



# GEMaC

Groupe d'Étude  
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## PUBLICATIONS 2017

I. Stenger, M.-A. Pinault-Thaury, A. Lusson, T. Kociniowski, F. Jomard, J. Chevallier, J. Barjon

**Quantitative analysis of electronic absorption of phosphorus donors in diamond**  
Diamond and Related Materials 74 (2017) 24

V. Mortet, Z. Vlckova Zivcova, A. Taylor, O. Frank, P. Hubík, D. Trémouilles, F. Jomard, J. Barjon, L. Kavan

**Insight into boron-doped diamond Raman spectra characteristic features**  
Carbon 115 (2017) 279

Nadal E., Barros N., Glenat H., Laverdant J., Schmool D.S., Kachkachi H.

**Plasmon-enhanced diraction in nanoparticle gratings fabricated by in situ photo-reduction of gold chloride doped polymer thin films by laser interference patterning**  
J. Mater. Chem C 5, 3553 (2017)

Teherani F.H., Rogers D.J., Sandana V.E., Bove P., Ton-That C., Lem L.L.C., Chikoidze E., Neumann-Spallart M., Dumont Y., Huynh T., Phillips M.R., Chapon P., McClintock R., Razeghi M.

**A Study into the Impact of Sapphire Substrate Orientation on the Properties of Nominally-Undoped beta-Ga<sub>2</sub>O<sub>3</sub> Thin Films Grown by Pulsed Laser Deposition**

Proc. of SPIE 10105, 10105R (2017)

Popova E., Deb M., Bocher L., Gloter A., Stéphan O., Warot-Fonrose B., Berini B., Dumont Y., Keller N.

**Interplay between epitaxial strain and low dimensionality effects in a ferrimagnetic oxide**

J. Appl. Phys. 121, 115304 (2017)

Popova E., Shengelaya A., Daraselia D., Japaridze D., Cherifi-Hertel S., Bocher L., Gloter A., Stéphan O., Dumont Y., Keller N.

**Bismuth iron garnet Bi<sub>3</sub>Fe<sub>5</sub>O<sub>12</sub>: a room temperature magnetoelectric material**

Appl. Phys. Lett. 110, 142404 (2017)

Scola J., Benamar A., Berini B., Jomard F., Dumont Y.

**Direct measurement of oxygen stoichiometry in perovskite films**

J. Phys. D: Appl. Phys. 50, 045302 (2017)

L. Schue, I. Stenger, F. Fossard, A. Loiseau, J. Barjon

**Characterization methods dedicated to nanometer-thick hBN layers**

2D Materials 4 (2017) 015028

Pinault-Thaury, M.-A, Jomard, F., Mer-Calfati, C., Tranchant, N., Pomorski, M., Bergonzo, P., Arnault, J.-C.

**Front and back side SIMS analysis of boron-doped delta-layer in diamond**

App. Surf. Sc 410(2017) 464-469

Diab, H., Arnold, C., Lédée, F., Trippé-Allard, G., Delport, G., Vilar, C., Bretenaker, F., Barjon, J., Lauret, J.-S., Deleporte, E., Garrot, D.

**Impact of Reabsorption on the Emission Spectra and Recombination Dynamics of Hybrid Perovskite Single Crystals**

J. Phys. Chem. Lett., 7, 2977–2983 (2017)

Lédée, F., Trippé-Allard, G., Diab, H., Audebert, P., Garrot, D., Lauret, J.-S., Deleporte, E  
**Fast Growth of Monocrystalline Thin Films of 2D Layered Hybrid Perovskite**  
CrystEngComm, 8, 208–215 (2017)

Yangui, A., Pillet, S., Lusson, A., Bendeif, E. E., Triki, S., Abid, Y. and Boukheddaden, K.,  
**Control of the white-light emission in the mixed two-dimensional hybrid perovskites (C<sub>6</sub>H<sub>11</sub>NH<sub>3</sub>)(<sub>2</sub>) PbBr<sub>4</sub>-xI<sub>x</sub>**  
Journal of Alloys and Compounds, 2017. 699: p. 1122-1133.

Kasperski, A., Guerain, M., Mermoux, M. and Jomard, F.  
**High-Temperature Oxidation of Zircaloy-4 in Air Studied with Labeled Oxygen and Raman Imaging.**  
Oxidation of Metals, 2017. 87(3-4): p. 501-513.

Jabri, S., Amiri, G., Hassani, S., Lusson, A., Sallet, V., Meftah, A., Galtier, P. and Oueslati, M.,  
**Zinc blende-oxide phase transformation upon oxygen annealing of ZnSe shell in ZnO-ZnSe core-shell nanowires.**  
Applied Physics Letters, 2017. 110(10).

Gorondy-Novak, S., Jomard, F., Prima, F. and Lefaix-Jeuland, H.,  
**SIMS as a new methodology to depth profile helium in as-implanted and annealed pure bcc metals?**  
Nuclear Instruments & Methods in Physics Research Section B-Beam Interactions with Materials and Atoms, 2017. 398: p. 56-64

Chebil, W., Boukhadaba, M.A., Mahdi, I., Fouzri, A., Lusson, A., Vilar, C., Sallet, V.,  
**Structural, optical and NO<sub>2</sub> gas sensing properties of ZnMgO thin films prepared by the sol gel method**  
Physica B-Condensed Matter, 2017.505:p.9-16

Stenger I., Schué L., Boukhicha M., Berini B., Plaçais B., Loiseau A., and Barjon J.  
**Low frequency Raman spectroscopy of few-atomic-layer thick hBN crystals**  
2D Materials 4 (2017) 031003

Boussadi A., Tallaire A., Brinza O., Pinault-Thaury M.-A., Achard J.,  
**Thick heavily boron doped CVD diamond films homoepitaxially grown on (111)-oriented substrates**

Goncalves F.J.T., Paterson G.W., McGrouther D., Drysdale T., Togawa Y., Schmool D. S., and Stamps R.L.,

**Probing microwave fields and enabling in-situ experiments in a transmission electron microscope**

Scientific Reports 7:11064

Ung T.P.L., Quélin X., Berini B., Colas des Francs G., Nasilowski M., Dutertret B., Hermier J.-P., and Buil S.,

**Probing the hot spot properties of semicontinuous gold films through the fluorescence polarization of CdSe/CdS colloidal nanocrystals**

Journal of Nanophotonics, 11(4), 046005-1(2017)

Sakr G., Sartel C., Sallet V., Lusson A., Patriarche G., Galtier P. and Barjon J.,

**Surface effects on exciton diffusion in non polar ZnO/ZnMgO heterostructures**

J. Phys : Condens. Matter 29 (2017) 485706

Coste A., Eloi F., Arnold C., Colas des Francs G., Quélin X., Buil S., Bouhelier A., Weeber J.C., Nasilowski M., Dubertret B., and Hermier J.-P.

**Significant decrease of the optical losses in the coupling between colloidal CdSe /CdS nanocrystals and a flat gold film at cryogenic temperature**

Phys. Rev.B 96, 195416 (2017)