposition through doping modulation of semiconductor surfaces", *Appl. Phys. Lett. **86**, 133108 (2005).*

68. F. Capotondi, G. Biasiol, D. Ercolani and L. Sorba, "Scattering mechanisms in undoped $In_{0.75}Ga_{0.25}As/In_{0.75}Al_{0.25}As$ Two-Dimensional Electron Gases", *J. Crystal Growth **278**, 538 (2005).*

69. W.Desrat, F.Giazotto, V.Pellegrini, M.Governale, F.Beltram, F.Capotondi, G.Biasiol, and L.Sorba, "Anticrossings of spin-split Landau levels in an InAs two-dimensional electron gas with spin-orbit coupling", *Phys. Rev. B **71**, 153314 (2005).*

70. M. Kumar, G. Mori, F. Capotondi, G. Biasiol, and L. Sorba, "Spin susceptibility of two dimensional hole gases in GaAs/AlGaAs heterostructures", *Solid State Commun. **135**, 57 (2005).*

71. F. Capotondi, G. Biasiol, D. Ercolani, V. Grillo, E. Carlino, F. Romanato, and L. Sorba, "Strain induced effects on the transport properties of metamorphic InAlAs/InGaAs quantum wells", *Thin Solid Films **484**, 400 (2005).*

72. V. S. Khrapai, A. A. Shashkin, E. L. Shangina, V. Pellegrini, F. Beltram, G. Biasiol, and L. Sorba, "Spin gap in the 2D electron system of GaAs/AlGaAs single heterojunctions in weak magnetic fields", *Phys. Rev. B **72**, 035344 (2005).*

73. A. Anappara, A. Tredicucci, F. Beltram, G. Biasiol, and L. Sorba, "Electrical control of polariton coupling in intersubband microcavities", *Appl. Phys. Lett.* ***87****, 051105 (2005).*

74. G. Biasiol, S. Heun, G. B. Golinelli, A. Locatelli, T. O. Mentes, F. Z. Guo, C. Hofer, C. Teichert, and L. Sorba, "Surface compositional gradients of InAs/GaAs quantum dots", *Appl. Phys. Lett.* ***87****, 223106 (2005).*

75. G. Mori, M. Lazzarino, D. Ercolani, G. Biasiol, L. Sorba, S. Heun, and A. Locatelli, "Evidence of material mixing during local anodic oxidation nanolithography", *J. Appl. Phys.* ***98****, 114303 (2005).*

76. A. Candini, A. di Bona, G. C. Gazzadi, M. Affronte, D. Ercolani, G. Biasiol, and L. Sorba, "Focused-ion-beam fabricated nano Hall probes for magnetization measurements", *Nanotechnology* ***17****, 2105 (2006).*

77. G. Mori, M. Lazzarino, D. Ercolani, G. Biasiol, A. Locatelli, L. Sorba, and S. Heun, "X-ray induced variation of the chemistry of GaAs/AlAs oxide nanostructures", *Nucl. Instrum. Meth. Phys. Res. B* ***246****, 39 (2006).*

78. F. Carillo, G. Biasiol, D. Frustaglia, F. Giazotto, L. Sorba, and F. Beltram, "$In_{0.75}Ga_{0.25}As$ on GaAs submicron rings and their application for coherent nanoelectronic devices", *Physica E* ***32****, 53 (2006).*

79. J.W.W. van Tilburg, U. Zeitler, J.C. Maan, D. Reuter, A.D. Wieck, G. Biasiol, and L. Sorba, "Correlated electron states at level crossings of bilayer two-dimensional electron systems in tilted magnetic fields", *Physica E* ***34****, 179 (2006).*

80. M. Lazzarino, G. Mori, L. Sorba, D. Ercolani, G. Biasiol, S. Heun, and A. Locatelli, "Chemistry and formation process of Ga(Al)As oxide during local anodic oxidation nanolithography", *Surf. Sci. 600, 3739 (2006).*

81. A. A. Anappara, A. Tredicucci, F. Beltram, G. Biasiol, and L. Sorba, "Tunnel-assisted manipulation of intersubband polaritons in asymmetric coupled quantum wells", *Appl. Phys. Lett.* ***89****, 171109 (2006).*

82. A. Candini, G.C. Gazzadi, A. di Bona, M. Affronte, D. Ercolani, G. Biasiol, and L. Sorba, "Focused ion beam patterned Hall nano-sensors", *J. Magn. Magn. Mater. 310, 2752 (2007).*

83. S. Heun, G. Biasiol, V. Grillo, E. Carlino, L. Sorba, G. B. Golinelli, A. Locatelli, T. O. Mentes, and F. Z. Guo, "Morphology and composition of InAs/GaAs quantum dots", *J. Nanosci. Nanotechnol. 7, 1721 (2007).*

84. A. A. Anappara, A. Tredicucci, F. Beltram, G. Biasiol, and L. Sorba, "Controlling polariton coupling in intersubband microcavities", *Superlattices Microstruct.* ***41****, 308 (2007).*

85. G. Biasiol, S. Heun, G. B. Golinelli, A. Locatelli, T. O. Mentes, F. Z. Guo, and L. Sorba, "Surface Concentration Mapping of InAs/GaAs Quantum Dots", *AIP Conf. Proc.* ***893****, 49 (2007).*

86. D. Ercolani, E. Cancellieri, M. Rosini, G. Biasiol, C. Jacoboni, and L. Sorba, "Transport anisotropy in high mobility $In_{0.75}Ga_{0.25}As/In_{0.75}Al_{0.25}As$ 2DEGs ", *AIP Conf. Proc.* ***893****, 463 (2007).*

87. A. A. Anappara, A. Tredicucci, D. Barate, G. Biasiol, L. Sorba, J. Devenson, R. Teissier, and A. Baranov, "Controlling polariton coupling in intersubband microcavities", *AIP Conf. Proc.* ***893****, 523 (2007).*

88. V. S. Khrapai, A. A. Shashkin, M. G. Trokina, V. T. Dolgopolov, V. Pellegrini, F. Beltram, G. Biasiol, L. Sorba, "Direct measurements of the gap in the fractional quantum Hall effect", *Phys. Rev. Lett.* ***99****, 086802 (2007).*

89. A. A. Anappara, A. Tredicucci, F. Beltram, G. Biasiol, L. Sorba, S. De Liberato and C. Ciuti, "Cavity polaritons from excited-subband transitions", *Appl. Phys. Lett.* ***91****, 231118 (2007).*

90. S. Vutukuri, R. Schad, C. Alexander, Jr., G. Zangari, L. Sorba, G. Biasiol, and Stefan Heun, "Structural and Magnetic Properties of Epitaxial Fe and Ni Thin Films Grown on n-AlGaAs(001) Using Electrodeposition", *Electrochem. Solid-State Lett.* ***11****, D43 (2008).*

91. M. Rosini, E. Cancellieri, D. Ercolani, G. Biasiol, L. Sorba, and C. Jacoboni, "Transport anisotropy in InGaAs 2D electron gases", *Physica E* ***40****, 1392 (2008).*

92. A. J. M. Giesbers, U. Zeitler, D. Reuter, A. D. Wieck, G. Biasiol, L. Sorba, and J. C. Maan, "Aharonov-Bohm effect of quantum Hall edge channels", *Physica E* ***40****, 1470 (2008).*

93. A. Anappara, A. Tredicucci, F. Beltram, L. Sorba, G. Biasiol, "Tailoring light-matter interaction in intersubband microcavities", *Physica E* ***40****, 1906 (2008).*

94. A. Candini, F. Carillo, G. Biasiol, P. Pingue, M. Affronte, and L. Sorba, "Magnetic field sensitivity of $In_{0.75}Ga_{0.25}As$ Hall nano probes", *Mater. Sci. Eng. B* ***147****, 148 (2008).*

95. T. Mlakar, G. Biasiol, S. Heun, L. Sorba, V. T. Kumar, G. U. Kulkarni, V. Spreafico. and S. Prato, "Conductive Atomic Force Microscopy of InAs/GaAs Quantum Rings", *Appl. Phys. Lett.* ***92****, 192105 (2008).*

96. V. S. Khrapai, A. A. Shashkin, M. G. Trokina, V. T. Dolgopolov, V. Pellegrini, F. Beltram, G. Biasiol and L. Sorba, "Filling factor dependence of the fractional quantum Hall effect gap", *Phys. Rev. Lett.* ***100****, 196805 (2008).*

97. D. Ercolani, G. Biasiol, E. Cancellieri, M. Rosini, C. Jacoboni, F. Carillo, S. Heun, and L. Sorba, and F. Nolting, "Transport anisotropy in $In_{0.75}Ga_{0.25}As$ two dimensional electron gases", *Phys. Rev. B* ***77****, 235307 (2008).*

98. P. Gallo, M. Felici, B. Dwir, K. A. Atlasov, K.F. Karlsson, A. Rudra, A. Mohan, G. Biasiol, L. Sorba, and E. Kapon, "Integration of Site-Controlled Pyramidal Quantum Dots and Photonic Crystal Membrane Cavities", *Appl. Phys. Lett.* ***92****, 263101 (2008).*

99. F. Carillo, D. Born, V. Pellegrini, F. Tafuri, G. Biasiol, L. Sorba, and F. Beltram, "Relevant energy scale in hybrid mesoscopic Josephson junctions", *Phys. Rev. B* ***78****, 052506 (2008).*

100. P. Gallo, M. Felici, B. Dwir, K. A. Atlasov, K.F. Karlsson, A. Rudra, A. Mohan, G. Biasiol, L. Sorba, and E. Kapon, "Integration of site-controlled pyramidal quantum dots and photonic crystal membrane cavities", CLEO/QELS 2008, 4551797.

101. G. Günter, A. A. Anappara, J. Hees, L. Sorba, G. Biasiol, S. De Liberato, C. Ciuti, A. Tredicucci, A. Leitenstorfer, and R. Huber, "Sub-cycle switch-on of ultrastrong light-matter interaction", *Nature* ***458****, 178 (2009).*

102. E.V. Deviatov, B. Marquardt, A. Lorke, G. Biasiol, and L. Sorba, "Interference effects in transport across a single incompressible strip at the edge of the fractional quantum Hall system", *Phys. Rev. B **79**, 125312 (2009).*

103. R. Huber, A. A. Anappara, G. Günter, A. Sell, G. Biasiol, L. Sorba, A. Tredicucci, S. De Liberato, C. Ciuti and A. Leitenstorfer, "How fast electrons and photons mix: Sub-cycle switching of intersubband cavity polaritons", *J. Phys.: Conf. Ser. **193** 012060 (2009).*

104. G. De Simoni, V. Piazza, L. Sorba, G. Biasiol and F. Beltram, "Surface-acoustic-wave-driven transport and luminescence in a field-effect controlled 2D lateral *n-i-p junction", Appl. Phys. Lett. **94**, 121103 (2009).*

105. G. Biasiol, R. Magri, S. Heun, A. Locatelli, T. O. Mentes, and L. Sorba, "Surface compositional mapping of self-assembled InAs/GaAs quantum rings", *J. Crystal Growth 311, 1764 (2009).*

106. A. A. Anappara, S. De Liberato, A. Tredicucci, C. Ciuti, G. Biasiol, L. Sorba, and F. Beltram, "Signatures of the ultrastrong light-matter coupling regime", *Phys. Rev. B **79**, 201303(R) (2009).*

107. S. Roddaro, P. Caroff, G. Biasiol, F. Rossi, C. Bocchi, K. Nilsson, L. Fröberg, J.B. Wagner, L. Samuelson, L.E. Wernersson, and L. Sorba, "Seeded growth of InAs nanowires on engineered substrates", *Nanotech. **20**, 285303 (2009).*

108. S. Roddaro, N. Paradiso, V. Pellegrini, G. Biasiol, L. Sorba, and F. Beltram, "Tuning non-linear charge transport between integer and fractional quantum Hall states ", *Phys. Rev. Lett. **103**, 016802 (2009)* (selected for a Viewpoint in Physics ***2**, 56 (2009)*).

109. E.V. Deviatov, B. Marquardt, A. Lorke, G. Biasiol, and L. Sorba, "Experimental realization of a Fabry-Perot-type interferometer by co-propagating edge states in the integer and fractional quantum Hall effect regimes", *Proc. SPIE - The International Society for Optical Engineering **7364**, 73640Q (2009).*

110. E. Strambini, V. Piazza, G. Biasiol, L. Sorba, and F. Beltram, "Impact of classical forces and decoherence in multi-terminal Aharonov-Bohm networks", *Phys. Rev. B **79**, 195443 (2009).*

111. V. Baranwal, G. Biasiol, S. Heun, A. Locatelli, T. O. Mentes, M. N. Orti, and L. Sorba, "Kinetics of the evolution of InAs/GaAs quantum dots to quantum rings: A combined x-ray, atomic force microscopy, and photoluminescence study", *Phys. Rev. B **80**, 155328 (2009)* (Editors' Suggestion).

112. A.A. Anappara, G. Günter, J. Hees, G. Biasiol, L. Sorba, A. Tredicucci, A. Leitenstorfer, and R. Huber, "Switch-on of ultrastrong light-matter interaction faster than a cycle of light", CLEO/QELS 2009 , art. no. 5224776

113. R. Magri, S. Heun, G. Biasiol, A. Locatelli, T. O. Mentes, and L. Sorba, "Surface compositional profiles of self-assembled InAs/GaAs quantum rings", *AIP Conf. Proc. **1199**, 3 (2010).*

114. N. Paradiso, S. Heun. S. Roddaro, L .N. Pfeiffer, K. W. West, L. Sorba, G. Biasiol, and F. Beltram, "Selective control of edge - channel trajectories by scanning gate microscopy", *Physica E **42**, 1038 (2010).*

115. J. M. Giesbers, U. Zeitler, M. I. Katsnelson, D. Reuter, A. D. Wieck, G. Biasiol, L. Sorba, and J.C. Maan, "Correlation-Induced Single Flux-Quanta Penetration in Quantum Rings", *Nature Physics **6**, 173 (2010).*

116. F. Deon, V. Pellegrini , F. Carillo , F. Giazotto , G. Biasiol , L. Sorba , and F. Beltram, "Singlet-triplet transition in a few-electron lateral InGaAs/InAlAs quantum dot", *Appl. Phys. Lett. **96**, 142107 (2010).*

117. V. Bellani, F. Dionigi, F. Rossella, M. Amado, E. Diez, G. Biasiol, and L. Sorba, "Optical detection of quantum Hall effect of composite fermions and evidence of the ν=3/8 state", *Phys. Rev. B **81**, 155316 (2010).*

118. E. Strambini, V. Piazza, P. Pingue, G. Biasiol, L. Sorba, and F. Beltram, "Cantilever detection measurement and actuation by an interdigitated transducer", *Appl. Phys. Lett. **96**, 173505 (2010).*

119. A.A. Anappara, L. Sorba, A. Tredicucci, G. Günter, A. Sell, A. Leitendorfer, R. Huber, S. De Liberato, C. Ciuti, and G. Biasiol, "Toward Intersubband Polaritonics: How Fast Can Light and Electron Mate?", Future Trends in Microelectronics from Nanophotonics to Sensors and Energy, Eds. S. Luryi, J. Xu, and A. Zaslavski, Wiley 2010, pp. 85-96.

120. E.V. Deviatov, A. Lorke, G. Biasiol, L. Sorba, and W. Wegscheider, "Local investigation of the energy gap within the incompressible strip in the quantum Hall regime", *JETP Letters **92**, 69 (2010).*

121. A. Sell, A. A. Anappara, T. Kampfrath, K. v. Volkmann, M. Wolf, J.T. Steiner, M. Kira, S.W. Koch, G. Biasiol, L. Sorba, A. Tredicucci, A. Leitenstorfer, and R. Huber, "Extreme THz nonlinearities in bulk and nanostructured semiconductors", *Proc. SPIE **7600**, 76001S (2010).*

122. S. Zanotto, G. Biasiol, R. Degl'Innocenti, L. Sorba, and A. Tredicucci, "Intersubband polaritons in a one-dimensional surface-plasmon photonic crystal", *Appl. Phys. Lett. **97**, 231123 (2010).*

123. G. Biasiol, V. Baranwal, S. Heun, M. Prasciolu, M. Tormen, A. Locatelli, T.O. Mentes, M.A. Niño and L. Sorba, "Composition uniformity of site-controlled InAs/GaAs quantum dots", *J. Crystal Growth (in press).*