

nanoMIR

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

Publication list (2017)

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

E. Tournié, III-V lasers monolithically grown on Silicon, 2017 IEEE Photonics Conference, 1 – 6 October 2017, Orlando, FL, (USA)

E. Tournié, L. Cerutti, J.B. Rodriguez, A. Castellano, G. Narcy, M. Niehle, G. Patriarche, A. Trampert, GaSb-based lasers epitaxially grown on Si, 2017 E-MRS Fall meeting, Symposium M, 18 – 21 September 2017, Warsaw (Poland).

Thierry Taliercio (invite), Fernando González-Posada Florès, Franziska Barho, María-José Milla Rodrigo, Mario Bomers, Laurent Cerutti, Eric Tournie, Plasmonic bio-sensing based on highly doped semiconductors, Optics + Photonics (SPIE), San Diego, USA, August 6-10 2017

E. Tournié, Lasers à semiconducteurs intégrés sur Silicium, Journées Nationales sur l’Optique Guidée (JNOG), 4 – 6 juillet 2017, Limoges, France.

Y. De Wilde (invite), F. Peragut, V. Krachmalnicoff, R. Pierrat, R. Carminati, J.-J. Greffet, J.-P. Hugonin, T. Taliercio, L. Cerutti, S. Collin, N. Bardou
Near-field Studies of Thermal Radiation and Local Density of States
CLEO Laser Science to Photonic Applications, San Jose, USA, 14-19 May 2017

L. Cerutti, J.B. Rodriguez, A. Castellano, K. Madiomanana, G. Narcy, and E. Tournié, Metamorphic III-Sb lasers epitaxially grown on Silicon, 19th European Workshop on Molecular-Beam Epitaxy, (Euro-MBE 2017), 19 – 22 March 2017, Korobytsino, St Petersburg (Russia).

E. Tournié, L. Cerutti, J.B. Rodriguez, G. Narcy, A. Castellano, K. Madiomanana, Metamorphic III-Sb lasers epitaxially grown on Si substrates, International School on Epitaxial Technologies of Novel materials and Nanostructures", 15 – 17 March 2017, Ioffe Institute, St Petersburg (Russia).

A.N. Baranov, Far infrared InAs-based quantum cascade lasers, Photonics West (San Francisco, USA 2017).

A.N. Baranov, Long wavelength InAs-based quantum cascade lasers, XXI International Symposium on Nanophysics and Nanoelectronics (Nizhny Novgorod, Russia, 2017).

A.N. Baranov, Far infrared quantum cascade lasers from Montpellier, 9th Russian-French workshop on Nanosciences and Nanotechnologies (Suzdal, Russia, 2017).

R. Teissier, « Matériaux alternatifs pour composants intersousbande MIR », Conférence invitée présentée à Workshop MidInfrared Intersubband Optoelectronics, Palaiseau, France, 06-avr-2017.

R. Teissier, « Antimonide materials and devices for infrared optoelectronic », Conférence invitée présentée à C'Nano 2017, Lyon, France, 01-déc-2017.

ACL : Articles dans des revues internationales avec comité de lecture référencées par ISI web / Peer reviewed publications referenced by ISIweb

1. F. Peragut, L. Cerutti, A. Baranov, J.P. Hugonin, T. Taliercio, Y. De Wilde, AND J.J. Greffet, Hyperbolic metamaterials and surface plasmon polaritons, *Optica* **4**, 1409 (2017)
2. S. Roux, L. Cerutti, E. Tournié, B. Gerard, G. Patriarche, A. Grisard, and E. Lallier, Low-loss orientation-patterned GaSb waveguides for mid-infrared parametric conversion, *Optical Material Express* **7**, 3011 (2017).
3. O. Delorme, L. Cerutti, E. Luna, G. Narcy, A. Trampert, E. Tournié and J.-B. Rodriguez, GaSbBi/GaSb quantum well laser diodes, *Appl. Phys. Lett.* **110**, 222106 (2017).
4. F. Omeis, R. Smaali, F. Gonzalez-Posada, L. Cerruti, Thierry Taliercio, and E. Centeno, Metal-Insulator-Metal resonators in the THz range based on highly doped semiconductor InAsSb, *Applied Physics Letters* **111**, 121108 (2017).
5. M.J.Milla, F. Barho, F. González-Posada, L. Cerutti, B. Charlot, M. Bomers, F. Neubrech, E. Tournie and T. Taliercio, Surface-Enhanced IR Absorption with Si-doped InAsSb/GaSb nano-antennas, *Optic Express* **25**, 22 (2017).
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8. B. Adelin, O. Gauthier-Lafaye, P. Dubreuil, A. Lecestre, Y. Rouillard, M. Bahriz, G. Boissier, A. Vicet, and A. Monmayrant. Electrically pumped all photonic crystal 2nd order DFB lasers arrays emitting at 2.3 μm , *APL Photonics* **2**, 036105 (2017); doi: 10.1063/1.4978665
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10. Al Mohtar, Abeer; Kazan, Michel; Taliercio, Thierry; Cerutti, Laurent; Blaize, Sylvain; Bruyant, Aurelien, Direct measurement of the effective infrared dielectric response of highly doped semiconductor metamaterial, *Nanotechnology* **28**, 125701 (2017).
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12. J. Tournet, Y. Rouillard, E. Tournié, Growth and characterization of AlInAsSb layers lattice-matched to GaSb, *Journal of Crystal Growth* **477**, 72 (2017).
13. A. Cheriet, M. Mebarki, P. Christol, H. Ait-Kaci, Energy band diagram and energy band offset of GaAlAsSb(p)/GaAlAsSb (n)/InAsSb double interface determined by capacitance-voltage measurements, *Material science in semiconductor processing* **66**, 50 (2017)
14. M. Delmas, R. Rossignol, J.B. Rodriguez, P. Christol, Design of InAs/GaSb superlattice infrared barrier detectors, *Superlattice and Microstructure* **104**, 402 (2017).
15. J.B. Rodriguez, L. Cerutti, G. Patriarche, L. Largeau, K. Madiomanana, E. Tournié, Characterization of antimonide based material grown by molecular epitaxy on vicinal silicon substrates via a low temperature AlSb nucleation layer, *J. Cryst. Growth* **477**, 65 (2017).
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Thierry Taliercio, Fernando González-Posada Florès, Franziska Barho, María-José Milla Rodrigo, Mario Bomers, Laurent Cerutti, Eric Tournie Plasmonic bio-sensing based on highly doped semiconductors, *Proceedings of SPIE*, v10353, Optical Sensing, Imaging, and Photon Counting Nanostructured Devices and Applications 2017 (2017).

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O. Delorme, L. Cerutti, E. Luna, A. Trampert, E. Tournié and J.-B. Rodriguez, "GaSbBi/GaSb quantum well laser diodes", 8th International Workshop on Bismuth-Containing Semiconductors, July 23rd - 26th, 2017, Marburg, Germany

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O. Delorme, L. Cerutti, E. Tournié, J.B. Rodriguez, High Bi-content GaSbBi alloys for mid-IR applications, CSWeek 2017, 14 – 18 May 2017, Berlin (Germany): oral communication.

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M. Bomers, F. Barho, A. Mezy, M. J. Milla, L. Cerutti, F. Gonzalez-Posada Flores, E. Tournié, T. Taliercio, GaSb oxidation for plasmonic enhanced mid-IR molecular spectroscopy, Nanophotonics and Micro/Nano Optics International Conference, Barcelona, Spain, September 13th-15th, 2017

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Y. Huang, J. Vaillant, F. Barho, M.-J. Milla, M. Bomers, F. G. Posada, L. Cerutti, T. Taliercio, A. Bruyant. Spectroscopic investigation of localized surface plasmon resonator structure by infrared nanoscopy near the plasma frequency, META'17, 25-28 July, 2017

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J.P. Perez, Q. Durlin, P. Christol, Type-II Ga-free superlattices designed for MWIR broadband detection, 19th Euro-MBE conference, St Petersburg, Russia, March 2017

Z. Loghmari, A. Meguekam, H. Nguyen-Van, M. Bahriz, R. Teissier, et A. N. Baranov, « Continuous wave operation of InAs-based quantum cascade lasers above 20 m », Dunkerque, France, 12-juin-2017.

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