

nanoMIR

**Groupe “nanoMIR” / “nanoMIR” group
“Composants à nanostructures pour Moyen Infra-Rouge”
“Nanostructure-based devices for Mid-Infra-Red Applications”**

Publication list (2014)

C-INV : Communications invitées / Invited communications (national or international)

A.N. Baranov, Antimonides: materials to build a bridge between mid-IR and THz, *Les Nanos au cœur du THz et du MIR, Int. Workshop (Paris, France, 14 Oct., 2014)*.

A. Garnache, M. Sellahi, M. Seghilani, R. Paquet, S. Blin, M. Myara, I. Sagnes, G. Beaudoin, X. Lafosse, L. Legratiet, and P. Lalanne, "Generation of new spatial and temporal coherent states using VeCSEL technology: VORTEX, high order Laguerre-Gauss mode, continuum source, spin", Proc. SPIE, Vertical External Cavity Surface Emitting Lasers IV, 8966-11 (2014)

Y. Rouillard, G. Boissier and G. Narcy, "The A,B,C's of Mid-Infrared Quantum Well Lasers", Optics-2014, Philadelphia, USA, September 8-10 2014

R.Teissier ; Short wavelength Quantum Cascade Lasers: Materials, physics and applications ; Tutorial invité à International Quantum Cascade Lasers School and Workshop 2014, Policoro, Italie, 7-13 Sept. 2014.

G. Lollia, M. Bahriz, A.N. Baranov, D. Chastanet, A. Bousseksou, R. Colombelli, J. Madeo, Y. Todorov, C. Sirtori, R. Teissier ; Room temperature operation of far infrared ($\lambda > 17 \mu\text{m}$) quantum cascade lasers ; Conférence invitée à International Conference on Infrared Optoelectronics: Materials & Devices (MIOMD-XII), Montpellier, France, 6-9 Oct. 2014.

A. Vicet, M. Triki, T. Nguyen Ba, Y. Rouillard, and Q. Gaimard.

High-sensitivity QEPAS for environmental monitoring

SPIE Photonics West, 1-6 janv 2014 (invite), Quantum sensing and Nanophotonics devices XI Edited by M. Razeghi, E. Tournié, and G.J. Brown, Proceedings of SPIE, vol. 8993 (2014). ISBN: 9780819499066

A. Garnache, V. Lecocq, L. Ferrieres, A. Bensalma, M. Myara, L. Cerutti, I. Sagnes, and S. Denet; Industrial integration of high coherence tunable VECSEL in the NIR & MIR; SPIE Photonics West 2014, paper 89660V, San Francisco, USA, 2-6 February 2014; Proceedings of SPIE: VECSEL IV, Vol. 8966, art. Numb. 899660V, 2014

G. Roelkens, U. Dave, A. Gassenq, N. Hattasan, C. Hu, B. Kuyken, F. Leo, A. Malik, M. Muneeb, E. Ryckeboer, S. Uvin, Z. Hens, R. Baets, Y. Shimura, F. Gencarelli, B. Vincent, R. Loo, J. Van Campenhout, L. Cerutti, J.B. Rodriguez, E. Tournié, X. Chen, M. Nedeljkovic, G. Mashanovich, L. Shen, N. Healy, A.C. Peacock, X.P. Liu, R. Osgood, and W. Green; Mid-IR heterogeneous silicon photonics; SPIE Photonics West 2014, paper 899316, San Francisco, USA, 2-6 February 2014; Quantum Sensing and Nanophotonic devices XI, Vol. 8993, art. Numb. 899316, 2014

A.N. Baranov, "Antimonides: materials to build a bridge between mid-IR and THz", Conférence invitée, International workshop Les Nanos au cœur du THz et du MIR, Paris, France, 14 Oct., 2014

E. Tournié, L. Cerutti, A. Castellano, K. Madiomanana, and J. B. Rodriguez; 1.55 μm GaSb-based lasers monolithically grown on Si substrates; 18th Conference on Molecular Beam epitaxy (MBE2014), FrA1-1, Flagstaff, USA, 7-12 September 2014

L.Cerutti, J.B. Rodriguez, K. Madiomanana, A. Castellano, E. Tournié, Épitaxie par jets moléculaires de semi-conducteurs à base d'antimoine sur substrat Si pour la photonique, GDR PULSE, Toulouse, 27 – 29 octobre 2014, Toulouse (France).

E. Tournié, L. Cerutti, A. Castellano, K. Madiomanana, J.B. Rodriguez, Intégration épitaxiale de lasers à base de GaSb sur substrat Si pour émission du proche au moyen IR, GDR Ondes, 14 November 2014, Orsay, France.

ACL : Articles dans des revues internationales avec comité de lecture répertoriées par l'AERES dans les bases de données (ISI web,...) / Peer reviewed publications referenced by AERES in data-bases (ISIweb,..)

M.S. Seghilani, M. Sellahi, M. Devautour, P. Lalanne, I.Sagnes, G. Beaudoin, X. Lafosse, L. Legratiet, M. Myara, and A.Garnache, "Photonic crystal-based flat lens integrated on a bragg mirror for high-Q external cavity low noise laser", *Optics Express*, 22 (2014), pp.5962

A. Evirgen, J. Abautret, J.P. Perez, A. Cordat, A. Nedelcu, P. Christol, " *Midwave infrared InSb nBn photodetector*", *Electronic letters* 50, 1472-1473 (2014)

M. Delmas, J.B. Rodriguez, P. Christol "*Electrical modeling of InAs/GaSb superlattice mid-wavelength infrared pin photodiode to analyze experimental dark current characteristics*", *Journal of Applied Physics* 116, 113101-7 (2014)

E. Giard, I. Ribet-Mohamed, J. Jaeck, T. Viale, R. Haïdar, R. Taalat, M. Delmas, J.B. Rodriguez, E. Steveler, N. Bardou, F. Boulard, P. Christol, " *Quantum efficiency investigations of type-II InAs/GaSb midwave infrared superlattice photodetectors*", *Journal of Applied Physics* 116, 043101-6 (2014)

E. Giard, R. Taalat, M. Delmas, J.B. Rodriguez, P. Christol, I. Ribet-Mohamed, "*Radiometric and noise characteristics of InAs-rich T2SL MWIR pin photodiodes*", *Journal of European Optical Society : Rapid Publication* 9, 14022 (2014)

R. Taalat, J.B. Rodriguez, M. Delmas, P. Christol, " *Influence of the period thickness and composition on the electro-optical properties of type-II InAs/GaSb midwave infrared superlattice photodetector*", *Journal of Physics D : Applied Physics* 47, 015101-7 (2014)

D. Chastanet, A. Bousseksou, G. Lollia, M. Bahriz, F. Julien, A.N. Baranov, R.Colombelli, R. Teissier ; High temperature, single mode, long infrared (17.8 μm) InAs-based Quantum Cascade Lasers ; *Appl. Phys. Lett.* 105, 111118, (2014)

B. Charlot, R. Teissier, M. Drac, and E. Schwob; DNA on rails: Combing DNA fibers on nanogratings ; *Appl. Phys. Lett.* 105, 243701 (2014)

J. Nicolai, Ch. Gatel, B. Warot-Fonrose, R. Teissier, A. N. Baranov, C. Magen, A. Ponchet ; Elastic strains at interfaces in InAs/AlSb multilayer structures for quantum cascade lasers ; *Appl. Phys. Lett.* 104, 031907, (2014)

M.S. Kagan, I.V. Altukhov, S.K. Paprotskiy, A.N. Baranov, R. Teissier, N.D. Il'inskaya, A.A. Usikova, A.D. Buravlev, and V.M. Ustinov ; Non resonant tunnelling in short period superlattices with optical cavities ; *Lithuanian Journal of Physics*, Vol. 54, No. 1, pp. 50–53 (2014)

D. Chastanet, G. Lollia, A. Bousseksou, M. Bahriz, P. Laffaille, A.N. Baranov, F. Julien, R.Colombelli, R. Teissier ; Long-infrared InAs-based QC lasers operating at 291K ($\lambda=19\mu\text{m}$) with metal-metal resonators ; *Appl. Phys. Lett.* 104, 021116, (2014)

Q. Gaimard, L. Cerutti, R. Teissier and A. Vicet. Distributed feedback GaSb based laser diodes with buried grating. *Appl. Phys. Lett.* 104, 161111 (2014)

A.N. Imenkov, E.A. Grebenshikova, V.V. Sherstnev, A.A. Leonidov, N.D. Il'inskaya, O.Yu. Serebrennikova, R. Teissier, A.N. Baranov, Yu.P. Yakovlev, "Electroluminescence of whispering gallery mode lasers with coupled resonators" *Semiconductors* 48 (10),1434 (2014).

T. Taliercio, V. Ntsame Guilengui, L. Cerutti, E. Tournié, and J.-J. Greffet ; Brewster "mode" in highly doped semiconductor layers: an all-optical technique to monitor doping concentration ; *Optics Express* 22 (20), pp. 24294-24303 (2014)

G. Roelkens, U. Dave, A. Gassenq, N. Hattasan, C. Hu, B. Kuyken, F. Leo, A. Malik, M. Muneeb, E. Ryckeboer, D. Sanchez, R.J. Wang, S. Uvin, Z. Hens, R. Baets, Y. Shimura, F. Gencarelli, B. Vincent, R. Loo, J. Van Campenhout, L. Cerutti, J.B. Rodriguez, E. Tournié, X. Chen, M. Nedeljkovic, G. Mashanovich, L. Shen, N. Healay, A.C. Peacock, X.P. Liu, R. Osgood, and W.M.J Green; Silicon-based photonic integration beyond the telecommunication wavelength range; IEEE Journal of Selected Topics in quantum Electronics, Vol.20 (4), 8201511, (2014)

M. Muneeb, A. Ruocco, A. Malik, S. Pathak, E. Ryckeboer, D. Sanchez, L. Cerutti, J.B. Rodriguez, E. Tournié, W. Bogaerts, M.K. Smit, and G. Roelkens; Silicon-on-insulator shortwave infrared wavelength meter with integrated photodiodes for on-chip laser monitoring; Optics Express, Vol. 22 (20), p.24294-24303, (2014)

E. Steveler, M. Verdun, B. Portier, P. Chevalier, C. Dupuis, N. Bardou, J.B. Rodriguez, R. Haïdar, F. Pardo and J.-L. Pelouard, "Optical index measurement of InAs/GaSb type-II superlattice for mid-infrared photodetection at cryogenic temperatures", Appl. Phys. Lett. **105**, 141103 (2014) ; <http://dx.doi.org/10.1063/1.4897273>

Hongming Yi, Weidong Chen, Aurore Vicet, Zhensong Cao, Xiaoming Gao, Tong Nguyen-ba, Mohammad Jahjah, Yves Rouillard, Lars Nahle, Marc Fischer. T-shape microresonator-based quartz-enhanced photoacoustic spectroscopy for ambient methane monitoring using 3.38 μm antimonide-distributed feedback laser diode *Appl. Phys. B* **116**, pp 423-428, (2014) DOI: 10.1007/s00340-013-5713-x

BRE : Brevets / Patents

A. Garnache et al. "Vertical External Cavity Surface Emitting Laser devices allowing high coherence, high power and large tunability" Université Montpellier 2 CNRS - SATT, F, (2014) . Patent #EP14305752.9

A. Garnache *et al.*, "Dual-frequency Vertical External Cavity Surface Emitting Laser device for THz generation and method for generating THz", Université Montpellier 2 CNRS- SATT, F, (2014) . Patent # FR14 02058

A. Garnache *et al.*, "Laser device with a beam carrying controlled orbital angular momentum", Université Montpellier 2 CNRS- SATT, F, (2014). Patent # EP14307037.3

C-ACTI : Communications avec actes dans un congrès international / Communications with proceedings at international conferences.

A. Garnache, M. Sellahi, M. Seghilani, R. Paquet, S. Blin, M. Myara, I. Sagnes, G. Beaudoin, X. Lafosse, L. Legratiet, and P. Lalanne, "Generation of new spatial and temporal coherent states using VeCSEL technology: VORTEX, high order Laguerre-Gauss mode, continuum source, spin", Proc. International Conference on Advanced Laser Technologies (2014)

A. Garnache, M. Sellahi, M. Seghilani, R. Paquet, S. Blin, M. Myara, I. Sagnes, G. Beaudoin, X. Lafosse, L. Legratiet, and P. Lalanne, "Generation of new spatial and temporal coherent states using VeCSEL technology: VORTEX, high order Laguerre-Gauss mode, continuum source, spin", Proc. International Conference on Space Optics 2014 (2014)

A. Garnache, M. Sellahi, M. Seghilani, R. Paquet, S. Blin, M. Myara, I. Sagnes, G. Beaudoin, X. Lafosse, L. Legratiet, and P. Lalanne, "Generation of new spatial and temporal coherent states using VeCSEL technology: VORTEX, high order Laguerre-Gauss mode, continuum source, spin", Proc. Compound Semiconductor Week 2014 (2014)

R. Paquet, M. Sellahi, S. Blin, M. Myara, I. Sagnes, G. Beaudoin and A. Garnache, "Vertical-External-Cavity Surface-Emitting Laser for THz Generation", Proc. International Conference on Infrared, Millimeter, and Terahertz Waves (2014)

R. Paquet, M. Sellahi, S. Blin, M. Myara, I. Sagnes, G. Beaudoin and A. Garnache, "Vertical-External-Cavity Surface-Emitting Laser for THz Generation", Proc. Mid-IR Optoelectronics : Materials and Devices (2014)

E. Giard, R. Taalat, M. Delmas, J.B. Rodriguez, P. Christol, I. Ribet-Mohamed, " *Comparison of the electro-optical performance of MWIR InAs/GaSb superlattice pin photodiodes and FPA with asymmetrical designs*", DSS SPIE Conference, Baltimore, May 2014, Proceedings of the SPIE "Infrared Technology and Applications XL", 90700X, 90700W-9 (2014)

J. Abautret, A. Evirgen, J.P. Perez, P. Christol, A. Rouvié, R. Cluzel, A. Cordat, J. Rothman, " *Design, fabrication, and characterization of InSb Avalanche Photodiode*", Photonic West SPIE Conference, San-Francisco, February 2014, Proceedings of the SPIE "Quantum Sensing and Nanophotonic Devices XI", 899314-899314-10 (2014)

A. Evirgen, J. Abautret, J.P. Perez, H.Aït-Kaci, P. Christol, J. Fleury, H. Sik, A. Nedelcu, R. Cluzel, A. Cordat, " *InSb photodetectors with PIN and nBn designs*", Photonic West SPIE Conference, San-Francisco, February 2014, Proceedings of the SPIE "Quantum Sensing and Nanophotonic Devices XI", 899313-899313-11 (2014)

M. Delmas, R. Taalat, J.B. Rodriguez, P. Christol, E. Giard, I. Ribet-Mohamed, J. Imbert, S. Derelle, V. Trinité, *Analysis of electrical and electro-optical characteristics of midwave infrared InAs/GaSb SL pin photodiodes*, Photonic West SPIE Conference, San-Francisco, February 2014, Proceedings of the SPIE "Quantum Sensing and Nanophotonic Devices XI", 89930Z-89930Z-10 (2014)

Q. Gaimard, T. Nguyen Ba, A. Larrue, L. Cerutti, Y. Rouillard, R. Teissier, A. Vicet ; Distributed-feedback GaSb-based lasers diodes in the 2.3 to 3 μ m wavelength range ; Proceedings SPIE 9134, SPIE Photonics Europe - Semiconductor Lasers and Laser Dynamics VI, 91341J, (2014).

T. Nguyen Ba, Q. Gaimard, M. Triki, Y. Rouillard and A. Vicet
Quartz enhanced photoacoustic spectroscopy with antimonide compounds in very compact systems; SPIE Photonics Europe, 14-17 avril 2014 Proc. SPIE. 9141, Optical Sensing and Detection III, 91410H. (May 15, 2014) doi: 10.1117/12.2051663

G. Almuneau, Y. Laaroussi, C. Chevallier, F. Genty, N. Fressengeas, L. Cerutti, T. Taliercio, O. Gauthier-Lafaye, P.-F. Calmon, B. Reig, J. Jacquet ; Technologies of Oxide Confinement and High Contrast Grating Mirrors for Mid-Infrared VCSELs ; 16TH International Conference on Transparent Optical Networks (ICTON) ; IEEE, 345 E 47TH St., New York, NY 10017 USA, (2014)

A. Garnache, V. Lecocq, L. Ferrieres, A. Bensalma, M. Myara, L. Cerutti, I. Sagnes, and S. Denet; Industrial integration of high coherence tunable VECSEL in the NIR & MIR; SPIE Photonics West 2014, paper 89660V, San Francisco, USA, 2-6 February 2014; Proceedings of SPIE: VECSEL IV, Vol. 8966, art. Numb. 89660V, 2014

G. Roelkens, U. Dave, A. Gassenq, N. Hattasan, C. Hu, B. Kuyken, F. Leo, A. Malik, M. Muneeb, E. Ryckeboer, S. Uvin, Z. Hens, R. Baets, Y. Shimura, F. Gencarelli, B. Vincent, R. Loo, J. Van Campenhout, L. Cerutti, J.B. Rodriguez, E. Tournié, X. Chen, M. Nedeljkovic, G. Mashanovich, L. Shen, N. Healy, A.C. Peacock, X.P. Liu, R. Osgood, and W. Green; Mid-IR heterogeneous silicon photonics; SPIE Photonics West 2014, paper 899316, San Francisco, USA, 2-6 February 2014; Quantum Sensing and Nanophotonic devices XI, Vol. 8993, art. Numb. 899316, 2014

C-COM : Communications orales sans actes dans un congrès international ou national / Oral communications without proceedings at international or national conferences.

P. Christol, J.B. Rodriguez, M. Delmas, R. Taalat, " *Progress on type-II InAs/GaSb Superlattice (T2SL) Infrared Photodetector : from MWIR to VLWIR spectral domains*", International Conference on Space Optics (ICSO2014), Ténérife, October 2014

M. Delmas, J. B. Rodriguez, P. Christol, J. Imbert, V. Trinité, J. Jaeck, S. Derelle, E. Giard, I. Ribet-Mohamed, " *TCAD modeling and characterization of InAs/GaSb superlattice photodiode device for MWIR detection*", 12th Int. Mid-IR Optoelectronics-Materials & Devices Conf (MIOMD XII), Montpellier, Oct 2014

J. Abautret, A. Evirgen, J.P. Perez, P. Christol, J. Rothman, R. Cluzel, A. Cordat, " *MidWave Infrared InSb Avalanche Photodiode*", 12th Int. Mid-IR Optoelectronics-Materials & Devices Conf (MIOMD XII), Montpellier, Oct 2014

P. Christol, M. Delmas, J.B. Rodriguez, L. Konzewicz, E. Giard, I. Ribet-Mohamed " *Dopant-free superlattice MWIR pin photodiode*", Quantum Structure Infrared Photodetector (QSIP) Conference, Santa-Fe, July 2014

J. Imbert, V. Trinité, S. Derelle, M. Carras, R. Haidar, J. Jaeck, B. Vinter, J.B. Rodriguez, P. Christol, " *Modeling and measurement of optical properties in InAs/GaSb superlattice structures*", Quantum Structure Infrared Photodetector (QSIP) Conference, Santa-Fe, July 2014

E. Giard, M. Delmas, J.B. Rodriguez, P. Christol, I. Ribet-Mohamed, " *Influence of the InAs/GaSb thickness ratio on the radiometric performances of MWIR InAs/GaSb superlattice pin photodiodes*", Quantum Structure Infrared Photodetector (QSIP) Conference, Santa-Fe, July 2014

Q. Gaimard, A. Larrue, L. Cerutti, Y. Rouillard, O. Gauthier-Lafaye, R. Teissier, A. Vicet ; Index-coupled distributed-feedback GaSb-based lasers diodes in the 2.3 to 3 μ m wavelength range ; International Conference on Mid Infrared Optoelectronics: Materials & Devices (MIOMD-XII), Montpellier, France, 6-9 Oct. 2014.

G. Lollia, M. Bahriz, A.N. Baranov D. Chastanet, A. Bousseksou, R. Colombelli, and R. Teissier ; Room temperature operation of InAs/AlSb quantum cascade laser operating beyond 17 μ m ; European Semiconductor Laser Workshop, Paris, 18-19 Sept. 2014.

D. Chastanet, A. Bousseksou, R. Colombelli, G. Lollia, M. Bahriz, A.N. Baranov and R. Teissier ; Room temperature distributed feedback long-infrared ($\lambda=18 \mu$ m) InAs-based quantum cascade lasers ; International Quantum Cascade Lasers School and Workshop 2014, Polícoro, Italie, 7-13 Sept. 2014.

G. Lollia, M. Bahriz, A.N.Baranov, R.Teissier, D. Chastanet, A. Bousseksou, R. Colombelli ; Far infrared ($\lambda \approx 20 \mu\text{m}$) InAs/AlSb Quantum Cascade Lasers with dielectric waveguide ; International Quantum Cascade Lasers School and Workshop 2014, Policoro, Italie, 7-13 Sept. 2014.

D. Chastanet, A. Bousseksou, R. Colombelli, G. Lollia, M. Bahriz, A. Baranov, R. Teissier ; Long-Infrared ($\lambda=17\text{-}19 \mu\text{m}$) InAs-based quantum cascade lasers: room temperature and distributed feedback devices ; CS week – 41th International Symposium on Compound Semiconductors, Montpellier, France, 11-15 Mai 2014.

Q. Gaimard, T. Nguyen-Ba, A. Larrue, L. Cerruti, Y. Rouillard, R. Teissier, A. Vicet ; Index-coupled distributed-feedback GaSb-based lasers diodes in the 2.3 to 3.3 μm wavelength range ; CS week – 41th International Symposium on Compound Semiconductors, Montpellier, France, 11-15 Mai 2014.

A. Castellano, , L. Cerutti, J.B. Rodriguez, K. Madiomanana, F. Lelarge and E. Tournié; GaSb-based active zones for laser emission at 1.55 μm ; International Symposium on Compound Semiconductors (ISCS), Paper Tu-A3-5, Montpellier, France, 11-15 may 2014.

M. Triki, T. Nguyen Ba and A. Vicet. Innovative sensor for gas detection in the near and mid infrared region. FLAIR 2014, 4-9 May 2014, Florence.

B. Adelin, A. Larrue, O. Gauthier-Lafaye, A. Monmayrant, A. Lecestre, P. Dubreuil, Y. Rouillard, G. Boissier, A. Vicet - Deep etching high aspect ratio in GaInAsSb/AlGaAsSb sector by ICP-RIE plasma B PESH 2014, 12-13 may 2014, Grenoble

L. Cerutti, J.B. Rodriguez, Q. Gaimard, V. N'Tsame-Guilengui, T. Taliercio, A. Vicet, and E. Tournié GaSb-based grating regrowth for mid-infrared optoelectronic devices 18th IC-MBE - 7-12 september 2014 - Flagstaff (USA)

Q. Gaimard, A. Larrue, L. Cerutti, Y. Rouillard, O. Gauthier-Lafaye, R. Teissier, A. Vicet. Index-coupled distributed-feedback GaSb-based lasers diodes in the 2.3 to 3 μm wavelength range; MIOMD XII 5-9 october 2014 Montpellier

T. Nguyen Ba, M. Triki and A. Vicet Compact sensor for trace gas monitoring based on Quartz Enhanced Photoacoustic Spectroscopy MIOMD XII 5-9 october 2014 Montpellier

V.V.Sherstnev, A.A.Leonidov, E.A.Grebenshchikova, N.D.II`inskaya, O.Y.Serebrennikova, R. Teissier, A.N.Baranov, Yu.P.Yakovlev, Synchronization of modes in WGM-laser with the connected disk resonators, MIOMD-XII, 5-9 October 2014, France.

P.A.Alekseev, M.S.Dunaevskiy, A.M.Monahov, A.N.Titkov, A.N.Baranov, P.Girard, R.Teissier, New scanning probe microscopy near-field imaging method for laser radiation intensity mapping, Laser Optics 2014, 31 June – 4 July 2014, St.Petersburg, Russia

P.A.Alekseev, M.S.Dunaevskiy, A.M.Monahov, A.N.Baranov, P.Girard, R.Teissier, A.N.Titkov, New scanning probe microscopy method for near-field imaging of the radiation intensity of semiconductor laser structures, Nanostructures: Physics and Technology 22th International Symposium, June 24–28 2014, St. Petersburg, Russia,

C-AFF : Communications par affiche dans un congrès international ou national / Poster at international or national conferences.

J. Imbert, V. Trinité, S. Derelle, M. Carras, R. Haidar, J. Jaeck, B. Vinter, J.B. Rodriguez, P. Christol, " *Modelisation and measurement of optical properties in InAs/GaSb superlattice structure*", 41st International Symposium on Compound Semiconductors (ISCS 2014), Montpellier, May 2014

E. Giard, I. Ribet-Mohamed, M. Delmas, J.B. Rodriguez, P. Christol, " *Effect of the InAs to GaSb thickness ratio on the quantum efficiency of T2SL MWIR PIN photodiodes*", 41st International Symposium on Compound Semiconductors (ISCS 2014), Montpellier, May 2014

J. Abautret, A. Evirgen, J.P. Perez, P. Christol, R. Cluzel, A. Cordat, A. Rouvié, A. Nedelcu, J. Rothman, " *Performance evaluation of InSb midwave infrared avalanche photodiode*", 41st International Symposium on Compound Semiconductors (ISCS 2014), Montpellier, May 2014

A. Evirgen, J. Abautret, J.P. Perez, H. Aït-Kaci, P. Christol, R. Cluzel, A. Cordat, A. Rouvié, A. Nedelcu, " *InSb-based infrared photodetectors for SWaP criteria*", 41st International Symposium on Compound Semiconductors (ISCS 2014), Montpellier, May 2014

M. Delmas, R. Taalat, J.B. Rodriguez, P. Christol, E. Giard, I. Ribet-Mohamed, " *Optical properties of type-II binary superlattice for infrared photodiode device*", 41st International Symposium on Compound Semiconductors (ISCS 2014), Montpellier, May 2014

G. Lollia, M. Bahriz, P. Laffaille, A.N.Baranov and R.Teissier ; Room temperature operation of Quantum Cascade Lasers emitting at a wavelength of 21 μm ($\nu = 14$ THz) ; 20 years QCL anniversary workshop, Zürich, Suisse, 16-17 Jan. 2014.

B. Adelin, Q. Gaimard, A. Larrue, A. Lecestre, P. Dubreuil, Y. Rouillard, G. Boissier, A. Vicet , A. Monmayrant, and O. Gauthier-Lafaye; Dry Etching of High [Al] AlGaAsSb Compounds Using Cl₂/N₂/Ar ICP RIE, MNE, Lausanne, Suisse, 22-26 Septembre 2014

Meriam Triki, T. Nguyen Ba et A. Vicet; Capteur innovant pour la détection de gaz dans la région proche et moyen infrarouge basé sur la technique de mesure par spectroscopie photoacoustique de quartz; PAMO-JSM, 7-10 juillet 2014, Reims

Thierry Taliercio, Vilianne Ntsame Guilengui, Laurent Cerutti, Eric Tournié, and Jean-Jacques Greffet ; Brewster "mode" to monitor optically the doping concentration in highly doped semiconductor layers ; Mid-IR Optoelectronics: Materials and Devices 2014, October 5-9, 2014 , Montpellier, France

A. Al Mohtar, A. Bruyant, J. Vaillant, M. Kazan, A. Khoury, V. N'Tsame Guilengui, L.Cerutti, T. Taliercio ; Phase sensitive Near-field Optical Nanoscopy Detecting Localized Surface Plasmons in Highly doped Semiconductor Nanostructures ; 13th international conference on near-field optics, nanophotonics and related techniques, Aug 30 – Sep 4 2014 Snowbird Mountain resort, Salt lake city, Utah USA

M. Bahri, L. Largeau, O. Mauguin, G. Patriarche, K. Madiomanana, J. B. Rodriguez, L. Cerutti, and E.Tournié; Structural characterization of GaSb-based heterostructures grown on Si; 18th International Microscopy Congress (IMC 2014), MS-8-P-1648, Prague, Czech Republic, 7-12 September 2014

K. Madiomanana, J.B. Rodriguez, L. Cerutti, A. Castellano, M. Bahri, L. Largeau, O. Mauguin, G. Patriarche and E. Tournié; Substrate cleaning process for the MBE for the MBE growth of Sb-based 1.55 μm lasers on Si; 18th Conference on Molecular Beam epitaxy (MBE2014), P-57, Flagstaff, USA, 7-12 September 2014

A. Castellano, L. Cerutti, J. B. Rodriguez, K. Madiomanana, F. Lelarge, and E. Tournié; GaSb active zones grown by MBE for emission near 1.55 μm 18th Conference on Molecular Beam epitaxy (MBE2014), P-56, Flagstaff, USA, 7-12 September 2014

Livres et Ouvrages / Book chapters or book edition.

Quantum Sensing and Nanophotonic Devices XI,
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Terahertz emitters, receivers, and applications V
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