Curriculum Vitae
Thierry GUILLET

Last update : 10/2024

Professor of Physics, Université de Montpellier
Laboratoire Charles Coulomb (L2C, UMR5221, UM-CNRS)
Faculté des Sciences, Physics Department

Personal Information

Date of birth: May 4th, 1977 (Sainte-Catherine, France)
Nationality: French
Marital status: Married, three children

Contact

E-Mail: thierry.guillet@umontpellier.fr
Orcid ID: 0000-0001-9736-0026
Publications: https://cv.hal.science/thierry-guillet

- Head of the Physics Department (teaching) of the Faculté des Sciences (since 2023)
- Visiting professor (2018-2020) at the Department of Physics, University of Strathclyde
- Visiting researcher (2016-2017) at the Department of Physics, University of Strathclyde, with T. Ackemann and G.L. Oppo (*Crossing Solitons in VECSELs, atomic vapors and polariton condensates*)
- Leading the UV nanophotonics and nanolaser activities initiated and developed during the last two decades at Laboratoire Charles Coulomb, Université de Montpellier
  - Single GaN/AlN quantum dot spectroscopy
  - Strong exciton-photon coupling, 300K polariton lasers and polariton fluids in GaN and ZnO microcavities and waveguides
  - High Q GaN/AlN photonic resonators for UV nanophotonics, microlasers, non-linear optics and integrated photonics
  - Fluids of indirect excitons in GaN/AlN quantum wells
- Teaching optics for all degrees, from the wave optics lab (Bachelor) to the physics of nanostructures, and the advanced optical microscopies for biomedical applications (Master)
- In charge of the Master de Physique (Physics Master Degree, 2020-2023) with C. Hugonie, and the Phymatech Master Specialty (since 2017) with H. Peyre
- Strongly involved in science education events for schools and general public
- Supervision experience: 6 awarded PhDs, 2 undergoing PhD, 2 postdoctoral fellows
- Coordinator/Principal investigator of French ANR projects (ANR Zoom, Sinphoni, Quanonic, Plug and Bose, Milagan, Newave), PI or participant of European projects (ITN Clermont4 2009-2013, ITN Index 2011-2015)
- University collegial councils:
  - Former elected member of the Conseil d'UFR FdS, the Conseil de laboratoire L2C and the "Conseil d'Administration" de l'Université de Montpellier;
  - Presently member of the Conseil d'UFR (Faculté des Sciences), and the "Comité technique" de l'Université de Montpellier.

Education/Research Positions

Since 2014	Full Professor of Physics, Université de Montpellier Laboratoire Charles Coulomb
Since 2023	Head of the Physics Department (teaching) of the Faculté des Sciences
2018-2020	Visiting professor at the Department of Physics, University of Strathclyde
08/2016 – 07/2017	Visiting researcher at the Department of Physics, University of Strathclyde *"Crossing solitons" in VECSELs, atomic vapors and polariton condensates* in collaboration with T. Ackemann and G.L. Oppo
2012	Habilitation à Diriger les recherches,Université Montpellier 2 Spécialité Physique (Mention Très Honorable) *Exciton-photon coupling in wide bandgap semiconductor nanostructures* defended on December 10th, 2012 Jury : P. Sénellart, J.M. Gérard, A. Kavokin, R. Grousson, B. Deveaud-Plédran, G. Cassabois Manuscript on CCSD-CNRS/Thèse en ligne
01/09/2003 - 2014	Assistant Professor (Maître de conférences), Université Montpellier 2 Within the group « Nanostructures Quantiques - Propriétés Optiques » of the Groupe d'Etude des Semiconducteurs, and the group « Physique de l'Exciton, du Photon et du Spin » of the Laboratoire Charles Coulomb
2002-2003	Postdoctoral fellowship *Realisation of structures microcavities for the lateral confinement of polaritons – Polariton quantum boxes.* Benoît Deveaud-Plédran, Laboratoire d'Optoélectronique Quantique, Physics Department, Ecole Polytechnique Fédérale de Lausanne, Switzerland
1999-2002	PhD thesis, Université Pierre et Marie Curie, Paris Spécialité Solid State Physics (Mention Très Honorable) *Disorder and optical properties of excitons in semiconductor quantum wires : from boxes to wires* Under the supervision of Valia Voliotis et Roger Grousson Defended on June 20th, 2002 Manuscript on CCSD-CNRS/Thèse en ligne
	Award: "Mention spéciale du jury Jeunes Chercheurs" of the French Physics Society (SFP), February 1st, 2003
1996-1999	Bachelor : Magistère Inter-universitaire de Physique (Mention Très-Bien) Ecole Normale Supérieure, Paris
	Master : DEA de Physique des Solides (Mention Très-Bien) Université Pierre et Marie Curie, Paris
1996	Admission at Ecole Normale Supérieure, Paris

Publications and communications

77 articles in peer-reviewed journals
(Nature, Phys. Rev. Lett., Optica, Appl. Phys. Lett., Opt. Lett., Phys. Rev. B, J. Appl. Phys., Sci. Rep., ACS Phot.)
1 book chapter
~40 conferences incl. 12 invited talks
Orcid ID: 0000-0001-9736-0026
idHal: thierry-guillet

Publications

1. *Mode-locked waveguide polariton laser*
H. Souissi, M. Gromovyi, I. Septembre, V. Develay, C. Brimont, L. Doyennette, E. Cambril, S. Bouchoule, B. Alloing, E. Frayssinet, J. Zúñiga-Pérez, T. Ackemann, G. Malpuech, D. D. Solnyshkov, **T. Guillet**
Optica **11**, 967 (2024); Arxiv:2310.18661
Selected as a news by Actualité CNRS-Physique (Oct. 2024)
and by "Photoniques" (Vol 127, p15, July 2024; Ed. Société Française d'Optique)
2. *Soliton formation in an exciton-polariton condensate at a bound state in the continuum*
I. Septembre, I. Foudjo, V. Develay, T. Guillet, S. Bouchoule, J. Zúñiga-Pérez, D. D. Solnyshkov, and G. Malpuech
Phys. Rev. B **109**, 205302 (2024);
3. *Molecular beam epitaxy of GaN/AlGaN quantum wells on bulk GaN substrate in the step-flow or step meandering regime: Influence on indirect exciton diffusion*
B. Damilano , H. Teisseyre , S. Vézian , V. Guigoz , A. Courville , I. Florea , P. Vennéguès, M. Bockowski , **T. Guillet** , M. Vladimirova
J. Appl. Phys. **135**, 095702 (2024); hal-04489504
4. *Electrostatic modulation of excitonic fluid in GaN/AlGaN quantum wells by deposition of few-layer graphene and nickel/gold films*
R. Aristegui, P. Lefebvre, C. Brimont, **T. Guillet**, M. Vladimirova, I. Paradisanos, C. Robert, X. Marie, B. Urbaszek, S. Chenot, Y. Cordier, B. Damilano
Phys. Rev. B **108**, 125421 (2023); hal-04251300
5. *Ridge Polariton Laser: Different from a Semiconductor Edge-Emitting Laser*
H. Souissi, M. Gromovyi, T. Gueye, C. Brimont, L. Doyennette, D.D Solnyshkov, G. Malpuech, E. Cambril, S. Bouchoule, B. Alloing, S. Rennesson, F. Semond, J. Zúñiga-Pérez, **T. Guillet**
Phys. Rev. Applied **18**, 044029 (2022); arxiv:2201.04348
6. *Effect of electric bias on trapping and release of excitons in GaN/(Al,Ga)N quantum wells*
R. Aristegui, F. Chiaruttini, B. Jouault, P. Lefebvre, C. Brimont, **T. Guillet**, M. Vladimirova, S. Chenot, Y. Cordier, B. Damilano
Phys. Rev. B **106**, 035429 (2022); hal-03759667
7. *Complexity of the dipolar exciton Mott transition in GaN/(AlGa)N nanostructures*
F. Chiaruttini, **T. Guillet**, C. Brimont, D. Scalbert, S. Cronenberger, B. Jouault, P. Lefebvre, B. Damilano, M. Vladimirova
Phys. Rev. B **103**, 045308 (2021); arxiv:2010.08216
8. *Analysis of low-threshold optically pumped III-nitride microdisk lasers*
F. Tabataba-Vakili,C. Brimont, B. Alloing, B. Damilano, L. Doyennette, **T. Guillet**, M. El Kurdi, S. Chenot, V. Brändli, E. Frayssinet, J.-Y. Duboz, F. Semond, B. Gayral, and P. Boucaud
Appl. Phys. Lett. **117**, 121103 (2020); Preprint HAL
9. *Monolithic integration of ultraviolet microdisk lasers into photonic circuits in a III-nitride-on-silicon platform*

F. Tabataba-Vakili, B. Alloing, B. Damilano, H. Souissi, C. Brimont, L. Doyennette, **T. Guillet**, X. Checoury, M. El Kurdi, S. Chenot, E. Frayssinet, J.-Y. Duboz, F. Semond, B. Gayral, and P. Boucaud
Opt. Lett. **45**, 4276 (2020); Preprint HAL

10. *Strong coupling of exciton-polaritons in a bulk GaN planar waveguide: quantifiying the Rabi splitting*
C. Brimont, L. Doyennette, G. Kreyder, F. Réveret, P. Disseix, F. Médard, J. Leymarie, E. Cambril, S. Bouchoule, M. Gromovyi, B. Alloing, S.Rennesson, F. Semond, J. Zúñiga-Pérez, **T. Guillet**
Phys.Rev. Applied **14**, 054060 (2020); arXiv:1902.02974

11. *Demonstration of critical coupling in an active III-nitride microdisk photonic circuit on silicon*
F. Tabataba-Vakili, L. Doyennette, C. Brimont, **T. Guillet**, S. Rennesson, B. Damilano, E. Frayssinet, J.-Y. Duboz, X. Checoury, S. Sauvage, M. El Kurdi, F. Semond, B. Gayral, and P. Boucaud
Sci. Rep. **9**, 18095 (2019); Preprint HAL

12. *III-nitride on silicon electrically injected microrings for nanophotonic circuits*
F. Tabataba-Vakili, S. Rennesson, B. Damilano, E. Frayssinet, J.-Y. Duboz, F. Semond, I. Roland, B. Paulillo, R. Colombelli, M. El Kurdi, X. Checoury, S. Sauvage, L. Doyennette, C. Brimont, **T. Guillet**, B. Gayral, and P. Boucaud
Optics Express **27**, 11800 (2019); Preprint HAL

13. *Trapping Dipolar Exciton Fluids in GaN/(AlGa)N Nanostructures*
F. Chiaruttini, **T. Guillet**, C. Brimont, B. Jouault, P. Lefebvre, S. Chenot, Y. Cordier, B. Damilano, M. Vladimirova
NanoLetters **19**, 4911 (2019) arXiv:1902.02974

14. *Competition between horizontal and vertical polariton lasing in planar microcavities*
O. Jamadi, F. Réveret, D. Solnyshkov, P. Disseix, J. Leymarie, L. Mallet-Dida, C. Brimont, **T. Guillet**, X. Lafosse, S. Bouchoule, F. Semond, M. Leroux, J. Zuniga-Perez, G. Malpuech
Phys. Rev. B **99**, 085304 (2019) arxiv :1810.05508

15. *Blue Microlasers Integrated on a Photonic Platform on Silicon*
F. Tabataba-Vakili, L. Doyennette, C. Brimont, **T. Guillet**, S. Rennesson, E. Frayssinet, B. Damilano, J.Y. Duboz, F. Semond, I. Roland, M. El Kurdi, X. Checoury, S. Sauvage, B. Gayral, P. Boucaud
ACS Photonics **5**, 3643 (2018) Preprint HAL

16. *Q factor limitation at short wavelength (around 300 nm) in III-nitride-onsilicon photonic crystal cavities*
F. Tabataba-Vakili, I. Roland, T.M. Tran, X. Checoury, M. El Kurdi, S. Sauvage, C. Brimont, **T. Guillet**, S. Rennesson, J.Y. Duboz, F. Semond, B. Gayral, P. Boucaud
Appl. Phys. Lett. **111**, 131103 (2017); Preprint HAL

17. *Polarization Properties of Laser Solitons*
P. Rodriguez, J. Jimenez-Garcia, **T. Guillet**, T. Ackemann
Applied Sciences **7**, 442 (2017)

18. *Spontaneous Formation of Vector Vortex Beams in Vertical-Cavity Surface-Emitting Lasers with Feedback,*
J. Jimenez-Garcia, P. Rodriguez, **T. Guillet**, T. Ackemann
Phys. Rev. Lett. **119**, 113902 (2017) arxiv:1706.05370

19. *Polariton condensation threshold investigation through the numerical resolution of the generalized Gross-Pitaevskii equation*
H. Gargoubi, **T. Guillet**, S. Jaziri, J. Balti, B. Guizal,
Phys. Rev. E **94**, 043310 (2016)

20. *Polariton condensates at room temperature*
T. Guillet, C. Brimont
Comptes Rendus de l'Académie des Sciences - Physique **17**, 946(2016) arxiv:1603.05093

21. *Room-Temperature Transport of Indirect Excitons in (Al,Ga)N/GaN Quantum Wells*
F. Fedichkin, **T. Guillet**, P. Valvin, B. Jouault, C. Brimont, T. Bretagnon, L. Lahourcade, N. Grandjean, P. Lefebvre, M. Vladimirova,
Phys. Rev. Applied **6**, 014011 (2016) Arxiv :1603.00191

22. *Phase-matched second harmonic generation with on-chip GaN-on-Si microdisks*
I. Roland, M. Gromovyi, Y. Zeng, M. El Kurdi, S. Sauvage, C. Brimont, **T. Guillet**, B. Gayral, F. Semond, J. Y. Duboz, M. de Micheli, X. Checoury, P. Boucaud
Scientific Reports **6**, 34191 (2016); Preprint HAL

23. *III-Nitride-on-silicon microdisk lasers from the blue to the deep ultra-violet*
J. Selles, V. Crepel, I. Roland, M. El Kurdi, X. Checoury, P. Boucaud, M. Mexis, M. Leroux, B. Damilano, S. Rennesson, F. Semond, B. Gayral, C. Brimont, **T. Guillet**
Appl. Phys. Lett. **109**, 231101 (2016) Preprint

24. *Imaging of Photonic Crystal Localized Modes through Third-Harmonic Generation*
Y. Zeng, I. Roland, X. Checoury, Z. Han, M. El Kurdi, S. Sauvage, B. Gayral, C. Brimont, **T. Guillet**, F. Semond, P. Boucaud
ACS Photonics **3**, 1240 (2016)

25. *Near-infrared III-nitride-on-silicon nanophotonic platform with microdisk resonators*
I. Roland, Y. Zeng, X. Checoury, M. El Kurdi, S. Sauvage, C. Brimont, **T. Guillet**, B. Gayral, M. Gromovy, F. Semond, P. Boucaud
Optics Express **24**, 9602 (2016) (open access)

26. *Deep-UV Nitride-on-Silicon Microdisk Lasers*
J. Sellés, C. Brimont, G. Cassabois, P. Valvin, **T. Guillet**, I. Roland, Y. Zeng, X. Checoury, P. Boucaud, M. Mexis, F. Semond, B. Gayral
Scientific Reports **6**, 21650 (2016) (open access)

27. *Interplay between tightly focused excitation and ballistic propagation of polariton condensates in a ZnO microcavity*
R. Hahe, C. Brimont, P. Valvin, **T. Guillet**, F. Li, M. Leroux, J. Zuniga-Perez, X. Lafosse, G. Patriarche, S. Bouchoule
Phys. Rev. B **92**, 235308 (2015), arxiv :1510.06716

28. *Transport of dipolar excitons in (Al,Ga)N/GaN quantum wells*
F. Fedichkin, P. Andreakou, B. Jouault, M. Vladimirova, **T. Guillet**, C. Brimont, P. Valvin, T. Bretagnon, A. Dussaigne, N. Grandjean, P. Lefebvre
Phys. Rev. B **91**, 205424 (2015)

29. *Transport of indirect excitons in ZnO quantum wells*
Y. Y. Kuznetsova, F. Fedichkin, P. Andreakou, E. V. Calman, L. V. Butov, P. Lefebvre, T. Bretagnon, **T. Guillet**, M. Vladimirova, C. Morhain, J.M. Chauveau
Opt. Lett. **40**, 3667 (2015)

30. *Resonant second harmonic generation in a gallium nitride two-dimensional photonic crystal on silicon*
Y. Zeng, I. Roland, X. Checoury, Z. Han, M. El Kurdi, S. Sauvage, B. Gayral, C. Brimont, **T. Guillet**, M. Mexis, F. Semond, P. Boucaud
Appl. Phys. Lett. **106**, 081105 (2015); Preprint

31. *Patterned silicon substrates: A common platform for room temperature GaN and ZnO polariton lasers*
J. Zuniga-Perez, E. Mallet, R. Hahe, M.J. Rashid, S. Bouchoule, C. Brimont, P. Disseix, J.Y. Duboz, G. Gommé, **T. Guillet**, O. Jamadi, X. Lafosse, M. Leroux, J. Leymarie, F. Li, F. Réveret, F. Semond
Appl. Phys. Lett. **104**, 241113 (2014), arxiv:1404.7743

32. *Hydrothermal growth of large piezoelectric single crystals of $GaAsO_4$*
M. Souleiman, G.M. Bhalerao, **T. Guillet**, A. Haidoux, M. Cambon, C. Levelut, J. Haines, O. Cambon
J. Cryst. Growth **397**, 29 (2014)

33. *Near-infrared gallium nitride two-dimensional photonic crystal platform on silicon*
I. Roland, Y. Zeng, Z. Han, X. Checoury, C. Blin, M. El Kurdi, A. Ghrib, S. Sauvage, B. Gayral, C. Brimont, **T. Guillet**, F. Semond, P. Boucaud
Appl. Phys. Lett. **105**, 011104 (2014); Preprint

34. *Aluminum nitride photonic crystals and microdiscs for ultra-violet nanophotonics*
D. Néel, I. Roland, X. Checoury, M. El Kurdi, S. Sauvage, C. Brimont, **T. Guillet**, B. Gayral, F. Semond, P. Boucaud
Adv. Nat. Sci: Nanosci. Nanotechnol. **5**, 023001 (2014)

35. *Imaging of photonic modes in an AlN-based photonic crystal probed by an ultra-violet internal light source*
C. Brimont, **T. Guillet**, S. Rousset, D. Néel, X. Checoury, S. David, P. Boucaud, D. Sam-Giao, B. Gayral, M. J. Rashid, F. Semond
Opt. Lett. **38**, 5059 (2013)

36. *From Excitonic to Photonic Polariton Condensate in a ZnO-Based Microcavity*
Feng Li, L. Orosz, O. Kamoun, S. Bouchoule, C. Brimont, P. Disseix, **T. Guillet**, X. Lafosse, M. Leroux, J. Leymarie, M. Mexis, M. Mihailovic, G. Patriarche, F. Réveret, D. Solnyshkov, J. Zuniga-Perez, G. Malpuech
Phys. Rev. Lett. **110**, 196406 (2013)

37. *Fabrication and characterization of a room-temperature ZnO polariton laser*,
Feng Li, L. Orosz, O. Kamoun, S. Bouchoule, C. Brimont, P. Disseix, **T. Guillet**, X. Lafosse, M. Leroux, J. Leymarie, G. Malpuech, M. Mexis, M. Mihailovic, G. Patriarche, F. Réveret, D. Solnyshkov, J. Zuniga-Perez
Appl. Phys. Lett. **102**, 191118 (2013)

38. *Phonon-assisted exciton formation in ZnO/(Zn, Mg)O single quantum wells grown on C-plane oriented substrates*
L. Béaur, T. Bretagnona, **T. Guillet**, C. Brimont, M. Gallart, B. Gil, P. Gilliot, C. Morhain
J. Luminescence **136,** 355–357 (2013)

39. *Thermal annealing of molecular beam epitaxy-grown InGaN/GaN single quantum well*
N.A. Kaufmann, A. Dussaigne, D. Martin, P. Valvin, **T. Guillet**, B. Gil, F. Ivaldi, S. Kret and N. Grandjean
Semicond. Sci. Technol. **27,** 105023 (2012)

40. *High quality factor AlN nanocavities embedded in a photonic crystal waveguide*
D. Sam-Giao, D. Néel, S. Sergent, B. Gayral, M. J. Rashid, F. Semond, J.Y. Duboz, M. Mexis, **T. Guillet**, C. Brimont, S. David, X. Checoury, P. Boucaud
Appl. Phys. Lett. **100**, 191104 (2012)

41. *LO-phonon-assisted polariton lasing in a ZnO-based microcavity*
L. Orosz, F. Réveret, F. Médard, P. Disseix, J. Leymarie, M. Mihailovic, D. Solnyshkov, G. Malpuech, J. Zuniga-Pérez, F. Semond, M. Leroux, S. Bouchoule, X. Lafosse, M. Mexis, C. Brimont, **T. Guillet**
Phys. Rev. B **85**, 121201 (2012), arxiv:1112.0043

42. *AlN photonic crystal nanocavities realized by epitaxial conformal growth on nanopatterned silicon substrate*
D. Néel, S. Sergent, M. Mexis, D. Sam-Giao, **T. Guillet**, C. Brimont, T. Bretagnon, F. Semond, B. Gayral, S. David, X. Checoury, P. Boucaud
Appl. Phys. Lett. **98**, 261106 (2011)

43. *High quality factor nitride-based optical cavities: microdisks with embedded GaN/Al(Ga)N quantum dots*
M. Mexis, S. Sergent, **T. Guillet**, C. Brimont, T. Bretagnon, B. Gil, F. Semond, M. Leroux, D. Néel, S. David, X. Checoury, P. Boucaud
Opt. Lett. **36**, 2203 (2011), arXiv:1101.2078

44. *Polariton lasing in a hybrid ZnO bulk microcavity*
T. Guillet, M. Mexis, J. Levrat, G. Rossbach, C. Brimont, T. Bretagnon, B. Gil, R. Butté, N. Grandjean, L. Orosz, F. Réveret, J. Leymarie, J. Zúñiga-Pérez, M. Leroux, F. Semond, S. Bouchoule
Appl. Phys. Lett. **99**, 161104 (2011)

45. *Laser emission with excitonic gain in a ZnO planar microcavity*
T. Guillet, C. Brimont, P. Valvin, B. Gil, T. Bretagnon, F. Médard, M. Mihailovic, J. Zúñiga-Pérez, M. Leroux, F. Semond, S. Bouchoule
Appl. Phys. Lett. **98**, 211105 (2011), arXiv:1106.0183

46. *Fabrication and Optical Properties of a Fully-Hybrid Epitaxial ZnO-Based Microcavity in the Strong-Coupling Regime*
L. Orosz, F. Réveret, S. Bouchoule, J. Zúñiga-Pérez, F. Médard, J. Leymarie, P. Disseix, M. Mihailovic, E. Frayssinet, F. Semond, M. Leroux, M. Mexis, C. Brimont, **T. Guillet**
Appl. Phys. Exp. **4**, 072001 (2011), arXiv:1105.0747

47. *Exciton radiative properties in nonpolar homoepitaxial ZnO/(Zn,Mg)O quantum wells*
L. Béaur, T. Bretagnon, B. Gil, A. Kavokin, **T. Guillet**, C. Brimont, D. Tainoff, M. Teisseire, and J.M. Chauveau
Physical Review B **84**, 165312 (2011)

48. *Low temperature reflectivity study of nonpolar ZnO/(Zn,Mg)O quantum wells grown on M-plane ZnO substrates*
L. Béaur, T. Bretagnon, C. Brimont, **T. Guillet**, B. Gil, D. Tainoff, M. Teisseire, J.M. Chauveau
Appl. Phys. Lett. **98**, 101913 (2011), arXiv:1101.1733

49. *Relaxation and emission of Bragg-mode and cavity-mode polaritons in a ZnO microcavity at room temperature*
S. Faure, C. Brimont, **T. Guillet**, T. Bretagnon, B. Gil, F. Médard, D. Lagarde, P. Disseix, J. Leymarie, J. Zúñiga-Pérez, M. Leroux, E. Frayssinet, J.C. Moreno, F. Semond, S. Bouchoule
Appl. Phys. Lett. **95**, 121102 (2009), arXiv:0905.4351

50. *Optical study of bulk ZnO for strong coupling observation in ZnO-based microcavities*
F. Médard,J. Zúñiga-Pérez, E. Frayssinet, J.C. Moreno, F. Semond, S. Faure, P. Disseix, J. Leymarie, M. Mihailovic, A. Vasson, **T. Guillet**, M. Leroux
Photonics and Nanostructures-Fundamentals and Applications **7**, 26 (2009)

51. *Experimental observation of strong light-matter coupling in ZnO microcavities : Influence of large excitonic absorption*
F. Médard, J. Zúñiga-Pérez, P. Disseix, M. Mihailovic, J. Leymarie, A. Vasson, F. Semond, E. Frayssinet, J. C. Moreno, M. Leroux, S. Faure, and **T. Guillet**
Physical Review B **79**, 125302 (2009)

52. *Comparison of strong coupling regimes in bulk GaAs, GaN, and ZnO semiconductor microcavities*
S. Faure, **T. Guillet**, P. Lefebvre, T. Bretagnon, B. Gil
Physical Review B **78**, 235323 (2008).

53. *Polarized emission from GaN/AlN quantum dots : Single-dot spectroscopy and symmetry-based theory.*
R. Bardoux, **T. Guillet**, B. Gil, P. Lefebvre, T. Bretagnon, T. Taliercio, S. Rousset, F. Semond
Physical Review B **77**, 235315 (2008)

54. *Nonlinear relaxation of zero-dimension-trapped microcavity polaritons*
O. El Daif, G. Nardin, T. K. Paraïso, A. Baas, M. Richard, J.-P. Brantut, **T. Guillet**, F. Morier-Genoud, and B. Deveaud-Plédran
Appl. Phys. Lett. **92**, 081910 (2008)

55. *Resonant excitonic emission of a single quantum dot in the Rabi regime*
R. Melet, V. Voliotis, A. Enderlin, D. Roditchev, X.L. Wang, **T. Guillet**, R. Grousson
Phys. Rev. B **78**, 073301 (2008)

56. *Investigation of Non-Radiative Processes in InAs/(Ga,In)(N,As) Quantum Dots*
M. Hugues, M. Richter, J.M. Chauveau, B. Damilano, J.Y. Duboz, J. Massies, T. Taliercio, P. Lefebvre, **T. Guillet**, P. Valvin, T. Bretagnon, B. Gil, and A.D. Wieck
Japanese Journal of Applied Physics **46**, L317 (2007)

57. *Contribution of long lived metastable states to the PL of InP dots in indirect band-gap barrier layers*
R. Seguin, **T. Guillet**, T. Taliercio, P. Lefebvre, T. Bretagnon, X.B. Zhang, J.H. Ryou et R.D. Dupuis
European Physical Journal Applied Physics **37**, 15 (2007)

58. *Barrier composition dependence of the internal electric field in $ZnO/Zn_{1-x}Mg_xO$ quantum wells*
T. Bretagnon, P. Lefebvre, **T. Guillet**, T. Taliercio, B. Gil, C. Morhain
Appl. Phys. Lett. **90**, 201912 (2007)

59. *Photoluminescence of single GaN/AlN hexagonal quantum dots on Si(111): Spectral diffusion effects.*
R. Bardoux, **T. Guillet**, P. Lefebvre, T. Taliercio, T. Bretagnon, S. Rousset, B. Gil, F. Semond
Physical Review B **74**, 195319 (2006)

60. *Radiative lifetime of a single electron-hole pair in GaN/AlN quantum dots.*
T. Bretagnon, P. Lefebvre, P. Valvin, R. Bardoux, **T. Guillet**, T. Taliercio, B. Gil, N. Grandjean, F. Semond, B. Damilano A. Dussaigne and J. Massies
Physical Review B **73**, 113304 (2006)

61. *Spin-exchange interaction in ZnO-based quantum wells*
B. Gil, P. Lefebvre, T. Bretagnon, **T. Guillet**, J.A. Sans, T. Taliercio, and C. Morhain
Physical Review B **74**, 153302 (2006).

62. *Engineering the spatial confinement of exciton polaritons in semiconductors.*
R. Idrissi Kaitouni, O. El Daïf, A. Baas, M. Richard, T. Paraiso, P. Lugan, **T. Guillet**, F. Morier-Genoud, J. D. Ganière, J. L. Staehli, V. Savona, and B. Deveaud
Physical Review B **74**, 155311 (2006)

63. *Polariton quantum boxes in semiconductor microcavities.*
O. El Daïf, A. Baas, **T. Guillet**, J.-P. Brantut, R. Idrissi Kaitouni, J. L. Staehli, F. Morier-Genoud, B. Deveaud
Applied Physics Letters **88**, 061105 (2006)

64. *Internal electric field in wurtzite ZnO / $Zn_{0.78}Mg_{0.22}O$ quantum wells.*
C. Morhain, T. Bretagnon, P. Lefebvre, X. Tang, P. Valvin, **T. Guillet**, B. Gil, T. Taliercio, M. Teisseire-Doninelli, B. Vinter and C. Deparis
Physical Review B **72**, 241305(R) Rapid Communications (2005).

65. *Coherent Control of Polariton Parametric Scattering in Semiconductor Microcavities*
S. Kundermann, M. Saba, C. Ciuti, **T. Guillet**, U. Oesterle, J.L. Staehli, B. Deveaud
Phys. Rev. Lett. **91**, p. 107402/1-4 (2003)

66. *AlGaAs/GaAs quantum wires with high photoluminescence thermal stability*
X.-Q. Liu, X.-L. Wang, M. Ogura, **T. Guillet**, V. Voliotis, R. Grousson
Appl. Phys. Lett. **83**, p. 5059-5061 (2003)

67. *Mott transition from a diluted exciton gas to a dense electron-hole plasma in a single V-shaped quantum wire*
T. Guillet, R. Grousson, V. Voliotis, M. Menant, X.L. Wang, M. Ogura
Phys. Rev. B **67**, p. 235324/1-6 (2003)

68. *Local disorder and optical properties in V-shaped quantum wires : towards one-dimensional exciton systems*
T. Guillet, R. Grousson, V. Voliotis, X.L. Wang, M. Ogura
Phys. Rev. B **68**, p. 045319/1-8 (2003)

69. *Excitons in quantum wires*
M. Combescot, **T Guillet**
Eur. Phys. J. B **34**, p. 9-24 (2003)

70. *Electronic states and optical properties of V-shaped AlGaAs/GaAs quantum wire superlattices*
X.L. Wang, X.Q. Liu, M. Ogura, **T. Guillet**, V. Voliotis, R. Grousson
Phys. Rev. B **66**, p. 035319/1-7 (2002)

71. *Optical evidence of a purely one-dimensional exciton density of states in a single conjugated polymer chain*
F. Dubin, J. Berrehar, R. Grousson, **T. Guillet**, C. Lapersonne-Meyer, M. Schott, V. Voliotis
Phys. Rev. B **66**, p. 113202/1-4 (2002)

72. *Modification of optical properties by strain induced piezo-electric effects in ultra-high quality V-groove AlGaAs/GaAs single quantum wire*
X.Q. Liu, X.L. Wang, M. Ogura, **T. Guillet**, V. Voliotis, R. Grousson
Appl. Phys. Lett. **79**, p. 1622-1624 (2001)

73. *Carrier scattering by Auger mechanism in a single quantum wire*
J. Bellessa, V. Voliotis, **T. Guillet**, D. Roditchev, R. Grousson, X.L. Wang, M. Ogura
Eur. Phys. J. B, **21**, p.499-505 (2001)

74. *Exchange-induced splitting of radiative exciton levels in a single quantum wire*
T. Guillet, V. Voliotis, R. Grousson, R. Ferreira, X.L. Wang, M. Ogura
Physica E **9**, p.686-93 (2001)

75. *Emission of a single conjugated polymer chain isolated in its single crystal monomer matrix*
T. Guillet, J. Berrehar, R. Grousson, J. Kovensky, C. Lapersonne-Meyer, M. Schott, V. Voliotis
Phys. Rev. Lett. **87**, p. 087401/1-4 (2001)

76. *Buffer-gas loaded magnetic traps for atoms and molecules: a primer*
R. deCarvalho, J.M. Doyle, B. Friedrich, **T. Guillet**, J. Kim, D. Patterson, J.D. Weinstein
Eur. Phys. J. D, **7**, p.289-309 (1999)

77. *Magnetic trapping of calcium monohydride molecules at millikelvin temperatures*
J.D. Weinstein, R. DeCarvalho, **T. Guillet**, B. Friedrich, J.M. Doyle
Nature, **395**, p.148-50 (1998)

Book chapter

1. *Vector vortex solitons and soliton control in vertical-cavity surface-emitting lasers*
T. Ackemann, **T. Guillet**, H. Pulham, G.-L. Oppo
in *Dissipative Optical Solitons*, ed. Mario F.S. Ferreira, Springer Series in Optical Sciences vol. 238, Springer (2022) (link); Chapter on arxiv:2106.05226

International conferences (*selection*)

1. 14th International Conference on Nitride Semiconductors (ICNS-14)
   Fukuoka, Japan, 12-18/11/2023
   GaN-based Waveguide polariton lasers: from quasi-CW to mode-locked lasers
   T. Guillet (invited), H. Souissi, M. Gromovyi, V. Develay, C. Brimont, L. Doyennette, E. Cambril, S. Bouchoule, B. Alloing, E. Frayssinet, J. Zuniga-Perez, D. Solnyshkov, G. Malpuech
2. 6th International Workshop on Ultraviolet Materials and Devices (IWUMD 6)
   Metz, France, 5-8/06/2023
   Ridge polariton laser: short lasers for on-chip integration
   T. Guillet (oral), H. Souissi, M. Gromovyi, T. Gueye, C. Brimont, L. Doyennette, D. Solnyshkov, G. Malpuech, E. Cambril, S. Bouchoule, B. Alloing, S. Rennesson, F. Semond, J. Zuniga-Perez
3. International Workshop on Nitride Semiconductors (IWN 2022)
   Berlin, Allemagne, 10-14/10/2022
   Probing the Mott transition of indirect excitons in GaN/(AlGa)N heterostructures
   F. Chiaruttini, C. Brimont, D. Scalbert, S. Cronenberger, P. Lefebvre, B. Damilano, M. Vladimirova, **T. Guillet (poster)**
   Ridge polariton laser: towards a short laser on chip for integration
   H. Souissi (oral), T. Guillet, M. Gromovyi, T. Gueye, C. Brimont, L. Doyennette, G. Kreyder, F. Réveret, P. Disseix, F. Médard, J. Leymarie, G. Malpuech, D. Solnyshkov, B. Alloing, S. Rennesson, F. Semond, J. Zuniga-Perez, E. Cambril, S. Bouchoule
   Electrical control of excitons in GaN/(Al,Ga)N quantum wells
   R. Aristegui (oral), F. Chiaruttini, B. Jouault, P. Lefebvre, C. Brimont, T. Guillet, M. Vladimirova, S. Chenot, Y. Cordier, B. Damilano
4. 17th International Conference on Optics of Excitons in Confined Systems, OECS 17
   Dortmund, Allemagne, 30 août-2 septembre 2021
   A polariton laser based on GaN waveguide: comparative gain study
   H. Souissi (poster), T. Guillet, M. Gromovyi, T. Gueye, C. Brimont, L. Doyennette, G. Kreyder, F. Réveret, P. Disseix, F. Médard, J. Leymarie, G. Malpuech, D. Solnyshkov, B. Alloing, S. Rennesson, F. Semond, J. Zuniga-Perez, E. Cambril, S. Bouchoule
   Complexity of dipolar exciton Mott transition in GaN/(AlGa)N nanostructures
   F. Chiaruttini, T. Guillet, C. Brimont, D. Scalbert, S. Cronenberger, P. Lefebvre, B. Damilano, **M. Vladimirova (oral)**
5. SPIE Optics+Photonics,
   San Diego, USA, 1-5 août 2021 (hybride)
   GaN microlasers for integrated photonics: waveguide polariton lasers and microdisk lasers
   T. Guillet (invited)
6. Lasers and Electro-Optics Europe & European Quantum Electronics Conference (CLEO/Europe-EQEC)
   Munich, Germany, 21-25/06/2021, online conference
   How a ridge polariton laser is different from a standard ridge laser
   T. Guillet (oral), H. Souissi, M. Gromovyi, T. Gueye, C. Brimont, L. Doyennette, G. Kreyder, F. Réveret, P. Disseix, F. Médard, J. Leymarie, G. Malpuech, D. Solnyshkov, B. Alloing, S. Rennesson, F. Semond, J. Zuniga-Perez, E. Cambril, S. Bouchoule
7. 21st International Conference on Physics of Light-Matter Coupling in Nanostructures (PLMCN20)
   Clermont-Ferrand, France, 27-30/10/2020
   Demonstration of a GaN waveguide polariton laser, so different from a ridge laser
   T. Guillet (oral), C. Brimont, L. Doyennette, T. Gueye, M. Gromovyi, G. Kreyder, F. Réveret, P. Disseix, F. Médard, J. Leymarie, G. Malpuech, D. Solnyshkov, B. Alloing, S. Rennesson, F. Semond, J. Zuniga-Perez, E. Cambril, S. Bouchoule
   Diamagnetic shift and Mott transition of indirect excitons in GaN/(AlGa)N heterostructures

C. Brimont (**poster**), F. Chiaruttini, T. Guillet, D. Scalbert, S. Cronenberger, P. Lefebvre, B. Damilano, M. Vladimirova

8. 20th International Conference on Physics of Light-Matter Coupling in Nanostructures (PLMCN19)
   Moscou & Suzdal, Russie, 2-6/07/2019
   Controlled and thermalized indirect exciton fluids in a GaN/AlGaN quantum well with electrostatic traps
   T. Guillet (**invited**), F. Chiaruttini, C. Brimont, B. Jouault, P. Lefebvre, S. Chenot, Y. Cordier, B. Damilano, M. Vladimirova
   Modeling the strong coupling in a GaN polariton waveguide: Impact of the Sommerfeld enhancement of the exciton spectrum
   T. Guillet (**poster**), L. Doyennette, C. Brimont, G. Kreyder, F. Réveret, P. Disseix, F. Médard, J. Leymarie, M. Gromovyi, B. Alloing, S. Rennesson, F. Semond, J. Zuniga-Perez, E. Cambril, S. Bouchoule
9. International Workshop on Nitride Semiconductors (IWN 2018)
   Kanazawa, Japon, 11-16/11/2018
   Phase transition of indirect excitons in GaN quantum wells
   T. Guillet (**oral**), F. Chiaruttini, C. Brimont, T. Bretagnon, L. Doyennette, P. Lefebvre, P.Valvin, B. Damilano, S. Chenot, Y. Cordier, and M. Vladimirova
   Propagation of polaritons in GaN waveguides up to 300K
   C. Brimont (oral), **T. Guillet**, L. Doyennette, F. Réveret, P. Disseix, F. Médard, J. Leymarie, M. Gromovyi, B. Alloing, S. Rennesson, F. Semond, J. Zuniga-Perez, E. Cambril, S. Bouchoule
   Gain studies in InGaN microdisks
   C. Brimont (oral), L. Doyennette, F. Tabataba-Vakili, I. Roland, S. Rennesson, E. Frayssinet, J. Brault, B. Damilano, J.Y. Duboz, F. Semond, S. Sauvage, M. El Kurdi, X. Checoury, R. Colombelli, B. Paulillo, B. Gayral, P. Boucaud, **T. Guillet**
10. 34th International Conference on the Physics of Semiconductors (ICPS)
    Montpellier, France, 29/7 – 03/08/2018
    Guided polaritons in a GaN planar waveguide
    T. Guillet (**oral**), C. Brimont, L. Doyennette, F. Réveret, P. Disseix, F. Médard, J. Leymarie, C. Deparis, S. Rennesson, F. Semond, J. Zuniga-Perez, E. Cambril, S. Bouchoule
    Nitride on silicon microdisk laser for UV and blue integrated photonic
    C. Brimont (poster), J. Sellès, **T. Guillet**, B. Gayral, B. Damilano, M. Leroux, M. Mexis, S. Rennesson, F. Semond, I. Roland, F. Tabataba-Vakili, X. Checoury, P. Boucaud
    Electrostatic trapping of indirect excitons in GaN/AlGaN quantum wells
    F. Chiaruttini (oral), **T. Guillet**, C. Brimont, T. Bretagnon, L. Doyennette, B. Jouault, P. Lefebvre, P. Valvin, Y. Cordier, B. Damilano, S. Chenot, M. Vladimirova
11. 9th International Conference on Spontaneous Coherence in Excitonic Systems
    Montreal, Canada, 16-20/07/2018
    Lakes and rivers of indirect excitons in polar quantum wells
    F. Chiaruttini (oral), **T. Guillet**, C. Brimont, T. Bretagnon, L. Doyennette, P. Lefebvre, P. Valvin, B. Jouault, B. Damilano, S. Chenot, Y. Cordier, M. Vladimirova
12. 3rd TeraMetaNano International Conference,
    Uxmal, Mexico, 25-29/03/2018
    Trapping dynamics of indirect excitons into electrostatic traps in GaN quantum wells
    T. Guillet (**invited**), F. Chiaruttini, C. Brimont, T. Bretagnon, L. Doyennette, P. Lefebvre, P.Valvin, B. Damilano, S. Chenot, Y. Cordier, and M. Vladimirova
    Guided polaritons in a ZnO vertical microcavity
    T. Guillet (**poster**), L. Mallet-Dida, C. Brimont, L. Doyennette, O. Jamadi, F. Réveret, P. Disseix, F. Médard, J. Leymarie, X. Lafosse, S. Bouchoule, C. Deparis, S. Rennesson, F. Semond, J. Zuniga-Perez
13. 18th International Conference on Physics of Light-Matter Coupling in Nanostructures (PLMCN18), Würzburg, Germany, 9-14/07/2017

Anti-vortex solitons in Vertical-Cavity Surface-Emitting Lasers with frequency selective feedback
T. Guillet (oral), J. Jimenez, P. Rodriguez, T. Ackemann
Interplay between vertical emission and guided emission in a ZnO microcavity polariton laser
L. Mallet-Dida, C. Brimont, X. Lafosse, S. Bouchoule, F. Semond, J. Zuniga-Perez, **T. Guillet (poster)**

14. Lasers and Electro-Optics Europe & European Quantum Electronics Conference (CLEO/Europe-EQEC), Munich, Germany, 25-29/06/2017
Spontaneously appearing vector vortex beams in vertical-cavity surface-emitting lasers with feedback (abstract)
J. Jimenez, P. Rodriguez, **T. Guillet**, T. Ackemann (oral)
Observation of mode-locked spatial laser solitons (abstract)
F. Gustave, N. Radwell, J. P. Toomey, **T. Guillet**, C. McIntyre, S. Barland, D.M. Kane, W.J. Firth, G.L. Oppo, T. Ackemann (oral)

15. 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META'16)
Malaga, Spain, July 25-28, 2016
Control of the generation and propagation of polariton condensates at 300K in ZnO microcavities
T. Guillet (invited), R. Hahe, H. Gargoubi, C. Brimont, B. Guizal, S. Jaziri, S. Bouchoule, X. Lafosse, F. Li, M. Leroux, F. Semond, J. Zuniga-Perez
Nitride nanophotonics from the deep ultra-violet to the near infrared: non-linear optics and microlasers
T. Guillet (poster), J. Sellés, C. Brimont, B. Guizal, B. Gayral, M. Mexis, F. Semond, I. Roland, Y. Zeng, X. Checoury, P. Boucaud

16. International Workshop on Nitride Semiconductors (IWN 2016)
Orlando, USA, October 2-7, 2016
Nitride-on-Silicon microdisk lasers covering the blue to UV-C spectral range
T. Guillet (oral), J. Sellés, V. Crepel, C. Brimont, B. Gayral, M. Mexis, B. Damilano, S. Rennesson, F. Semond, I. Roland, Y. Zeng, X. Checoury, P. Boucaud
Transport of indirect excitons in GaN quantum wells
T. Guillet (oral), B. Jouault, F. Fedichkin, P. Lefebvre, C. Brimont, P. Valvin, T. Bretagnon, N. Grandjean, M. Vladimirova

17. 17th International Conference on Physics of Light-Matter Coupling in Nanostructures (PLMCN17)
Nara, March 28-31, 2016
Indirect excitons in AlGaN/GaN polar quantum wells
M. Vladimirova (oral), B. Jouault, F. Fedichkin, **T. Guillet**, C. Brimont, P. Valvin, T. Bretagnon, N. Grandjean, P. Lefebvre

18. Conference on Lasers and Electro-Optics 2015 (CLEO)
Munich, Germany, June 21-25, 2015
A nitride-on-Silicon microdisk laser emitting at 275 nm and room-temperature
T. Guillet (oral), J. Sellés, C. Brimont, G. Cassabois, B. Gayral, M. Mexis, F. Semond, I. Roland, Y. Zeng, X. Checoury, P. Boucaud

19. SPIE Photonics West 2015, San Francisco, USA, 7-12 février 2015,
colloque 9357 « Physics and Simulation of Optoelectronic Devices XXIII »
Nitride-on-Silicon microdisks resonators for deep-UV laser emission at room-temperature
J. Sellés (oral), G. Cassabois, **T. Guillet**, C. Brimont, P. Boucaud, X. Checoury, I. Roland, Y. Zeng, M. Mexis, F. Semond, B. Gayral

20. 15th International Conference on Light-Matter Coupling in nanostructures (PLMCN15)
Montpellier, France, June 9-13 2014
Polariton condensates in ZnO microcavities: generation, dynamics and localization
T. Guillet (invited), R. Hahe, O. Kamoun, C. Brimont, P. Valvin, S. Jaziri, D. Solnyshkov, G. Malpuech, S. Bouchoule, X. Lafosse, G. Patriarche, F. Li, M.J. Rashid, M. Leroux, F. Semond, J. Zuniga-Perez
Spatial localization of polariton condensates in a ZnO microcavity

R. Hahe (oral), **T. Guillet**, C. Brimont , P. Valvin, S. Bouchoule, X. Lafosse, G. Patriarche, F. Li, M. Leroux, F. Semond, J. Zuniga-Perez

21. 41th International Symposium on Semiconductor Compounds (ISCS2014, Compound Semiconductor Week), Montpellier, France, May 11-15 2014
Interplay between localized and delocalized photonic modes in a cavity and a W1 waveguide probed by QD photoluminescence
C. Brimont (oral), **T. Guillet**, S. Rousset, D. Néel, X. Checoury, S. David, P. Boucaud, D. Sam-Giao, B. Gayral, M. J. Rashid, F. Semond
Imaging and modeling the propagation of polariton condensates in a ZnO microcavity
R. Hahe (oral), O. Kamoun, C. Brimont, P. Valvin, **T. Guillet**, F. Li, M. Leroux, J. Zuniga-Perez, M. Mihailovic, F. Réveret, X. Lafosse, G. Patriarche, S. Bouchoule

22. SPIE Photonics West 2014
San Francisco, USA, February 1-8, 2014,
colloque 8986 « Gallium Nitride Materials and Devices IX »
Time-resolved photoluminescence of GaN/AlN quantum dots emitting at 300 nm
J. Sellés (oral), G. Cassabois, **T. Guillet**, F. Semond, P. Valvin

23. 13th international conference on Optics of Excitons in Confined Systems (OECS13), Rome, Italie, 9-13 septembre 2013
Condensation of polaritons up to 300K and in-plane propagation in a ZnO microcavity
T. Guillet (oral), F. Li, L. Orosz, O. Kamoun, S. Bouchoule, C. Brimont, P. Disseix, X. Lafosse, M. Leroux, J. Leymarie, G. Malpuech, M. Mexis, M. Mihailovic, G. Patriarche, F. Réveret, D. Solnyshkov, J. Zuniga-Perez
Imaging the propagation of polariton condensates in a ZnO microcavity
R. Hahe (poster), O. Kamoun, C. Brimont, P. Valvin, **T. Guillet**, F. Li, M. Leroux, J. Zuniga-Perez, M. Mihailovic, F. Réveret, X. Lafosse, G. Patriarche, S. Bouchoule
Relaxation of excitonic polariton condensate in ZnO microcavity
O. Kamoun (poster), R. Hahe, F. Li, C. Brimont, P. Valvin, **T. Guillet**, S. Jaziri, M. Leroux, J. Zuniga-Perez, M. Mihailovic, F. Réveret, X. Lafosse, G. Patriarche, S. Bouchoule

24. 14th International Conference on Light-Matter Coupling in Nanostructures (PLMCN14), Héraklion, Grèce, 27-31 mai 2013.
Strongly excitonic polariton condensates in a ZnO microcavity
T. Guillet (oral), F. Li, L. Orosz, O. Kamoun, S. Bouchoule, C. Brimont, P. Disseix, X. Lafosse, M. Leroux, J. Leymarie, G. Malpuech, M. Mexis, M. Mihailovic, G. Patriarche, F. Réveret, D. Solnyshkov, J. Zuniga-Perez
Polariton mode switching in a ZnO based microcavity
L. Orosz (oral), F. Li, O. Kamoun, S. Bouchoule, C. Brimont, P. Disseix, **T. Guillet**, X. Lafosse, M. Leroux, J. Leymarie, G. Malpuech, M. Mexis, M. Mihailovic, G. Patriarche, F. Réveret, D. Solnyshkov, J. Zuniga-Perez

25. SPIE Photonics West 2013, San Francisco, USA, 2-7 février 2013,
colloque 8625 « Gallium Nitride Materials and Devices VIII »
Photonic cavities with high quality factors embedding nitride quantum dots
C. Brimont (invited), **T. Guillet**, D. Sam-Giao, D. Néel, S. Sergent, B. Gayral, M.J. Rashid, F. Semond, M. Mexis, S. David, X. Checoury, P. Boucaud

26. 9th International Symposium on Semiconductor Light-Emitting Devices (ISSLED 2012) Berlin, 22-27 juillet 2012
ZnO polariton laser up to room temperature
T. Guillet (invited), O. Kamoun, M. Mexis, C. Brimont, T. Bretagnon, B. Gil, P. Lefebvre, F. Li, J. Zúñiga-Pérez, F. Semond, M. Leroux, S. Bouchoule, X. Lafosse, L. Orosz, F. Réveret, J. Leymarie, D. Solnyshkov, G. Malpuech

27. SPIE Photonics West 2012
San Francisco, USA, 22-27 janvier 2012,
Colloque 8255 « Physics and Simulation of Optoelectronic Devices XX »
From an exciton laser to a polariton laser in a ZnO microcavity

T. Guillet (invited), S. Faure, M. Mexis, C. Brimont, T. Bretagnon, B. Gil, J. Zuniga-Perez, F. Semond, M. L. Leroux, S. Bouchoule, F . Médard, M. Disseix, J. Leymarie

28. SPIE Photonics West 2012
San Francisco, USA, 22-27 janvier 2012
colloque 8262 « Gallium Nitride Materials and Devices VII »
Photonic cavities with high quality factors embedding nitride quantum dots
T. Guillet (invited), M. Mexis, D. Néel, S. Sergent, C. Brimont, T. Bretagnon, B. Gil, D. Sam-Giao, B. Gayral, F. Semond, M. Leroux, S. David, X. Checoury, P. Boucaud

29. 31th International Conference on the Physics of Semiconductors, Zürich, 29 juillet-3 août 2012
ZnO-based polariton laser
F. Li (oral), L. Orosz, O. Kamoun, S. Bouchoule, C. Brimont, P. Disseix, **T. Guillet**, X. Lafosse, J. Leymarie, M. Mexis, M. Mihailovic, F. Réveret, D. Solnyshkov, G. Malpuech, J. Zuniga-Perez

30. E-MRS 2011 Spring Meeting, Nice, 9-13 mai 2011
High quality factor photonic resonators for nitride quantum dots
T. Guillet (invited), M. Mexis, S. Sergent, D. Néel, S. Rennesson, C. Brimont, T. Bretagnon, B. Gil, D. Sam-Giao, B. Gayral, F. Semond, M. Leroux, S. David, X. Checoury, P. Boucaud
Phys. Stat. Sol. B 249, 449 (2012)

31. 11th International Conference on Light-Matter Coupling in Nanostructures (PLMCN11)
Berlin, Allemagne, 4-8 avril 2011.
Non-linear emission properties of ZnO microcavities
T. Guillet (invited), S. Faure , C. Brimont, T. Bretagnon, B. Gil, J. Zúñiga-Pérez, E. Frayssinet, M. Leroux, F. Semond, S. Bouchoule, F. Médard, M. Mihailovic, P. Disseix, J. Leymarie
Phys. Stat. Sol. C 9, 1225 (2012)

32. 9th Japan-France Workshop on Nanomaterials, CEMES-CNRS
Toulouse, France, 24-26 Novembre 2010
Strong exciton-photon coupling in ZnO microcavities : Promoting polariton physics up to 300K
T. Guillet (oral), S. Faure, C. Brimont, T. Bretagnon, B. Gil,J. Zúñiga-Pérez, E. Frayssinet, F. Semond, M. Leroux and S. Bouchoule

33. 8th International Conference on LightMatter Coupling in Nanostructures (PLMCN8)
Tokyo, Japon, 7-11 avril 2008.
Polarized emission from a single GaN/AlN quantum dot : Experiment and theory
T. Guillet (invited), R. Bardoux, B. Gil T. Bretagnon, P. Lefebvre, T. Taliercio, F. Semond
Which quasi-particles in wide band gap bulk microcavities?
S. Faure (oral), **T. Guillet**, P. Lefebvre, T. Bretagnon, T. Taliercio and B. Gil

34. International Workshop on Nitrides Semiconductors (IWN)
Kyoto, Japon, 22-27 octobre 2006
Study of Sharp Photoluminescence Spectra of Individual GaN/AlN Quantum Dots. Spectral Diffusion Effects.
R. Bardoux, **T. Guillet**, P. Lefebvre, T. Taliercio, T. Bretagnon, B. Gil and F. Semond
Physica Status Solidi (c) , to appear (2007)

35. 6th International Conference on LightMatter Coupling in Nanostructures (PLMCN6)
Magdeburg, Allemagne, 25-29 septembre 2006.
Time-resolved spectroscopy of excitonic transitions in ZnO/(Zn,Mg)O quantum wells
T. Guillet (invited), T. Bretagnon, T. Taliercio, P. Lefebvre, B. Gil, C.Morhain, X. Tang
Superlattices and Microstructures 41, 352 (2007)

36. 28th Int. Conference on the Physics of Semiconductors (ICPS)
Vienne, Austria, 24-28 juillet 2006
Determination of internal electric field in ZnO/(Zn,Mg)O quantum wells from time resolved photoluminescence experiments.

T. Bretagnon, **T. Guillet**, P. Lefebvre, T. Taliercio, B. Gil, and C. Morhain.
Micro-photoluminescence of isolated hexagonal GaN/AlN quantum dots : role of the electron-hole dipole
R. Bardoux, **T. Guillet**, P. Lefebvre, T. Taliercio, T. Bretagnon, B. Gil and F. Semond
AIP Conference Proceedings 893, 941 (2007)

37. 6th International Symposium on Blue Lasers and Light-Emitting Diodes (ISBLLED'06)
Montpellier, France, 15-19 mai 2006
Radiative lifetime in wurtzite GaN/AlN quantum dots
R. Bardoux, T. Bretagnon, **T. Guillet**, P. Lefebvre, T. Taliercio, P. Valvin, B. Gil, N. Grandjean, B. Damilano, A. Dussaigne and J. Massies
Physica Status Solidi (c) 4, 183 (2007)

38. 8th International Workshop on Nonlinear Optics and Excitation Kinetics in Semiconductors (NOEKS 8), Münster, Allemagne, 20-24 février 2006
Zero dimensional exciton-polaritons
A. Baas (invited), O. El Daïf, M. Richard, J.-P. Brantut, G. Nardin, R. Idrissi Kaitouni, **T. Guillet**, V. Savona, J. L. Staehli, F. Morier-Genoud, and B. Deveaud
Phys. stat. sol. (b) 243, p.2311-2316 (2006)

39. E-MRS Spring Meeting
Strasbourg, France, mai. 2004
Micro-photoluminescence of GaN quantum dots embedded in 100 nm wide cylindrical AlN pillars
T. Taliercio (oral), S. Rousset, P. Lefebvre, T. Bretagnon, **T. Guillet**, B. Gil, D. Peyrade, Y. Chen, N. Grandjean.
Superlatices and Microstructures 36, 783 (2004)

40. 8th Int. Conference on Optics and Excitons in Confined Systems (OECS8)
Lecce, Italie, 2003
Coherence properties of polaritons in semiconductor microcavities
S. Kundermann (invited), **T. Guillet**, M. Saba, C. Ciuti, O. El Daïf, J.L. Staehli, B. Deveaud
Phys. stat. sol. (a) 201, p.381-388 (2004)
Excitons or free carriers? That is the question
J. Szczytko, L. Kappei, F. Morier-Genoud, **T. Guillet**, M. T. Portella-Oberli, B. Deveaud
Phys. stat. sol. (c) 1, p. 493-496 (2004)

41. 7th International Workshop on Nonlinear Optics and Excitation Kinetics in Semiconductors (NOEKS 7), Karlsruhe, Allemagne, 2003
Polariton amplification in semiconductor microcavities
M. Saba (invited), S. Kundermann, C. Ciuti, **T. Guillet**, J. L. Staehli, B. Deveaud
Phys. stat. sol. (b) **238**, p.432-438 (2003)

French conferences (*selection*)

1. Journées Nano, Micro et Optoélectronique (JNMO 2024)
Sète, 01-04/10/2024
Fluides quantiques d'excitons indirects dans des puits quantiques GaN/AlGaN : vers une condensation dans l'état sombre
T. Guillet (poster), R. Aristegui, C. Brimont, B. Damilano, M. Vladimirova
Le laser à polaritons de guide d'onde : vers une nouvelle génération de lasers pour la photonique intégrée
H. Souissi (poster), M. Gromovyi, E. Cambril, V. Develay, C. Brimont, L. Doyennette, **T. Guillet**, D. Solnyshkov, G. Malpuech, B. Alloing, S. Rennesson, F. Semond, J. Zuniga-Perez, S. Bouchoule

2. Congrès de la Société Française d'Optique - Optique Normandie 2024
Rouen, 01-05/07/2024

Le laser à polaritons : Un nouveau type de laser ruban (continu ou à blocage de modes) pour la photonique intégrée
T. Guillet (oral), H. Souissi, M. Gromovyi, V. Develay, C. Brimont, L. Doyennette, D. Solnyshkov, G. Malpuech, E. Cambril, S. Bouchoule, B. Alloing, S. Rennesson, F. Semond, J. Zuniga-Perez

3. 23ème Congrès de la Société Française de Physique (SFP2015), Strasbourg, 2015-08-26
Condensats de polaritons dans les microcavités ZnO : Imageries de la formation et propagation balistique
T. Guillet (oral), R. Hahe, C. Brimont, P. Valvin, S. Bouchoule, X. Lafosse, G. Patriarche, F. Li, M.J. Rashid, M. Leroux, F. Semond, J. Zuniga-Perez
Nanophotonique et semiconducteurs nitrures : optique non-linéaire et nouveaux microlasers
T. Guillet (oral), J. Sellés, Z. Lin, C. Brimont, G. Cassabois, B. Guizal, B. Gayral, M. Mexis, F. Semond, I. Roland, Y. Zeng, X. Checoury, P. Boucaud

4. **13ème Journées de la Matière Condensée** (JMC13), Montpellier, 27-30 août 2012
Cavités photoniques à boîtes quantiques GaN pour l'Ultra-Violet
C. Brimont (oral), **T. Guillet**, M. Mexis, T. Bretagnon , P. Lefebvre, B.Gil

5. 11ème Journées de la Matière Condensée (JMC11), Strasbourg, 25-29 Août 2008
Etude du couplage fort exciton-photon dans les microcavités massives ZnO par photoluminescence
S. Faure (poster), **T. Guillet**, P. Lefebvre, T. Bretagnon, B. Gil

6. 11ème Journées de la Matière Condensée (JMC11), Strasbourg, 25-29 Août 2008
Emission polarisée d'une boîte quantique unique GaN/AlN : expérience et théorie
T. Guillet (oral), R. Bardoux, B. Gil, P. Lefebvre, T. Bretagnon, S. Rousset, F. Semond