

nanoMIR

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

Publication list (2020)

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

Mid-IR lasers sources monolithically integrated on Si substrates, E. Tournié, M. Rio Calvo, L. Monge-Bartolome, Z. Loghmari, D. A. Diaz-Thomas, G. Boissier, A. Meguekam, M. Bahriz, R. Teissier, A. N. Baranov, L. Cerutti, and J.-B. Rodriguez, SPIE Photonex & Vacuum Expo Digital Forum, Emerging Applications in Silicon Photonics, 6 – 8 October 2020, paper 11577-6.

InAs/AlSb quantum-cascade lasers monolithically integrated on silicon, N. Baranov, Z. Loghmari, M. Bahriz, A. Meguekam, L. Cerutti, J.-B. Rodriguez, M. Rio Calvo, G. Boissier, E. Tournié, R. Teissier. SPIE Photonics West, Opto-2020, “Novel In-plane Semiconductor Lasers XIX”, 3 – 6 February 2020, San Francisco (USA), paper 11301-55.

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

Highly doped semiconductor metamaterials for mid-infrared multispectral perfect absorption and thermal emission, Franziska B. Barho, Fernando Gonzalez-Posada Florès, Laurent Cerutti, Thierry Taliercio, Advanced Optical Materials, 1901502, 2020. <https://doi.org/10.1002/adom.201901502>

Microfluidic surface-enhanced infrared spectroscopy with semiconductor plasmonics for the fingerprint region, Mario Bomers, Benoît Charlot, Franziska Barho, Antoine Chaniel, Aude Mezy, Laurent Cerutti, Fernando Gonzalez-Posada and Thierry Taliercio, Reaction Chemistry & Engineering 5, 124-135, 2020. DOI : 10.1039/C9RE00350A

Epsilon near-zero all-optical terahertz modulator, E. Alvear-Cabezón, T. Taliercio, S. Blin, R. Smaali, F. Gonzalez-Posada, A. Baranov, R. Teissier, and E. Centeno, Appl. Phys. Lett. **117**, 111101, 2020. <https://doi.org/10.1063/5.0012206>

N. MAURIN, R. ROUSSEAU, W. TRZPIL, G. Aoust, M. Hayot, J. Mercier, M. Bahriz, F. Gouzi and A. VICET First clinical evaluation of a quartz enhanced photo-acoustic CO sensor for human breath analysis. Sensors and actuators (319) 128247 (2020). <https://doi.org/10.1016/j.snb.2020.128247>

Optical properties and dynamics of excitons in Ga(Sb,Bi)/GaSb quantum wells: evidence for a regular alloy behavior, E. Rogowicz, W. M. Linhart, M. Syperek, J. Kopaczek, O. Delorme, L. Cerutti, E. Luna, E. Tournié, J.-B. Rodriguez, R. Kudrawiec, Semicond. Sci. Technol. **35**, 025024 (2020). <https://doi.org/10.1088/1361-6641/ab6017>.

Molecular-beam epitaxy of GaSb on 6°-offcut (001) Si using a GaAs nucleation layer, M. Rio Calvo, J-B. Rodriguez, L. Cerutti, M. Ramonda, G. Patriarche, and E. Tournié, *J. Cryst. Growth* **529**, 125299 (2020). <https://doi.org/10.1016/j.jcrysgro.2019.125299>.

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Morphological control of InN nanorods by SAG-HVPE, Mohammed Zeghouane, Geoffrey Avit, Yamina André, Thierry Taliercio, Pierre Ferret, Evelyne Gil, Dominique Castellucci, Pierre Disseix, Joel Leymarie, Eric Tournié, Agnès Trassoudaine, *Cryst. Growth & Design* **20**, 2232 – 2239 (2020), <https://doi.org/10.1021/acs.cgd.9b01346>.

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Structural, Optical and Electrical Characterizations of Midwave Infrared Ga-Free Type-II InAs/InAsSb Superlattice Barrier Photodetector, U. Zavala-Moran, M. Bouschet, J.P. Perez, R. Alchaar, S. Bernhardt, I. Ribet-Mohamed, F. De Anda-Salazar, P. Christol
Photonics **7**, 76 (2020). <https://doi.org/10.5220/0009004900450051>.

Performance analysis of an InAs/GaSb superlattice barrier photodetector covering the full LWIR spectral domain, R Alchaar, JB Rodriguez, L Höglund, S Naureen, E Costard, P Christol
Opto-Electronics Review, **28**, 164-170 (2020). <https://doi.org/10.24425/opelre.2020.134425>

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

Antimonide-based Superlattice Infrared Barrier Photodetectors (Oral), U. Zavala-Moran, R. Alchaar, J.P. Perez, J.B. Rodriguez, M. Bouschet, V.H. Compean, F. de Anda, P. Christol
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VLWIR InAs/GaSb superlattice infrared focal plane arrays for space applications (Oral)

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Digital Forum, DCS SPIE Conference, Anaheim, California, April 2020

Books

Y. Ma, A. Vicet and K. Krezmpek editors, State of the art Laser Gas sensing Technologies, Applied Sciences ISSN 2076-3417, ISBN 978-3-03928-399-6 , MDPI, 2020

"Mid-Infrared optoelectronics: Materials, Devices, Applications." Edited by E. Tournié and L. Cerutti. (Elsevier, Woodhead Publishing, Duxford, UK, 2020). ISBN: 978-0-08-102709-7 and 978-0-08-102738-7.
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