



GEMaC

Groupe d'Étude
de la Matière Condensée

PUBLICATIONS SIMS

Publications 2013 à 2023

2024

Z. Hu, Q. Yang, F. Jomard, P. Desgardin, C. Genevois, J. Joseph, P. Olsson, T. Jourdan, M.-F. Barthe,

"Revealing the role of oxygen on the defect evolution of electron-irradiated tungsten: A combined experimental and simulation study",

Journal of Nuclear Materials **602**, 155353 (2024)

C. Thenot, D. Monceau, D. Connétable, P. Sallot, M.-A. Pinault-Thaury, and J.-P. Monchoux,

"Oxygen diffusion coefficient in the β phase of a TiAl GE alloy determined by SIMS",
Intermetallics **172**, 108367 (2024).

2023

F. Rouillard, F. Jomard, L. Latu-Romain, L. Martinelli, F. Miserque, and D. J. Young,
"Corrosion of 9Cr steel by hot CO₂ gas: effects of O₂ and H₂O",
Research Square 326000 (2023)

2022

M.-A. Pinault-Thaury, F. Jomard,
"Detection limit of phosphorus in diamond by high mass resolution secondary ion mass spectrometry (HMR-SIMS) ",
physica status solidi

2021

M.-A. Pinault-Thaury, I. Stenger, R. Gillet, S. Temgoua, E. Chikoidze, Y. Dumont, F. Jomard, T. Kociniowski, J. Barjon
"Attractive electron mobility in (113) n-type phosphorus-doped homoepitaxial diamond"
Carbon 175 (2021) 254

N. Temahuki, F. Jomard, A. Lusson, I. Stenger, S. Hassani, J. Chevallier, J.M. Chauveau, C. Morhain, J. Barjon
"Identification by deuterium diffusion of a nitrogen-related deep donor preventing the p-type doping of ZnO"
Applied Physics Letters 118 (2021) 102106 - [arXiv]

Aspe, B.; Castel, X.; Demange, V; Passerieux, D.; Pinault-Thaury, M. A.; Jomard, F.; Deputier, S.; Cros, D.; Madrangeas, V; Bouquet, V; Sauleau, R.; Guilloux-Viry, M.
"Enhanced tunability and temperature-dependent dielectric characteristics at microwaves of K_{0.5}Na_{0.5}NbO₃ thin films epitaxially grown on (100)MgO substrates"
Journal of Alloys and Compounds, vol. 856, p. 158138, mars 2021 [HAL]

S. Choudhury, R. Golnak, C. Schulz, K. Lieutenant, N. Tranchant, J.-C. Arnault, M.-A. Pinault-Thaury, F. Jomard, P. Knittel, T. Petit,
"Impact of Nitrogen, Boron and Phosphorus Impurities on the Electronic Structure

of Diamond Probed by X-ray Spectroscopies",

C, vol. 7, n° 1, p. 28, mars 2021 [HAL]

2020

M. Rivollier, J.-L. Courouau, M. Tabarant, C. Blanc, F. Jomard, et M.-L. Giorgi,
"Further insights into the mechanisms involved in the corrosion of 316L(N) austenitic steel in oxygenated liquid sodium at 550°C",
Corrosion Science, vol. 165, p. 108399, avr. 2020 [HAL]

2019

T. Gheno, F. Jomard, C. Desgranges, et L. Martinelli,
"Grain boundary diffusion of chromium in polycrystalline nickel studied by SIMS"
Materialia, 6, 100283 (2019) - [HAL]

M.-A. Pinault-Thaury, S. Temgoua, R. Gillet, et al.,
"Phosphorus-doped (113) CVD diamond: A breakthrough towards bipolar diamond devices",
Appl. Phys. Lett., vol. 114, n 11, p. 112106, mars 2019, - [HAL]

M. Payet, L. Marchetti, M. Tabarant, F. Jomard, et J.-P. Chevalier,
"Corrosion mechanisms of 316L stainless steel in supercritical water: The significant effect of work hardening induced by surface finishes",
Corrosion Science, vol. 157, p. 157166, août 2019, - [HAL]

M. Levy, O. V. Borovkova, C. Sheidler, et al.,
"Faraday rotation in iron garnet films beyond elemental substitutions",
Optica, OPTICA, vol. 6, no 5, p. 642 646, mai 2019, - [HAL]

2018

T. Gheno, F. Jomard, C. Desgranges, et L. Martinelli,
"Tracer diffusion of Cr in Ni and Ni-22Cr studied by SIMS",
Materialia, vol. 3, p. 145 152, nov. 2018, - [HAL]

J. Bousquet, F. Jomard, E. Bustarret, et D. Eon,
"In situ spectroscopic ellipsometry monitoring of diamond multilayers grown by

microwave plasma enhanced chemical vapor deposition",
Diamond and Related Materials, vol. 86, p. 41 46, juin 2018, - [HAL]

F. Jomard, M. A. Pinault-Thaury, O. Durand, et al.,
"Exploring New Convergences between PV Technologies for High Efficiency Tandem Solar Cells: Wide Band Gap Epitaxial CIGS Top Cells on Silicon Bottom Cells with III-V Intermediate Layers",
35th European Photovoltaic Solar Energy Conference and Exhibition, p. 23 28, nov. 2018,
- [HAL]

N. Fourches, D. Desforge, M. Kebbiri, et al.,
"Limits in point to point resolution of MOS based pixels detector arrays",
J. Inst., vol. 13, no 01, p. C01011–C01011, janv. 2018, - [HAL]

V. Sallet et al.,
"Crystal Facet Engineering in Ga-Doped ZnO Nanowires for Mid-Infrared Plasmonics",
Crystal Growth & Design, **18**, 4287 (2018) - [HAL]

V. S. Nguyen et al.,
"Direct Evidence of Lithium Ion Migration in Resistive Switching of Lithium Cobalt Oxide Nanobatteries"?
Small, **14**, e1801038 (2018) - [HAL]

2017

M.-A. Pinault-Thaury, F. Jomard, C. Mer-Calfati, N. Tranchant, M. Pomorski, P. Bergonzo, et J.-C. Arnault,
"Front and back side SIMS analysis of boron-doped delta-layer in diamond",
Applied Surface Science, **410**, 464 (2017) - [HAL]

J. Scola, A. Benamar, B. Berini, F. Jomard, et Y. Dumont,
"Direct measurement of oxygen stoichiometry in perovskite films",
Journal of Physics D: Applied Physics, **50**, 045302 (2017)

A. Boussadi, A. Tallaire, O. Brinza, M. A. Pinault-Thaury, et J. Achard,
"Thick heavily boron doped CVD diamond films homoepitaxially grown on (111)-oriented substrates",
Diamond and Related Materials, **79**, 108 (2017) - [HAL]

A. Tallaire, L. Mayer, O. Brinza, M. A. Pinault-Thaury, T. Debuisschert, et J. Achard,
"Highly photostable NV centre ensembles in CVD diamond produced by using N₂O as the doping gas",
Appl. Phys. Lett., **111**, 143101 (2017) [HAL]

V. Mortet, Z. Vlková Živcová, A. Taylor, O. Frank, P. Hubík, D. Trémouilles, F. Jomard, J. Barjon, et L. Kavan,
"Insight into boron-doped diamond Raman spectra characteristic features",
Carbon, **115**, 279 (2017) - [HAL]

I. Stenger, M.-A. Pinault-Thaury, A. Lusson, T. Kociniewski, F. Jomard, J. Chevallier, et J. Barjon,
"Quantitative analysis of electronic absorption of phosphorus donors in diamond",
Diamond and Related Materials, **74**, 24 (2017) - [HAL]

N. Temahuki, R. Gillet, V. Sallet, F. Jomard, E. Chikoidze, Y. Dumont, M.-A. Pinault Thaury, et J. Barjon,
"New Process for Electrical Contacts on (100) N-type Diamond",
Physica status solidi (a), **214**, 1700466 (2017) - [HAL]

2016

L. Wang, S. Guillemin, J.-M. Chauveau, V. Sallet, F. Jomard, R. Brenier, V. Consonni, et G. Brémond,
"Characterization of carrier concentration in ZnO nanowires by scanning capacitance microscopy",
physica status solidi c, **13**, 576 (2016) - [HAL]

A. Tallaire, A. Valentin, V. Mille, L. William, M. A. Pinault-Thaury, F. Jomard, J. Barjon, et J. Achard,
"Growth of thick and heavily boron-doped (113)-oriented CVD diamond films",
Diamond and Related Materials, **66**, 61 (2016) - [HAL]

Y. Balasubramaniam et al.,
"Thick homoepitaxial (110)-oriented phosphorus-doped n-type diamond",
Appl. Phys. Lett., **109**, 062105 (2016)

L. Wang, J. M. Chauveau, R. Brenier, V. Sallet, F. Jomard, C. Sartel, et G. Brémond,
"Access to residual carrier concentration in ZnO nanowires by calibrated scanning spreading resistance microscopy",
Appl. Phys. Lett., **108**, 132103 (2016)

J. Barjon, P. Valvin, C. Brimont, P. Lefebvre, O. Brinza, A. Tallaire, J. Achard, F. Jomard, et M. A. Pinault-Thaury,
"Picosecond dynamics of free and bound excitons in doped diamond",
Phys. Rev. B, **93**, 115202 (2016) - [HAL]

2015

M.-A. Pinault-Thaury, I. Stenger, F. Jomard, J. Chevallier, J. Barjon, A. Traore, D. Eon, et J. Pernot,
"Electrical activity of (100) n-type diamond with full donor site incorporation of phosphorus",
physica status solidi (a), **212**, 2454 (2015) - [HAL]

V. Mortet, J. Pernot, F. Jomard, A. Soltani, Z. Remes, J. Barjon, J. D'Haen, et K. Haenen,
"Properties of boron-doped epitaxial diamond layers grown on (110) oriented single crystal substrates",
Diamond and Related Materials, **53**, 29 (2015) - [HAL]

L. Wang, J. Laurent, J. M. Chauveau, V. Sallet, F. Jomard, et G. Brémond,
"Nanoscale calibration of n-type ZnO staircase structures by scanning capacitance microscopy",
Appl. Phys. Lett., **107**, 192101 (2015) - [HAL]

J. Scola, X. Tassart, C. Vilar, F. Jomard, E. Dumas, Y. Veniaminova, P. Boullay, et S. Gascoin,
"Microstructure and electrical resistance evolution during sintering of a Ag nanoparticle paste",
J. Phys. D: Appl. Phys., **48**, 145302 (2015) - [HAL]

2014

W. Janssen et al.,
"Substitutional phosphorus incorporation in nanocrystalline CVD diamond thin films"
Physica status solidi (RRL) – Rapid Research Letters, **8**, 705 (2014)

E. Zehani, S. Hassani, A. Lusson, F. Jomard, P. Galtier, et V. Sallet,
"Post-growth annealing treatment of ZnO nanowires with arsenic and phosphorus sources"
Physica status solidi c, **11**, 1221 (2014)

A. Ray, R. Nori, P. Bhatt, S. Lodha, R. Pinto, V. R. Rao, F. Jomard, et M. Neumann-Spallart,

"Optimization of a plasma immersion ion implantation process for shallow junctions in silicon"

Journal of Vacuum Science & Technology A, **32**, 061302 (2014)

2013

J. Barjon, F. Jomard, et S. Morata,

"Arsenic-bound excitons in diamond",

Phys. Rev. B, **89**, 045201 (2014)

J. Mimila-Arroyo, F. Jomard, et J. Chevallier,

"Improvement of AlGaIn/GaN/Si high electron mobility heterostructure performance by hydrogenation",

Appl. Phys. Lett., **102**, 092104 (2013)

I. Stenger, M.-A. Pinault-Thaury, T. Kociniowski, A. Lusson, E. Chikoidze, F. Jomard, Y. Dumont, J. Chevallier, et J. Barjon,

"Impurity-to-band activation energy in phosphorus doped diamond",

Journal of Applied Physics, **114**, 073711 (2013)