



## **AXE SEMICONDUCTEURS - PUBLICATIONS ET THÈSES**

### Thèses en cours

[pas de thèse en cours]

» Thèses soutenues

## Publications 2022 -

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### 2024

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S. Takahashi, Y. Kubo, K. Konishi, R. Issaoui, J. Barjon, N. Naka

**"Spin-Orbit Effects on Exciton Complexes in Diamond"**

Physical Review Letters 132 (2024) 096902

K. Henni, C. Njel, M. Frégnaux, D. Aureau, J.S. Mérot, F. Fossard, I. Stenger, J.-C. Arnault, H. Girard

**"Core-shells particles grown in a tubular reactor: Influence of the seeds nature and MPCVD conditions on boron-doped diamond crystalline quality"**

Diamond and Related Materials, 142 (2024) 110770 - [HAL]

R. Mary Joy, P. Pobedinskas, N. Baule, S. Bai, D. Jannis, N. Gauquelin, M.-A. Pinault-Thaury, F. Jomard, K. J. Sankaran, R. Rouzbahani, F. Lloret, D. Desta, H.-G. Boyen, J. D'Haen, J. Verbeeck, M. F. Becker, K. Haenen

**"The effect of microstructure and film composition on the mechanical properties of linear antenna CVD diamond thin films"**

Acta Materialia 264 (2024) 119548 (open access) - HAL

### 2023

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M. Zanfognini, A. Plaud, I. Stenger, F. Fossard, L. Sponza, L. Schué, F. Paleari, E. Molinari, D.

Varsano, L. Wirtz, F. Ducastelle, A. Loiseau, J. Barjon

**"Distinguishing different stackings in layered materials via luminescence spectroscopy"**

Physical Review Letters 131 (2023) 206902 - arXiv2305.17554

C. Fournier, S. Roux, K. Watanabe, T. Taniguchi, S. Buil, J. Barjon, J.-P. Hermier, A. Delteil

**"Two-photon interference from a quantum emitter in hexagonal boron nitride"**

Physical Review Applied 19 (2023) L041003 - arXiv2210.05590

M.-A. Pinault-Thaury, F. Jomard

**"Detection limit of phosphorus in diamond by high mass resolution secondary ion**

**mass spectrometry"**

Physica Status Solidi A 220 (2023) 2200324 (open access) - HAL

D. Gérard, M. Rosticher, K. Watanabe, T. Taniguchi, J. Barjon, S. Buil, J.-P. Hermier, A. Delteil

**"Top-down integration of a hBN quantum emitter in a monolithic photonic waveguide"**

Applied Physics Letters 122 (2023) 264001 - arXiv2304.00130

C. Fournier, K. Watanabe, T. Taniguchi, J. Barjon, S. Buil, J.-P. Hermier, A. Delteil

**"Investigating the fast spectral diffusion of a solid-state quantum emitter using resonant excitation and photon correlations"**

Physical Review B 107 (2023) 195304 - arXiv2303.05315

A. Grishin, B. Bérini, M. Vallet, S. Hurand, F. Maudet, C. Sartel, M. Frégnaux, S. Nowak, G

**"Tailoring crystallisation of anatase TiO<sub>2</sub> ultra-thin films grown by atomic layer deposition using 2D oxides as growth template",**

Appl. Surf. Sci. 641, 158446 (2023)

T. Kociniewski , Y. Metayrek , Z. Khatir

**"Subpixel Cross Correlation Registration for High Spatial Resolution Thermal Image on IGBT Emitter Metallization by Thermoreflectance Measurements"**

Conference Paper Publisher IEEE (2023)

G. Saint-Girons, C. Furgeaud, L. Largeau, A. Danescu, R. Bachelet, M. Bouras,

**"Strain generated by the stacking faults in epitaxial SrO(SrTiO<sub>3</sub>)N Ruddlesden–Popper structures",**

J. App. Cryst. 56 (2023)

S. Roux, C. Arnold, E. Carré, E. Janzen, J. H. Edgar, C. Maestre, B. Toury, C. Journet, V. Garnier, P. Steyer, T. Taniguchi, K. Watanabe, A. Loiseau, J. Barjon,

**"Surface recombination and out of plane diffusivity of free excitons in hexagonal boron nitride",**

arXiv:2308.05539 (2023)

V. Guilloux, T. Barisien, F. Bernardot, M. Bernard, F. Margallan, S. Majrab, I. Stenger, E. Lhuillier, C. Testelin, M. Chamarro, L. Legrand

"Phonon Modes and Exciton-Phonon Interactions in CsPbCl<sub>3</sub> Single Nanocrystals",  
Physica E 151, 115713 (2023) – [HAL]

M. Rochedy, V. Klosek, C. Riglet-Martial, C. Onofri-Marroncle, D. Drouan, D. Reyes, P. Bienvenu, I. Roure, M. Cabié, L. Amidani, J. Léchelle, M-A. Pinault-Thaury,  
**"Behaviour of fission products in UO<sub>2</sub>: Experimental characterization of the Cs-I-UO<sub>2</sub> model system at high temperature"**,  
Journal of Nuclear Materials **581**, 154450 (2023)

E. M. Weikum, P. Dalapati, G. Beainy, J. M. Chauveau, M. Hugues, D. Lefebvre, J. Houard, A. Vella, L. Rigutti,  
**"Influence of dynamic morphological modifications of atom probe specimens on the intensity of their photoluminescence spectra"**,  
J. Opt. Soc. Amer. B **40**, 1633 (2023)

## 2022

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C. Maestre, Y. Li, V. Garnier, P. Steyer, S. Roux, A. Plaud, A. Loiseau, J. Barjon, L. Ren, C. Robert, B. Han, X. Marie, C. Journet, B. Toury  
**"From the synthesis of hBN crystals to their use as nanosheets in van der Waals heterostructures"**  
2D Materials **9**, 035008 (2022) (open access)

M.-A. Pinault-Thaury, F. Jomard  
**"Nitrogen investigation by SIMS in two wide band-gap semiconductors: Diamond and Silicon Carbide"**  
Materials Science Forum **1062**, 376 (2022) (open access) – [HAL]

N. A. Althumairi, I. Baig, T. S. Kayed, A. Mekki, A. Lusson, V. Sallet, A. Majid, S. Akhtar, A. Fouzri,  
**"Structural, morphological, optical, and electrical studies of Tb-doped ZnO micropods elaborated by chemical bath deposition on a p-Si substrate"**,  
Applied Physics A **128**, 559 (2022)

S. Modak, Al. Schulte, C. Sartel, V. Sallet, Y. Dumont, E. Chikoidze, X. Xia, F. Ren, S. J. Pearton, A. Ruzin, L. Chernyak,

## "Impact of radiation and electron trapping on minority carrier transport in p-Ga<sub>2</sub>O<sub>3</sub>"

, Appl. Phys. Lett. **120**, 233503 (2022)

V. Cantelli, S. Guillemin, E. Sarigiannidou, F. Carla, B. Berini, J.-M. Chauveau, D. D Fong, H. Renevier, and V. Consonni

### **"In situ analysis of the nucleation of O-and Zn-polar ZnO nanowires using synchrotron-based X-ray diffraction"**

Nanoscale **14**(3), 680–690 (2022) – [HAL]

S. Kumar, F. Fossard, G. Amiri, J.-M. Chauveau, and V. Sallet.

### **"Induced structural modifications in ZnS nanowires via physical state of catalyst: Highlights of 15R crystal phase."**

Nano Research **15**, 377–385 (2022) – [HAL]

S. Roux, C. Fournier, K. Watanabe, T. Taniguchi, J.-P. Hermier, J. Barjon, A. Delteil

### **"Cathodoluminescence monitoring of quantum emitter activation in hexagonal boron nitride"**

Applied Physics Letters **121** (2022) 184002 - [arXiv] - [HAL]

J. Hadid , I. Colambo , J. Avila, A. Plaud, C. Boyaval , D. Deresmes, N. Nuns, P. Dudin, A. Loiseau, J. Barjon, X. Wallart, D. Vignaud

### **"Molecular beam epitaxial growth of multilayer 2D-boron nitride on Ni substrates from borazine and plasma-activated nitrogen"**

Nanotechnology **34** (2022) 035601 - [HAL]

- » Publications DIAM 2015-2021
- » Publications NSP 2015-2021
- » Publications DIAM 2010-2014
- » Publications NSP 2010-2014
- » Publications DIAM 2006-2009