Ayrton A. Bernussi

Associate Professor

Department of Electrical and Computer Engineering
Texas Tech University, Lubbock, TX 79409-3102
Phones: (806) 742-2402 / 742-3533 (x-254) Fax: (806) 742-8061
E-mail: ayrton.bernussi@ttu.edu

RESEARCH INTERESTS

My primary research interests concentrate on optics, optoelectronics, ultra-fast optics, planar lightwave circuits, nanophotonics, surface plasmons, microscopy, THz generation and detection, and photonic crystals.

EDUCATION

May, 1990	**Doctorate** degree in Physics, State University of Campinas, Brazil
July, 1984	**Master** degree in Physics, State University of Campinas, Brazil
December, 1981	**Bachelor** degree in Physics, State University of Campinas, Brazil

PROFESSIONAL EXPERIENCE

09/2010 – present	**Associate Professor:** Department of Electrical and Computer Engineering, Texas Tech University, Lubbock, TX
09/2004 – 08/2010	**Assistant Professor:** Department of Electrical and Computer Engineering, Texas Tech University, Lubbock, TX
06/2001 – 08/2004	**Senior Research Associate:** Department of Electrical and Computer Engineering, Texas Tech University, Lubbock, TX
08/2000 – 06/2001	**Researcher:** National Synchrotron Light Laboratory (LNLS), Campinas, SP, Brazil
03/1988 – 08/2000	**Researcher in Telecommunications:** Brazilian Telecommunication Company (Telebras), Campinas, SP, Brazil
03/1994 – 09/1995	**Senior Research Associate:** Department of Electrical Engineering, Colorado State University, Fort Collins, CO

PROFESSIONAL ACTIVITIES

- **Associate Editor**: IEEE Photonics Journal, March, 2009 – present.
- **Reviewer** for the following Journals: IEEE Photonics Technology Letters, IEEE Journal of Quantum Electronics, Journal of Lightwave Technology, IEEE Photonics Journal, Optics Letters, Solid State Communications, Applied Physics Letters, Optics Express, Journal of Microscopy, and Optics Communications.
- **Reviewer** for the *ASME International Mechanical Engineering Conference* and *Brazilian Workshop on Semiconductor Physics.*
- **Panelist**: NSF – ECS Division (2006).
- **Grant Proposal Reviewer**: U.S. Department of Energy (2010).
- **Book Reviewer** - Cambridge University Press (2010).

- **Local organizer committee** member of the 10th Brazilian Workshop on Semiconductor Physics, April 22-27, 2001, Guarujá, SP, Brazil
- **Session chair**, 10th Brazilian Workshop on Semiconductor Physics, April 22-27, 2001, Guarujá, SP, Brazil
- **Semiconductor (devices) Session chair**, 20th National Meeting on the Physics of Condensed Matter, June 10-14, 1997, Caxambu, MG, Brazil
- **Session chair**, 53rd Annual Device Research Conference, June 19-21, 1995, Charlottesville, VA
- **Session chair**, 52nd Annual Device Research Conference, June 20-24, 1994, Boulder, CO

UNIVERSITY PROFESSIONAL SERVICE

- Member of the Scholarship Committee, ECE-TTU, 2004 to 2012
- Freshman Advisor, ECE-TTU 2008, 2009
- Member of the Undergraduate Curriculum Committee, ECE-TTU 2004 to 2012
- Member of Circuits/Electronics Committee, ECE-TTU, 2006 to 2010
- Member of Faculty Search Committee: Computer Engineering, ECE-TTU, 2008 and 2009
- Member of Faculty Search Committee: Nanophotonics (ETF), COE-TTU, 2007
- Member of Faculty Search Committee: Bioengineering, ECE-TTU, 2006
- Departmental Expectations Ad Hoc Committee: Promotion and Tenure, ECE-TTU, 2006
- Graduate Dean's Representative, TTU, 2006,2009,2012
- Poster Judge: Honors College – TTU, Student Research Days, 2005 and 2006

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- Institute of Electrical and Electronics Engineers (IEEE): Senior Member
- Optical Society of America (OSA): Member

POST-GRADUATE SUPERVISION

Dr. **Stephen Frisbie**	ECE, TTU, 2009-2010
Dr. **Maciej Knapczyk**	ECE, TTU, 2006 -2008
Dr. **Evaldo Ribeiro**	LNLS, Campinas, SP, Brazil, 2000-2001

GRADUATE SUPERVISION - *CURRENT STUDENTS*

Mrs. **Yanhan Zhu** (PhD)	"THz waveguides and metamaterials", ECE, TTU, May 2013
Mr. **Charles J. Regan** (PhD)	"Plasmonic crystals" ECE, TTU, May 2013

CHAIR OF PHD DISSERTATION COMMITTEES

Mr. **Ananth Krishnan**	"Design, fabrication & characterization of passive and active plasmonic waveguide devices" ECE, TTU, May 2010
Mr. **Stephen P. Frisbie**	"Imaging of surface plasmon-coupled fluorescence and optical reflectivity of dielectric-metal-dielectric structures" ECE, TTU, August 2009

CHAIR OF MS THESIS COMMITTEES	
Mr. **Gautam Rajanna**	"Time Resolved Photoluminescence Study of $Al_{0.45}Ga_{0.55}N$ / $Al_{0.55}Ga_{0.45}N$ Quantum Wells" ECE, TTU, December 2009
Mr. **Karthik Sudandraprakash**	"Determination of internal loss and internal efficiency in single high-power laser diodes" ECE, TTU, August 2009
Ms. **Yanhan Zhu**	"Transmission characteristics of meter-long silica-on-silicon integrated-optic time delays" ECE, TTU, May 2009
Mr. **Ananth Krishnan**	"Direct space-to-time pulse-shapers using reflective arrayed waveguide gratings" ECE, TTU, May 2006

MEMBER OF PHD DISSERTATION COMMITTEES	
Mr. **Jacob J. Ajimo**	"Study of Surface Plasmon Polariton propagation, interference and diffraction using Plasmon Tomography" Physics, TTU, December 2011
Mr. **Nenad Stojanovic**	"Thermal conductivity of nanowires" ME, TTU, December 2010
Ms. **Indra Chary**	"Low resistance ohmic contacts and the mechanism of current transport through Au/Ni/p-GaN and Au/Ni/p- $Al_xGa_{1-x}N$" ECE, TTU, August 2009
Mr. **Xiaoyan Xu**	"The plasma processing for optical and electrical devices" ECE, TTU, August 2009
Mr. **Anilkumar Chandolu**	"Growth and x-ray study of group –III nitrides" ECE, TTU, December 2007
Ms. **Lu Tian**	"Fabrication and optical characterization of nanostructures on semiconductor materials" Physics, TTU, May 2007
Mr. **Maciej Knapczyk**	"Applications of digital micromirror arrays to optical communication" ECE, TTU, May 2006
Mr. **Martin M. Uribe**	"Parametric interactions in epitaxially grown 43m semiconductor waveguides" Physics, State University of Campinas, Brazil, December 1996
Mr. **Luis V. A. Scalvi**	"A study of DX centers in $Al_xGa_{1-x}As$" Physics, University of São Paulo, São Carlos, Brazil, August 1991

MEMBER OF M.S. THESIS COMMITTEES	
Mr. **Hendra J. Tarigan**	"Study of Surface Plasmon Polaritons (SPP) Propagation through Plasmonic Crystals" Physics, TTU, May 2012
Mr. **Daniel Dominguez,**	"Quantum Plasmonics" Physics, TTU, May 2012
Ms. **Amy West**	"Study of the Photon Propagation Paradox"

	Physics, TTU, May 2012
Mr. **Robier Rodríguez**	"Plasmon Tomography Far-Field Superlens" Physics, TTU, December 2011
Mr. **Weston Hobdy**	"Coupled Electrical, Optical, and Thermal Simulation of High Power Diode Lasers" ME, TTU, August 2010
Mr. **Charles Kleuser**	"Electromagnetic beam forming lens with split ring resonators" ECE, TTU, August 2010
Mr. **Marchante Moses**	"Quantum vs. Classical Electrodynamics: Do photons move following the lines of energy flux?" Physics, TTU, May 2010
Mr. **Mahesh K. Pandikunta**	"X-ray study of III-Nitrides and TiO_2 nanotubes for semiconductor device applications" ECE, TTU, August 2009
Ms. **Dana Rosenbladt**	"Simulation, design and fabrication of nanotextured surfaces for optoelectronic devices" ME, TTU, May 2009
Mr. **Aditya Akula**	"X-ray study of III-nitride epitaxial layers" ECE, TTU, December 2007
Mr. **Manjunath Basavaraj**	"X-ray study of thin films of III-nitrides" ECE, TTU, December 2005
Ms. **Alessandra A. Ribeiro**	"Optical anisotropy in InGaAs quantum wells grown by MBE [113] GaAs oriented substrates", Physics, State University of Campinas, Brazil, May 1997
Mr. **Marcelo L.F. Abbade**	"Optical characterization of GaAs/InGaAs/AlGaAs HEMT structures" Physics, State University of Campinas, Brazil, April 1996

UNDERGRADUATE SUPERVISION

- Ms. **Megan E. Holtz** (Summer 2007, 2008, 2009)
- Mr. **Xiaodong Cai** (Summer 2008, 2009 /Fall 2008, 2009)
- Mr. **Charles J. Regan** (Summer 2008)
- Mr. **Shivkumar C. Gourshetty** (Fall 2011, 2012/Spring 2012)

TEACHING EXPERIENCE - *COURSES TAUGHT*

- **ECE-1304**: Introduction to Electrical and Computer Engineering, Fall 2011,2012/Spring 2012
- **ECE-1305**: Introduction to Electrical Engineering and Computer Programming, ECE-TTU: Fall 2004, 2005, 2008 / Spring 2005, 2006, 2007, 2009
- **ECE-2372**: Modern Digital System Design, ECE-TTU: Fall 2009
- **ECE-3302**: Fundamentals of Electrical Engineering, ECE-TTU: Fall 2006/Summer I 2012
- **ECE-3303**: Linear System Analysis, ECE-TTU: Spring 2008, 2010, 2011/Fall 2010/Summer II 2011/Summer II 2012
- **ECE-4362/5362:** Modern Optics, ECE-TTU: Fall 2007, 2008, 2009, 2010,2011, 2012

- **ECE-5331**: Individual Studies in Engineering Applications, ECE-TTU: Fall 2005, 2006, 2007, 2008, 2009 / Summer 2006, 2008, 2011 / Spring 2007, 2008, 2009, 2010,2011

TEACHING EXPERIENCE - *PROJECT LABORATORY SUPERVISION*

- **ECE 3331** - Project Laboratory I, ECE-TTU: Fall 2004-2008 / Spring 2005-2008
- **ECE 3332** - Project Laboratory II, ECE-TTU: Fall 2008
- **ECE 4333** - Project Laboratory IV, ECE-TTU: Fall 2009
- **ECE 4334** - Project Laboratory V, ECE-TTU: Fall 2009

HONORS/AWARDS

- Edward E. Whitacre Jr. College of Engineering, TTU, Lockheed-Martin Teaching Award, 2010.
- Edward E. Whitacre Jr. College of Engineering, TTU, Dr. Charles Burford Teaching Award, 2009
- Edward E. Whitacre Jr. College of Engineering, TTU, Whitacre Excellence in Research (*Growth in Research*) , 2008
- Post-doctorate Scholarship, FAPESP Foundation, Brazil, 03/1994 to 09/1995
- PhD Scholarship, FAPESP Foundation, Brazil, 08/1984 to 02/1988
- M.S. Scholarship, FAPESP Foundation, Brazil, 03/1982 to 07/1984
- Undergraduate Scholarship, FAPESP Foundation, Brazil, 08/1980 to 12/1981

PATENT GRANTED

"Temperature compensated optical multiplexer", H. Temkin, L. Grave de Peralta, **A.A. Bernussi** and V. Gorbounov, US Patent 7,280,722 , issued on 10/09/2007.

PUBLICATION LIST - *PEER REVIEWED JOURNALS*

1. C.J. Regan, L. Grave de Peralta and **A.A. Bernussi**, "Two-dimensional Bessel-like surface plasmon-polariton beams", *Journal of Applied Physics*, in press.
2. L. Grave de Peralta, C. J. Regan, and **A.A. Bernussi**, "SPP tomography: a simple wide-field nanoscope," *Scanning*, in press.
3. C.J. Regan, R. Rodriguez, S.C. Gourshetty, L. Grave de Peralta, and **A.A. Bernussi**, "Imaging nanoscale features with plasmon-coupled leakage radiation far-field superlenses", *Optics Express*, vol. 20, pp. 20827–20834 (2012).
4. Y. Zhu, Y. Zhao, M. Holtz, Z. Fan, and **A.A. Bernussi**, "Effect of substrate orientation on terahertz optical transmission through VO_2 thin films and application to functional anti-reflection coatings", *J. Optical Society of America B*, vol. 29, pp. 2373-2378 (2012)
5. S. Vegesna, Y. Zhu, **A.A. Bernussi**, and M. Saed, "Terahertz two-layer frequency selective surfaces with improved transmission characteristics", *IEEE Transactions on Terahertz Science and Technology*, vol. 2, pp. 441-448 (2012).
6. C.J. Regan, L. Grave de Peralta, and **A.A. Bernussi**, "Equifrequency curve dispersion in dielectric-loaded plasmonic crystals", *Journal of Applied Physics*, vol. 111, p. 073105, 2012.
7. C.J. Regan, O. Thiabgoh, L. Grave de Peralta, and **A.A. Bernussi**, "Probing photonic Bloch wavefunctions with plasmon-coupled leakage radiation", *Optics Express*, vol. 20, pp. 8658-8666, 2012.

8. Y. Zhao, J.H. Lee, Y. Zhu, M. Nazari, C. Chen, H. Wang, **A. Bernussi**, M Holtz, and Z. Fan, "Structural, electrical, and terahertz transmission properties of VO_2 thin films grown on c-, r-, and m-plane sapphire substrates", *Journal of Applied Physics*, vol. 111, p. 053533, 2012.
9. Y. Zhu, S. Vegesna, V. Kuryatkov, M. Holtz, M. Saed, and **A.A. Bernussi**, "Terahertz bandpass filters using double-stacked metamaterial layers", *Optics Letters*, vol. 37, pp. 296-298, 2012.
10. C.J. Regan, L. Grave de Peralta, and **A.A. Bernussi**, "Directivity and isotropic band-gap in 12-fold symmetry plasmonic quasi-crystals with small index contrast", *Applied Physics Letters*, vol. 99, p. 181104, 2011.
11. R. Rodriguez, C.J. Regan, A. Ruiz-Columbie´, W. Agutu, **A.A. Bernussi**, and L. Grave de Peralta, "Study of plasmonic crystals using Fourier-plane images obtained with plasmon tomography far-field superlenses", *Journal of Applied Physics*, vol. 110, p. 083109, 2011.
12. G. Rajanna, W. Feng, S. Sohal, V.V. Kuryatkov, S. A. Nikishin, **A. A. Bernussi**, and M. Holtz, "Temperature and excitation intensity dependence of photoluminescence in AlGaN quantum wells with mixed two-dimensional and three-dimensional morphology", *Journal of Applied Physics*, vol. 110, p. 073512, 2011.
13. J. Ajimo, C.J. Regan, A.C. Bernussi, S. Park, R. Lopez-Boada, **A.A. Bernussi**, and L. Grave de Peralta, "Study of interference in a double-slit without walls by plasmon tomography techniques", *Optics Communications*, vol. 284, pp. 4752-4755, 2011.
14. M. Nazari, C. Chen, **A.A. Bernussi**, Z. Y. Fan, and M. Holtz, "Effect of free-carrier concentration on the phase transition and vibrational properties of VO_2", *Applied Physics Letters*, vol. 99, p. 071902, 2011.
15. C. Chen , Y. Zhao , X. Pan , V.V. Kuryatkov , **A.A. Bernussi** , M.W. Holtz, and Z. Fan, "Influence of defects on structural and electrical properties of VO_2 thin films", *Journal of Applied Physics*, vol. 110, p. 023707, 2011.
16. C.J. Regan, A. Krishnan, R. Lopez-Boada, L. Grave de Peralta, and **A.A. Bernussi** "Direct observation of photonic Fermi surfaces by plasmon tomography", *Applied Physics Letters*, vol. 98, p. 151113, 2011.
17. L. Grave de Peralta, R. Lopez-Boada, A. Ruiz-Columbié, S. Park, and **A.A. Bernussi**, "Some consequences of experiments with a plasmonic quantum eraser for plasmon tomography", *Journal of Applied Physics*, vol. 109, p. 023101, 2011.

    A. Houk, R. Lopez-Boada, A. Ruiz-Columbié, S. Park, **A.A. Bernussi**, and L. Grave de Peralta-Erratum: "Some consequences of experiments with a plasmonic quantum eraser for plasmon tomography" [J. Appl. Phys. 109, 023101 (2011)], *Journal of Applied Physics*, vol. 109, p. 119901, 2011.
18. C. Chen, Y. Zhu, Y. Zhao, J. H. Lee, H. Wang, **A.A. Bernussi**, M. Holtz, and Z. Fan, "VO_2 multidomain heteroepitaxial growth and terahertz transmission", *Applied Physics Letters*, vol. 97, p. 211905, 2010.
19. A. Krishnan, C.J. Regan, L. Grave de Peralta, and **A.A. Bernussi**, "Resonant coupling in dielectric loaded plasmonic waveguide devices", *Applied Physics Letters*, vol. 97, p. 231110, 2010.
20. S. Frisbie, C.J. Regan, A. Krishnan, C. Chesnutt, J. Ajimo, **A.A. Bernussi**, and L. Grave de Peralta, "Characterization of polarization states of surface plasmon polaritons modes by Fourier-plane leakage microscopy, *Optics Communications*, vol. 283, pp. 5255-5260, 2010.
21. J. Ajimo, A. Marchante, A. Krishnan, **A.A. Bernussi**, and L. Grave de Peralta, "Plasmonic implementation of a quantum eraser for imaging applications", *Journal of Applied Physics*, vol. 108, pp. 063110, 2010.

22. A. Krishnan, S.P. Frisbie, L. Grave de Peralta, and **A.A. Bernussi**, "Plasmon Stimulated Emission in arrays of bimetallic structures coated with dye-doped dielectric", *Applied Physics Letters*, vol. 96, pp. 111104, 2010.
23. S.P. Frisbie, C. Chesnutt, M.E. Holtz, A. Krishnan, L. Grave de Peralta, and **A.A. Bernussi**, "Image formation in wide-field microscopes based on leakage of surface plasmon-coupled fluorescence", *IEEE Photonics Journal*, vol. 1, pp. 153-162, 2009.
24. S.P. Frisbie, A. Krishnan, X. Xu, L. Grave de Peralta, S.N. Nikishin, M.W. Holtz, and **A.A. Bernussi**, "Analysis of multiple resonances in dielectric-metal-dielectric surface plasmon multi-layered structures", *Journal of Lightwave Technology*, vol.27, pp. 2964-2969, 2009.
25. A. Krishnan, L. Grave de Peralta, M. Holtz, and **A.A. Bernussi**, "Finite element analysis of lossless propagation in surface plasmon polariton waveguides with nanoscale spot-sizes", *Journal of Lightwave Technology*, vol. 27, pp. 1114 – 1121, 2009.
26. A. Chandolu, D. Y.Song, M.E Holtz, I. Gherasoiu, S.A. Nikishin, **A.A. Bernussi**, and M.W. Holtz, "X-Ray Diffraction and Photoluminescence Studies of InN Grown by Plasma-Assisted Molecular Beam Epitaxy with Low Free-Carrier Concentration", *Journal of Electronic Materials*, vol. 38, pp. 557-562, 2009.
27. M.E. Holtz, I. Gherasoiu, V. Kuryatkov, S. Nikishin, **A.A. Bernussi**, and M.W. Holtz, "Influence of phonons on the temperature dependence of photoluminescence in InN with low carrier concentration", *Journal of Applied Physics*, vol. 105, pp. 063702: 1-3, 2009.
28. D.Y. Song, M.E. Holtz, A. Chandolu, **A.A. Bernussi**, S.A. Nikishin, M.W. Holtz, and I. Gherasoiu, "Effect of stress and free-carrier concentration on photoluminescence in InN", *Applied Physics Letters*, vol. 92, p.121913, 2008.
29. M. Knapczyk, L. Grave de Peralta, **A. A. Bernussi**, and H. Temkin, "Reconfigurable add-drop optical filter based on arrays of digital micromirrors", *Journal of Lightwave Technology,* vol. 26, pp. 237 - 242, 2008.
30. L. Tian, N. Stojanovic, D. Y. Song, **A. A. Bernussi**, J. M. Berg, and M. Holtz, "Influence of photonic nanotexture on the light extraction efficiency of GaN", *Applied Physics Letters*, vol. 91, pp. 103115:1-3, 2007.

    Selected for the September, 2007 issue of Virtual Journal of Nanoscale Science &Technology.
31. L. Grave de Peralta, **A.A. Bernussi**, and H. Temkin, "Ultrafast response of arrayed waveguide gratings pulse shapers with digital amplitude and phase modulation", *Journal of Lightwave Technology*, vol. 25, pp. 2410-2416, 2007.
32. L. Grave de Peralta, **A.A. Bernussi**, and H. Temkin, "Ultrafast response of arrayed waveguide gratings", *IEEE Journal of Quantum Electronics*, vol. 43, pp. 473-478, 2007.
33. A. Krishnan, L. Grave de Peralta, V. Kuryatkov, H. Temkin, and **A.A. Bernussi**, "Generation of arbitrary sequences of ultrafast pulses with integrated-optic space-to-time optical processors and phase-only masks", *IEEE Photon. Technol. Lett.*, vol. 19, pp. 194-196, 2007.
34. L. Tian, S. Frisbie, **A. A. Bernussi**, and M. Holtz, "Transmission properties of nanoscale aperture arrays in metallic masks on optical fibers", *Journal of Applied Physics* vol. 101, pp. 014303:1-4, 2007.

    Selected for the January, 2007 issue of Virtual Journal of Nanoscale Science &Technology.
35. A. Krishnan, L. Grave de Peralta, H. Temkin, and **A.A. Bernussi**, "Generation of ultrafast pulse sequences with arrayed waveguide grating multiplexers subjected to modulated external stress", *IEEE Photon. Technol. Lett.*, vol. 18, pp. 1158-1160, 2006.
36. E. Ribeiro, **A.A. Bernussi**, R.L. Maltez, W. Carvalho, Jr., A. L. Gobbi, and D. Ugarte, "Barrier-induced carrier localization effects in ordered/disordered/ordered quaternary quantum wells grown on GaAs substrates", *Phys. Rev. B*, vol. 73, pp. 075330: 1-7, 2006.

37. A. Krishnan, L. Grave de Peralta, V. Kuryatkov, **A.A. Bernussi**, and H. Temkin, "Direct space-to-time pulse shaper with reflective arrayed waveguide gratings and phase masks", *Optics Letters* , vol. 31, pp. 640-642, 2006.

    Selected for the June, 2006 issue of Virtual Journal of Ultrafast Science.

38. M. Knapczyk, A. Krishnan, L. Grave de Peralta, **A.A. Bernussi**, and H. Temkin, "High-resolution pulse shaper based on arrays of digital micromirrors", *IEEE Photon. Technol. Lett.*, vol. 17, pp. 2200-2202, 2005.

39. A. Krishnan, M. Knapczyk, L. Grave de Peralta, **A.A. Bernussi**, and H. Temkin, "Reconfigurable direct space-to-time pulse-shaper based on arrayed waveguide grating multiplexers and digital micromirrors", *IEEE Photon. Technol. Lett.*, vol. 17, pp. 1959-1961, 2005.

40. M. Knapczyk, A. Krishnan, L. Grave de Peralta, **A.A. Bernussi**, and H. Temkin, "Reconfigurable optical filter based on digital mirror arrays", *IEEE Photon. Technol. Lett.*, vol. 17, pp. 1743-1745, 2005.

    ***Highlighted in the Photonics Spectra Magazine*, pp. 102-103, October 2005.**

41. **A.A. Bernussi**, L. Grave de Peralta, M. Knapczyk, R. Gale, and H. Temkin "Reconfigurable sampling of the electric field at the reflecting surface of folded arrayed waveguide grating multiplexers", *IEEE Photon. Technol. Lett.*, vol. 16, pp. 2257-2259, 2004.

42. **A.A. Bernussi**, L. Grave de Peralta, V. Gorbounov, J. A. Linn, S. Frisbie, R. Gale, and H. Temkin: "Mirror quality and the performance of reflective arrayed waveguide grating multiplexers", *Journal of Lightwave Technology*, vol. 22, pp. 1828-1832, 2004.

43. **A.A. Bernussi**, L. Grave de Peralta, and H. Temkin: "Electric field distribution in a grating of a folded arrayed-waveguide multiplexer", *IEEE Photon. Technol. Lett.*, vol. 16, pp. 488-490, 2004.

44. L. Grave de Peralta, **A.A. Bernussi**, V. Gorbounov, and H. Temkin: "Temperature insensitive reflective arrayed waveguide grating multiplexers", *IEEE Photon. Technol. Lett.*, vol. 16, pp. 831-833, 2004.

45. R.L. Maltez, E. Ribeiro, **A.A. Bernussi**, L. Amaral, M. Behar, P. Specht, and Z. Liliental-Weber, "TEM and PL characterization of erbium and oxygen co-implanted LT-GaAs:Be", *Nuclear Instruments and Methods in Physics Research*, vol. B218, pp. 444–450, 2004.

46. L. Grave de Peralta, **A.A. Bernussi**, V. Gorbounov, J. Berg and H. Temkin: "Control of center wavelength in reflective arrayed waveguide grating multiplexers", *IEEE Journal of Quantum Electron.*, vol. 40, pp.1725-1731, 2004.

47. **A.A. Bernussi**, L. Grave de Peralta, and H. Temkin: "High precision characterization of single-mode optical fiber arrays", *Journal of Lightwave Technology*, vol. 21, pp. 1557-1561, 2003.

48. **A.A. Bernussi**, L. Grave de Peralta, S. Frisbie, and H. Temkin: "Effects of power truncation on the insertion loss and crosstalk of arrayed-waveguide grating devices", *Applied Physics Letters*, vol. 83, pp. 1695-1697, 2003.

49. L. Grave de Peralta, **A.A. Bernussi**, H. Temkin, M. Borhani, and D. Doucette: "Silicon dioxide waveguides with low birefringence", *IEEE J. of Quantum Electron.*, vol. 39, pp. 874-879, 2003.

50. L. Grave de Peralta, **A.A. Bernussi**, S. Frisbie, R. Gale, and H. Temkin:" Reflective arrayed waveguide grating multiplexer", *IEEE Photon. Technol. Lett.*, vol. 15, pp. 1398-1400, 2003.

51. M.J.S.P. Brasil, S.J. Luyo, W. de Carvalho Jr., **A.A. Bernussi**, A.R. Vasconcellos, and R. Luzzi: "Carrier dynamics investigated by time-resolved optical spectroscopy" *Physica Status Solidi **A**-Applied Research*, vol. 190, pp. 647-650, 2002.

52. R.L. Maltez, E. Ribeiro, **A.A. Bernussi**, W. Carvalho Jr., A.L. Gobbi and D. Ugarte: **"**Effects of barrier alloy composition and number of stacks in the optical and structural characteristics of strain compensated $In_xGa_{1-x}As_yP_{1-y}/In_zGa_{1-z}As_tP_{1-t}/InP$ multi-quantum wells", *Journal of Applied Physics*, vol. 91, pp. 5915-5922, 2002.

53. **A.A. Bernussi**, W.Carvalho and M.K.K. Dias Franco: "Effects of ordering and alloy phase separation on the optical emission characteristics of $In_{1-x}Ga_xAs_yP_{1-y}$ layers grown on GaAs substrates", *Journal of Applied Physics*, vol. 89, pp. 4898-4901, 2001.
54. H.A.P. Tudury, M.K.K. Nakaema, F. Iikawa, J.A. Brum, E. Ribeiro, W. Carvalho Jr., **A.A. Bernussi**, and A.L. Gobbi: "Strain-dependent optical emission in $In_{1-x}Ga_xAs$/InP quantum wells", *Phys. Rev. B*, vol. 64, pp. 153301: 1-4, 2001.
55. G. Medeiros-Ribeiro, R.L. Maltez, **A.A. Bernussi**, D. Ugarte, and W. de Carvalho Jr.: "Seeding of InP islands on InAs quantum dot templates", *Journal of Applied Physics*, vol. 89, pp. 6548-6550, 2001.
56. W. Carvalho Jr., M.T. Furtado, **A.A. Bernussi**, A.L. Gobbi and M.A. Cotta: "Impact of growth rate on the quality of ZNS-MQW InGaAsP/InP laser structures grown by LP-MOCVD", *Journal of Electronic Materials*, vol. 29, pp. 62-66, 2000.
57. **A.A. Bernussi**, W.Carvalho Jr., M.T. Furtado, and A.L. Gobbi: "Photoluminescence microscopy imaging of tensile strained $In_{1-x}Ga_xAs_yP_{1-y}$/InP quantum wells grown by low-pressure metalorganic vapor phase epitaxy", *Journal of Applied Physics*, vol. 86, 402-407, 1999.
58. A.D. Lúcio, L. A. Cury, F. M. Matinaga, J.F. Sampaio, **A.A. Bernussi**, and W. de Carvalho Jr., "The Arrehnius plot analysis as a tool to identify competing and non-competing optical transitions in strained InGaAsP quantum wells", *Journal of Applied Physics*, vol. 86, pp. 537-542, 1999.
59. D. Patel, C.S. Menoni, **A.A. Bernussi**, and H. Temkin: "Monotonic behavior of the threshold current of compressively strained 1.3 μm InGaAsP lasers with hydrostatic pressure*", Physica Status Solidi*, vol. B198, pp. 375-380, 1996.
60. M.L.F. Abbade, F. Iikawa, J.A. Brum, T. Troster, **A.A. Bernussi**, R.G. Pereira, and G. Borghs: "State coupling effects in InGaAs/GaAs/AlGaAs modulation doped quantum wells", *Journal of Applied Physics*, vol. 80, pp. 1925-1927, 1996.
61. F. Iikawa, M.L.F. Abbade, J.A. Brum, **A.A. Bernussi**, R.G. Pereira, and G. Borghs: "Magneto-optical experiments of InGaAs/GaAs/AlGaAs AlGaAs modulation doped quantum wells", *Phys. Rev. B*, vol. 54, pp. 11360-11364, 1996.
62. M.V. Marquezini, M.J.S.P. Brasil, M.A. Cotta, J.A. Brum, and **A.A. Bernussi**, "Magneto-exciton anisotropy in quantum wells versus quantum wires", *Phys. Rev. B*, vol. 53, pp. R16156- R16159, 1996.
63. **A.A. Bernussi**, H. Temkin, D.L. Coblentz, and R.A. Logan: "Effect of barrier recombination on the high temperature performance of quaternary multiquantum well lasers", *Applied Physics Letters*, vol. 66, pp. 67-69, 1995.
64. **A.A. Bernussi**, H. Temkin, D.L. Coblentz, and R.A. Logan: "Gain nonlinearity and its temperature dependence in bulk and quantum well quaternary lasers", *IEEE Photon. Technol. Lett.*, vol. 7, pp. 348-350, 1995.
65. **A.A. Bernussi**, J. Pikal, H. Temkin, D.L. Coblentz, and R.A. Logan: "Rate equation model of high temperature performance of InGaAsP quantum well lasers", *Applied Physics Letters*, vol. 66, pp. 3606-3608, 1995.
66. P. Thiagarajan, **A.A. Bernussi**, H. Temkin, G.Y. Robinson, A.M. Sergent, and R.A. Logan: "Growth of 1.3μm InAsP/InGaAsP lasers by Gas-Source Molecular Beam Epitaxy", *Applied Physics Letters*, vol. 67, pp. 3676-3678, 1995.
67. **A.A. Bernussi**, M.J.S.P. Brasil, J.A. Brum, M.A. Cotta, R.A. Hamm, T.W. Staley, S.N.G. Chu, L.R. Harriott, M.B. Panish, and H. Temkin: "InGaAsP/InP quantum wells with periodic thickness variation", *Solid State Electronics*, vol. 37, pp. 653-656, 1994.

68. F. Iikawa, **A.A. Bernussi**, A.G. Soares, F.O. Plentz, P. Motisuke, and M.A. Sacilotti: "Luminescence and photomodulated transmission measurements in InGaAs/GaAs modulation doped single quantum wells", *Journal of Applied Physics*, vol. 75, 3071-3074, 1994.
69. M.J.S.P. Brasil, **A.A. Bernussi**, M.A. Cotta, M.V. Marquezini, J.A. Brum, R.A. Hamm, S.N.G. Chu, L.R. Harriott, and H. Temkin, "InGaAsP/InP quantum wells with thickness modulation", *Applied Physics Letters*, vol. 65, pp. 857-859, 1994.
70. V. Grivkas, **A.A. Bernussi**, P. Basmaji, B. Matvienko, and J. Kolenda, "Degradation of luminescence and fatigue effects in porous silicon", *International Journal of Optolectronics*, vol. 9, pp. 311-314, 1994.
71. **A.A. Bernussi**, F. Iikawa, P. Motisuke, and P. Basmaji, "Properties of $Al_xGa_{1-x}As$ with an AlAs buffer layer on Si substrates grown by MOVPE", *Journal of Crystal Growth*, vol. 108, pp. 615-620, 1991.
72. R.A. Novelino, C.V. Lopez, **A.A. Bernussi**, C. Schimidt, F. Cerdeira P. Motisuke, F.H. Pollak, F. Messeguer, and K. Ploog, "On the origin of Franz-Keldysh oscillations in AlGaAs/GaAs modulation doped heterojuntions", *Journal of Applied Physics*, vol. 70, pp. 5577-5581, 1991.
73. **A.A. Bernussi**, J.A. Brum, P. Motisuke, P. Basmaji, M.S. Li, and O. Hipólito: "Continuous to bound transitions in delta doping GaAs layers", *Superlattices and Microstructures*, vol. 8, pp. 205-208, 1990.
74. P. Basmaji, A.M. Ceschin, M.S. Li, O. Hipólito, **A.A. Bernussi**, F. Iikawa, and P. Motisuke, "MBE growth and characterization of δ-doping in GaAs and GaAs/Si", *Surface Science*, vol. 228, pp. 356-358, 1990.
75. **A.A. Bernussi**, F. Iikawa, P. Motisuke, P. Basmaji, M.S. Li, and O. Hipólito: "Photoreflectance measurements on Si-delta doped GaAs samples grown by molecular-beam epitaxy", *Journal of Applied Physics*, vol. 67, pp. 4149-4151, 1990.
76. M.P. Silva, **A.A. Bernussi**, and G.M. Gualberto: "Structural determination of graphite-$ZnCl_2$ acceptor compounds using (00l) X-ray diffraction", *Synthetic Metals*, vol. 32, pp. 171-177, 1989.
77. M.J.S.P. Brasil, **A.A. Bernussi**, and P. Motisuke, "Influence of the carrier scattering time on the lineshape of shallow impurity emission bands in GaAs", *Solid State Communications*, vol. 71, pp. 13-17, 1989.
78. **A.A. Bernussi**, C.L. Barreto, M.M.G. Carvalho, and P. Motisuke, "Photoluminescence of GaAs films grown by Vacuum Chemical Epitaxy", *Journal of Applied Physics*, vol. 64, pp. 1358-1362, 1988.
79. **A.A. Bernussi**, and G.M. Gualberto, "Raman spectra of Br_2, Cl_2 and I_2 on various substrates", *Journal of Raman Spectroscopy*, vol. 18, pp. 93-95, 1987.
80. **A.A. Bernussi**, and G.M. Gualberto, "Observation of Br_2 stretch modes of adsorbed molecules on various substrates", *Journal of Raman Spectroscopy*, vol. 15, pp. 10-14, 1984.

PUBLICATION LIST - *CONFERENCE PROCEEDINGS/ CONFERENCE PRESENTATIONS*

81. C.J. Regan, O. Thiabgoh, R. Rodriguez, L. Grave de Peralta, and **A.A. Bernussi**, "Imaging photonic Bloch functions with plasmon-coupled leakage radiation", *Technical Digest: Conference on Lasers and Electro-Optics (CLEO)*, San Jose, CA, 6-11 May 2012, QTh3F.7.
82. L. Grave de Peralta, R. Rodriguez, C.J. Regan, and **A.A. Bernussi**, "Far-Field Superlenses Based on Plasmon Tomography", *Technical Digest: Conference on Lasers and Electro-Optics (CLEO)*, San Jose, CA, 6-11 May 2012, QTh3F.4.
83. Y. Zhao, C. Chen, J. H. Lee, M. Nazari, **A.A. Bernussi**, H. Wang, M. Holtz, and Z. Fan, "Comparative Study of Vanadium Dioxide Thin Films Grown on c-, r-, and m-Plane Sapphire Substrates.", MRS Fall 2011 Meeting, Boston, November-28 to December-2, 2011, M4.32.
84. Y. Zhu, S. Vegesna, V. Kuryatkov, M.W. Holtz; M. Saed, **A.A. Bernussi**, "THz time-domain

spectroscopy of multilayer filters", Proceedings of The International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), Houston, TX, October 2-7, 2011, M5.14.

85. W. Agutu, C. Regan, A. Columbie, R. Rodriguez, **A.A. Bernussi**, L. Grave-de-Peralta, "Study of plasmonic crystals by Plasmon Tomography far-field Superlenses", American Physical Society, Joint Fall 2011 Meeting of the Texas Sections of the APS, AAPT, and Zone 13 of the SPS, October 6-8, 2011, H1.014.
86. C.J. Regan, A. Krishnan, L. Grave de Peralta, and A.A. Bernussi, "Plasmon tomography images of two-dimensional periodic structures", *Technical Digest: Conference on Lasers and Electro-Optics (CLEO)*, Baltimore, MD, May 1-6, 2011, JTuI65.
87. W. Feng, G. Rajanna, S. Sohal, S. Nikishin, **A.A. Bernussi**, M. Holtz, "Effects of MBE growth on the optical properties of AlGaN quantum wells," MRS Fall 2010 Meeting, Boston, USA, December, 2010.
88. J. Ajimo, C. Regan, **A.A. Bernussi**, and L. Grave de Peralta, "Surface Plasmon Polariton Propagation, Interference and Diffraction", *2010 Fall Meeting of the Texas Sections of the APS, AAPT, and SPS* , October 21–23, 2010; San Antonio, Texas, 2010.
89. A. Krishnan, S.P. Frisbie, L. Grave de Peralta, and **A.A. Bernussi**, "Plasmon Stimulated Emission in Arrays of Bimetallic Stripes", *Technical Digest: Conference on Lasers and Electro-Optics (CLEO)*, San Jose, CA, May 2010.
90. S. Nikishin, B. Borisov, V. Mansurov, M. Pandikunta, I. Chary, G. Rajanna, **A. Bernussi**, Yu. Kudryavtsev, R. Asomoza, K. A. Bulashevich, S. Yu. Karpov, S. Sohal, and M. Holtz, "Short period p-type AlN/AlGaN superlattices for deep UV light emitters", *Proc. Mat. Res. Soc. Symp.*, vol. 1202, pp. 1202-I10-03, 2010.
91. C. Chesnutt, S.P. Frisbie, L. Grave de Peralta, and **A.A. Bernussi** "Wide-field imaging by leakage of surface plasmon-coupled fluorescence", *2009 Spring Meeting of the Texas Sections of the APS, AAPT, and SPS* , Stephenville, TX, April 2–4, 2009.
92. S. Nikishin, B. Borisov, V. Mansurov, M. Pandikunta, I. Chary, G. Rajanna, **A.A. Bernussi**, Y. Kudryavtsev, R. Asomoza, S. Karpov, S. Sohal and M. Holtz, "Short Period AlN/GaN and AlN/AlGaN Superlattices for Deep UV Light Emitters", *MRS Proceedings*, Fall, 2009.
93. Y. Alivov, V. Kuryatkov, M. Pandikunta, G. Rajanna, D. Johnstone, **A.A. Bernussi**, S. A Nikishin, and Z. Y. Fan, "Optical and electrical properties of TiO2 nanotubes grown by titanium anodization", *MRS Proceedings*, Spring, 2009.
94. X. Xu, V. Kuryatkov, **A.A. Bernussi**, and S.A. Nikishin, "Effect of deposition conditions on the optical and chemical properties of SiO_2 films," TMS Annual Meeting Supplemental Proceedings, vol. 3, p. 653, 2009.
95. D.Y. Song, A. Chandolu, M. E. Holtz, S.A. Nikishin, **A.A. Bernussi**, M.W. Holtz, I. Gherasoiu, M. O'Steen, T. Bird, D. Gotthold, "Effect of Stress and Low Free Carrier Concentration on the Energy Gap of InN", *Electronic Materials Conference*, June 25-27**,** Santa Barbara, CA,2008.
96. L. Grave de Peralta and **A.A. Bernussi**, "Photon trajectories in multiple slit interference experiments with femtosecond pulses of light?", *2007 Joint Fall Meeting of the Texas Sections of the APS and AAPT*, October 18–20, 2007; College Station, Texas
97. L. Grave de Peralta, S.A. Nikishin, M. Holtz, **A.A. Bernussi**, and A. Meshal, "Active metal-semiconductor-metal plasmonic waveguides for lossless light propagation in nanoscale photonic circuits", *2007 Nanoelectronic Devices for Defense & Security (NANO-DDS) Conference*, Crystal City, VA, June 18-22, 2007.
98. A. Krishnan, L. Grave de Peralta, M. Holtz, and **A.A. Bernussi**, "Propagation analysis of surface plasmon polariton waveguides with an active gain medium", *The Best Little Nano Conference in Texas*, Austin, TX, April 4-5, pg. 21, 2007.

99. S. Frisbie, D. Rosenbladt, T. Margheim, L. Grave de Peralta, **A.A. Bernussi** and M. Holtz, "The effect of plasma-etching-induced nanoscale roughness on the surface plasmon polariton", *The Best Little Nano Conference in Texas*, Austin, TX, April 4-5, pg. 16, 2007.
100. L. Tian, D.Y. Song, S. Frisbie, **A.A. Bernussi**, and M. Holtz, "Fabrication of nanostructures for systematically modifying and controlling optical properties", *The Best Little Nano Conference in Texas*, Austin, TX, April 4-5, pg. 19, 2007.
101. A.Krishnan, V. Kuryatkov, H. Temkin, **A.A. Bernussi**, and L. Grave de Peralta, "Generation of arbitrary sequences of ultrafast pulses using reflective arrayed waveguide grating multiplexers and phase-only masks", *Technical Digest :Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS)*, pp. CTuBB4 1-2, Long Beach, CA, May 21–26, 2006.

PUBLICATION LIST - *CONFERENCE PROCEEDINGS AND NATIONAL JOURNALS*

102. M.F. Pereira, **A.A. Bernussi**, W. Carvalho, M.T. Furtado, and A.L. Gobbi: "Many particle theory for the luminescence, characterization and simulation of quantum well laser structures", *Braz. J. of Physics*, vol. 32, pp. 386-388, 2002.
103. E. Laureto, E.A. Meneses, W. de Carvalho Jr., **A.A. Bernussi**, E. Ribeiro, E.C.F. da Silva, and J.B.B. de Oliveira: "Optical studies of the correlation between interface disorder and the photoluminescence line shape in GaAs/InGaP quantum wells", *Braz. J. of Physics*, vol. 32, pp. 314-317, 2002.
104. S.J. Luyo, M.J.S.P. Brasil, H.B. de Carvalho, W. de Carvalho Jr., and **A.A. Bernussi**, "Carrier dynamics investigated by time resolved optical spectroscopy", *Braz. J. of Physics*, vol. 32, pp. 353-355, 2002.
105. R.L. Maltez, G. Medeiros-Ribeiro, **A. A. Bernussi**, W. de Carvalho, and D. Ugarte, "InAs-InP Coupled Quantum Dot Systems", *MRS Proceedings* vol. 642, pp. J7.3.1-J7.3.6, 2001.
106. H.A. Paula, F. Iikawa, E. Ribeiro, J.A. Brum, W. Carvalho Jr, **A.A. Bernussi**, A.L. Gobbi: "Enhancement of Fermi energy optical emission induced by the band structure in strained-layer InGaAs/InP quantum wells", *Proc. of 25th International Conference on the Physics of Semiconductors*, 2000, Osaka, Japan, Springer Proceedings in Physics, vol. 87, pp.575-578, 2000.
107. W. de Carvalho Jr., **A.A. Bernussi**, M.T. Furtado, A.L. Gobbi, M.A. Cotta: "Strained $In_{1-x}Ga_xAs_yP_{1-y}$/InP quantum well heterostructures grown by low-pressure metalorganic vapor phase epitaxy", *Materials Research*, vol. 2, pp. 49-57, 1999.
108. **A.A. Bernussi**, W.Carvalho Jr., M.T. Furtado, and A.L. Gobbi: "Strain and relaxation processes in $In_{1-x}Ga_xAs_yP_{1-y}$/InP single quantum wells grown by LP-MOVPE", *Braz. J. of Physics*, vol. 29, 746-750, 1999.
109. **A.A. Bernussi**, W. Carvalho Jr., M.T. Furtado, A.L. Gobbi, and M.A. Cotta: "Imaging studies of strained InGaAsP/InP heterostructures by photoluminescence microscopy", *Proc. of 11th Internatiional Conference on Indium Phosphide and Related Materials – IPRM'99*, May 16-20, Davos, Switzerland, IEEE Catalog No. 99CH36362, pp. 523-526, 1999.
110. W. de Carvalho Jr., **A.A. Bernussi**, M.T. Furtado, A.L. Gobbi, and M.A. Cotta: "Morphological, optical and structural properties of zero-net-strained InGaAsP/InP structures grown by LP-MOVPE for 1.55 μm laser applications", *Braz. J. of Physics*, vol. 29, 839-842, 1999.
111. M.T. Furtado, W. Carvalho Jr., **A.A. Bernussi** and A.L. Gobbi: "High quality strained InGaAsP/InGaAsP/InP multiquantum well lasers for 1.55_m emission grown by MOVPE", *Revista de Física Aplicada e Instrumentação*, vol. 13, pp. 50-59, 1998.
112. **A.A. Bernussi**, and H. Temkin, **Invited Paper**, "High temperature properties of quaternary quantum well laser diodes", *Braz. J. of Physics*, vol. 27A, pp. 29-37, 1997.

113. F. Iikawa, M.L.F. Abade, R.G. Pereira, J.A. Brum, **A.A. Bernussi**, A.L. Gobbi, and G. Borghs, "Resonance effect in the magneto-optical properties of GaAs/InGaAs/AlGaAs modulation doped quantum wells", *Proc. of 12th International Conference in High Magnetic Fields of Semiconductors II*, July 29-August 2, Wurzburg, Germany, pp. 621-624, 1996.
114. V. Grivkas, J. Kolenda, **A.A. Bernussi**, B. Matvienko, and P. Basmaji: "Luminescence degradation and fatigue effects in porous silicon", *Braz. J. of Physics*, vol. 24, pp. 349-352, 1994.
115. **A.A. Bernussi**, R.B. Martins, and A.M. Machado: "Electro-optic characteristics of GaInP/GaAs/GaInAs strained quantum well lasers", *Braz. J. of Physics*, vol. 24, pp. 456-459, 1994.
116. **A.A. Bernussi**, C.F. Souza, W. Carvalho, D.I. Lubyshev, J.C. Rossi, and P. Basmaji: "Optical and structural properties of low temperature GaAs layers grown by molecular-beam epitaxy", *Braz. J. of Physics*, vol. 24, pp. 460-465, 1994.
117. F. Iikawa, **A.A. Bernussi**, M.J.S.P. Brasil, J.A. Brum, P.A. Schulz, R.G. Pereira, R.C. Oliveira, and G. Borghs: "Optical properties of a dense 2D-electron gas", *Braz. J. of Physics*, vol. 24, pp. 478-481, 1994.
118. P. Basmaji. **A.A. Bernussi**, J.C. Rossi, and B.V. Matvienko, "Rapid photoluminescence intensity degradation in porous silicon", *Materials Research Symposium Proc.*, vol. 283, pp. 233-238, 1993.
119. B. Matvienko, P. Basmaji, V. Grivkas, and **A.A. Bernussi**, "Ions exchange effects in porous silicon", *Materials Research Symposium Proc.*, vol. 298, pp. 231-234, 1993.
120. R.B. Martins, **A.A. Bernussi**, and A.M. Machado: "Low threshold current GaInAs/GaAs single quantum well lasers with GaInP cladding layers", *Proc. of 5th Int. Conf. on Indium Phosphide and Related Materials*, France, pp. 607-610, 1993.
121. **A.A. Bernussi**, R.C. Oliveira, M.A. Sacilotti, and P. Motisuke: "Photomodulated spectra of InGaAs high electron mobility structures", *Proc. of 5th Brazilian School of Semiconductor Physics*, Águas de Lindóia, SP, Brazil, February 5-9, pp. 307-311, 1991.
122. **A.A. Bernussi**, F. Iikawa, P. Motisuke, P. Basmaji, M.S. Li, and O. Hipólito: "Photoreflectance characterization of silicon delta-doped p-GaAs", *Proc. SPIE*, vol. 1286, pp. 348-358, 1990.
123. **A.A. Bernussi**, C.A. Mendonça, P. Motisuke, E.A. Meneses, F. Cerdeira, F.H. Pollak, P. Basmaji, and I.F.L. Dias: "Photoreflectance of 2D electron gas: observation of quantum confined Franz-Keldysh effect?", *Proc. of 20th Int. Conf. on Phys. of Semiconductors*, August 6-10, Thessalonik, Greece, ed. by E.M. Anastassakis and J.D. Joannopoulos (World Scientific), pp. 1065-1068, 1990.
124. **A.A. Bernussi**, J.A. Brum, P. Motisuke, P. Basmaji, M.S. Li, and O. Hipólito: "Optical interband transitions in single and periodically delta-doped GaAs samples", *Materials Science Forum*, vol. 65-66, pp. 67-71, 1990.
125. **A.A. Bernussi**, P.A.M. Rodrigues, F. Cerdeira, V.L. Crivelenti, P. Motisuke, M.A. Sacilotti, A.M. Machado, and C. Vàsquez: "Photoreflectance and Electroreflectance characterization of GaAs films grown by MOCVD", *Proc. of 4th Brazilian School of Semiconductor Physics*, Belo Horizonte, MG, Brazil, Jan.23-Feb.03, 1989, ed. by A.S. Chaves, A.G. Oliveira, and C.E.T. Gonçalves da Silva, World Scientific, pp. 280-283, 1990.
126. P.A.M. Rodrigues, C.A. Mendonça, **A.A. Bernussi**, F.O. Plentz, C. Vàzquez, V.L. Crivelenti, F. Cerdeira, E.A. Meneses, J.C. Bezerra, I.L. Dias, and A.G. Oliveira: "Photoreflectance, Photoluminescence, and Raman Scattering of MBE GaAs/ $Al_xGa_{1-x}As$ multiple quantum well", *Proc. of 4th Brazilian School of Semiconductor Physics*, Belo Horizonte, MG, Brazil, Jan.23-Feb.03, 1989, ed. by A.S. Chaves, A.G. Oliveira, and C.E.T. Gonçalves da Silva, World Scientific, pp.304-307, 1990.
127. M.A. Cotta, A. Camilo Jr., M.M.G. Carvalho, **A.A. Bernussi**, and K. Ito, "Growth of InP films by vacuum chemical epitaxy (VCE)", *Proc. of 4th Brazilian School of Semiconductor Physics*, Belo

Horizonte, MG, Brazil, Jan.23-Feb.03, 1989, ed. by A.S. Chaves, A.G. Oliveira, and C.E.T. Gonçalves da Silva, World Scientific, pp. 264-267, 1990.

128. **A.A. Bernussi**, F. Iikawa, P. Motisuke, P. Basmaji, A.M. Ceschin, M.S. Li, and O. Hipólito, "MOVPE growth and characterization of GaAs on Si by photoreflectance and photoluminescence", *Proc. of 4th Brazilian School of Semiconductor Physics*, Belo Horizonte, MG, Brazil, Jan.23-Feb.03, 1989, ed. by A.S. Chaves, A.G. Oliveira, and C.E.T. Gonçalves da Silva, World Scientific, pp. 240-243, 1990.