

Publications 2023

Les publications sont triées par ordre alphabétique (1er auteur)

Afin d'identifier les contributions par équipes de recherches, des carrés colorés ont été mis en place avec le code suivant : ■ PCNANO ■ ST ■ NEE ■ D2SM ■ TSM

■ F. Alassani, J.C. Desmoulin, O. Cavani, Y. Petit, T. Cardinal, N. Ollier, *Silver photochemical reactivity under electronic irradiation of zinc-phosphate and sodium gallo-phosphate glasses*. Journal of Non-Crystalline Solids, 600 (2023) 122009.

■ A. Alekhin, A.M. Lomonosov, N. Leo, M. Ludwig, V.S. Vlasov, L. Kotov, A. Leitenstorfer, P. Gaal, P. Vavassori, V.V. Temnov, *Quantitative ultrafast magnetoacoustics at magnetic metasurfaces*. Nano Letters, 23(20) (2023) 9295-9302.

■ ■ ■ A. Alessi, O. Cavani, R. Grasset, H.-J. Drouhin, V.I. Safrov, M. Konczykowski, *Electron irradiation: from test to material tailoring*. Europhysics Letters, 143(5) (2023) 56001.

■ A. Aouina, M. Gatti, S. Chen, S. Zhang, L. Reining, *Accurate Kohn-Sham auxiliary system from the ground-state density of solids*. Physical Review B, 107 (2023) 195123.

■ ■ I. Aupiais, R. Grasset, T. Guo, D. Daineka, J. Briatico, S. Houver, L. Perfetti, J.-P. Hugonin, J.-J. Greffet, Y. Laplace, *Ultrasmall and tunable TeraHertz surface plasmon cavities at the ultimate plasmonic limit*. Nature Communications, 14 (2023) 7645.

■ A. Chakraborti, Y. Cho, J. Sjakste, B. Baptiste, L. Henry, N. Guignot, Y. Le Godec, N. Vast, *When carbon impurities trigger the synthesis of alpha boron at high pressure and high temperature*. Acta Materialia, 249 (2023) 118820.

■ K. Cho, M. Konczykowski, M.A. Tanatar, I.I. Mazin, Y. Liu, T.A. Lograsso, R. Prozorov, *Ion-selective scattering studied using the variable-energy electron irradiation in the Ba_{0.2}K_{0.8}Fe₂As₂ superconductor*. Materials, 16 (2023) 4520.

■ ■ J. Dong, W. Qi, D. Shin, L. Cario, Z. Chen, R. Grasset, D. Boschetto, M. Weis, P. Lample, E. Pastor, T. Ritschel, M. Marsi, A. Taleb, N. Park, A. Rubio, et al., *Dynamics of electronic states in the insulating intermediate surface phase of 1T-TaS₂*. Physical Review B, 108 (2023) 155145.

■ ■ J. Dong, D. Shin, E. Pastor, T. Ritschel, L. Cario, Z. Chen, W. Qi, R. Grasset, M. Marsi, A. Taleb-Ibrahimi, N. Park, A. Rubio, L. Perfetti, E. Papalazarou, *Electronic dispersion, correlations and stacking in the photoexcited state of 1T-TaS₂*. 2D Materials, 10(4) (2023) 045001.

■ M. Drong, J. Peřina, T. Fördös, H.Y. Jaffrès, K. Postava, H.-J. Drouhin, *Spin vertical-cavity surface-emitting lasers with linear gain anisotropy: prediction of exceptional points and nontrivial dynamical regimes*. Physical Review A, 107(3) (2023) 033509.

■ M. Frenzel, M. Cherasse, J.M. Urban, F. Wang, B. Xiang, L. Nest, L. Huber, L. Perfetti, M. Wolf, T. Kampfrath, X.-Y. Zhu, S.F. Maehrlein, *Nonlinear terahertz control of the lead halide perovskite lattice*. Science Advances, 9(21) (2023) 3856.

■ A. Ghita, T.-G. Mocioi, A.M. Lomonosov, J. Kim, O. Kovalenko, P. Vavassori, V.V. Temnov, *Anatomy of ultrafast quantitative magnetoacoustics in freestanding nickel thin films*. Physical Review B, 107(13) (2023) 134419.

■ P. Gierlowski, B. Cury Camargo, I. Abaloszewa, A. Abaloszewa, M. Jaworski, K. Cho, R. Prozorov, Y. Liu, T.A. Lograsso, M. Konczykowski, *London penetration depth of electron-irradiated Ba_{0.47}K_{0.53}Fe₂As₂*. Physica C: Superconductivity and its Applications, 613 (2023) 1354347.

- V. Gorelov, L. Reining, W.R.L. Lambrecht, M. Gatti, *Robustness of electronic screening effects in electron spectroscopies: example of V2O5*. Physical Review B, 107 (2023) 075101.
- V. Gorelov, Y. Yang, M. Ruggeri, D.M. Ceperley, C. Pierleoni, M. Holzmann, *Neutral band gap of carbon by quantum Monte Carlo methods*. Condensed Matter Physics, 26(3) (2023) 33701.
- K. Ishihara, M. Kobayashi, K. Imamura, M. Konczykowski, H. Sakai, P. Opletal, Y. Tokiwa, Y. Haga, K. Hashimoto, T. Shibauchi, *Anisotropic enhancement of lower critical field in ultraclean crystals of spin-triplet superconductor candidate UTe2*. Physical Review Research, 5 (2023) L022002.
- A. Jay, O. Hardouin Duparc, J. Sjakste, N. Vast, *Theoretical Raman spectrum of boron carbide B4.3C under pressure*. Acta Materialia, 255 (2023) 119085.
- J. Juraszek, M. Konczykowski, D. Kaczorowski, T. Cichorek, *Temperature dependence of the lower critical field of the noncentrosymmetric superconductor α -BiPd*. Physica Status Solidi RRL, 13(3) (2023) 2200423.
- D.A. Kuzmin, M.O. Usik, I.V. Bychkov, A.S. Bugaev, V. Shavrov, V.V. Temnov, *Enhanced magnetic modulation of surface plasmon polaritons on hyperbolic metasurfaces*. Optics Letters, 48(13) (2023) 3479-3482.
- L. Lacombe, N.T. Maitra, *Non-adiabatic approximations in time-dependent density functional theory: progress and prospects*. npj Computational Materials, 9 (2023) 124.
- D. Lairez, *Thermodynamical versus logical irreversibility: a concrete objection to Landauer's principle*. Entropy, 25(8) (2023) 1115.
- D. Lairez, *Plea for the use of the exact Stirling formula in statistical mechanics*. Scipost Physics Lecture Notes, 76 (2023)???
- V. Léger, T. Bidaud, S. Collin, G. Patriarche, C. Corbel, L. Rubaldo, *CdZnTe crystal quality study by cathodoluminescence measurements*. Journal of Electronic Materials, ???(???) (2023)???
- J. Lin, C. Grygiel, A. Alessi, S. Dourdain, J. Causse, N. Ollier, O. Cavani, C. Rey, G. Toquer, X. Deschanel, *A multiparametric study on the behavior of mesoporous silica under electron irradiation*. Materialia, 32(5) (2023) 101903.
- S. Marini, M. Grech, P.S. Kleij, M. Raynaud, C. Riconda, *Electron acceleration by laser plasma wedge interaction*. Physical Review Research, 5(1) (2023) 013115.
- S. Mazzei, C. Giorgetti, *Optical properties of quasi-two-dimensional objects from time-dependent density functional theory: Longitudinal versus transverse dielectric functions*. Physical Review B, 107 (2023) 165412.
- A. Mériot, M.-N. de Noirfontaine, M. Courtial, L. Izoret, S. Tusseau-Nenez, M. Labourel, S. Gauffinet, F. Dunstetter, *From selective dissolution to crystal chemistry of brownmillerite in sulfate resisting cement*. Journal of the American Ceramic Society, 106(1) (2023) 709-721.
- T.-G. Mocioi, A. Ghita, V.V. Temnov, *Towards resonantly enhanced acoustic phonon-exchange magnon interactions at THz frequencies*. Magnetochemistry, 9(7) (2023) 184.
- N. Ollier, I. Reghioa, O. Cavani, M. Mobasher, A. Alessi, S. le Floch, L. Skuja, *Probing densified silica glass structure by molecular oxygen and E' center formation under electron irradiation*. Scientific Reports, 13 (2023) 13657.

- R. Prozorov, M.A. Tanatar, E.I. Timmons, M. Konczykowski, T. Prozorov, *Response of the Verwey transition in magnetite to controlled point-like disorder induced by 2.5 MeV electron irradiation*. Materials Research Bulletin, 167 (2023) 112442.
- ■ M. Roppongi, K. Ishihara, Y. Tanaka, K. Ogawa, K. Okada, S. Liu, K. Mukasa, Y. Mizukami, Y. Uwatoko, R. Grasset, M. Konczykowski, B.R. Ortiz, S.D. Wilson, K. Hashimoto, T. Shibauchi, *Bulk evidence of anisotropic s-wave pairing with no sign change in the kagome superconductor CsV₃Sb₅*. Nature Communications, 14 (2023) 667.
- M. Sangermano, A. Grieco, C. Noé, G. Rizza, *UV-Cured PDMS for oil removal from wastewater*. Macromolecular Chemistry and Physics, 224(4) (2023) 2200345.
- R. Sen, N. Vast, J. Sjakste, *Role of dimensionality and size in controlling the drag Seebeck coefficient of doped silicon nanostructures: a fundamental understanding*. Physical Review B, 108(6) (2023) L060301.
- N. Shchedrina, N. Ollier, M. Mobasher, M. Lancry, *Investigating densification processes of amorphous silica phases through activation energy distribution*. Journal of Non Crystalline Solids, 617 (2023) 122491.
- J. Sitnicka, M. Konczykowski, K. Sobczak, P. Skupinski, K. Graszka, Z. Adamus, A. Reszka, A. Wolos, *Fermi-level dependence of magnetism and magnetotransport in the magnetic topological insulators Bi₂Te₃ and BiSbTe₃ containing self-organized MnBi₂Te₄ septuple layers*. Physical Review B, 107 (2023) 214424.
- L. Skuja, M. Leimane, N. Ollier, A. Grishchenko, *Paramagnetic point-defect in fluorine-doped silica glas: E'(F)-center*. Physical Review Letters, 131 (2023) 256903.
- C.-P. Su, K. Ruotsalainen, A. Nicolaou, M. Gatti, A. Gloter, *Plasmonic Properties of SrVO₃ Bulk and Nanostructures*. Advanced Optical Materials, 11(6) (2023) 2202415.
- I. Toccafondo, A. Alessi, J. Blanc, D. di Francesca, J. Kuhnenn, D. Ricci, U. Weinand, *Irradiation of multimode Ge-doped and F-doped optical fibers at cryogenic temperatures down to 10 K*. Journal of Lightwave Technology, 41(1) (2023) 286–292.
- M.L. Urquiza, M. Gatti, F. Sottile, *Pseudopotential Bethe-Salpeter calculations for shallow-core x-ray absorption near-edge structures: Excitonic effects in α -Al₂O₃*. Physical Review B, 107 (2023) 205148.
- ■ ■ P. Varlamov, A. Semisalova, A.D. Nguyen, M. Farle, Y. Laplace, M. Raynaud, O. Noel, P. Vavassori, V. Temnov, *Femtosecond laser ablation-induced magnetic phase transformation in ReRh thin film*. Magnetochemistry, 9(7) (2023) 186.
- N. Vast, J.-F. Halet, D. Portehault, *Special Topic: Boron, borides and related materials*. Solid State Sciences, 146 (2023) 107356.
- X. Xiao, R. Gillibert, A. Foti, P.-E. Coulon, C. Ulysse, T. Levato, S.A. Maier, V. Giannini, P.G. Gucciardi, G. Rizza, *Plasmonic polarization rotation in SERS spectroscopy*. Nano Letters, 23 (2023) 2530-2535.
- ■ E. Zhakina, R. Daou, A. Maignan, P.H. McGuinness, M. König, H. Rosner, S.-J. Kim, S. Khim, R. Grasset, M. Konczykowski, E. Tulipman, J.F. Mendez-Valderrama, D. Chowdhury, E. Berg, A.P. Mackenzie, *Investigation of Planckian behavior in a high-conductivity oxide: PdCrO₂*. Proceedings of the National Academy of Sciences of the United States of America, 120(36) (2023) e2307334120.

■ ■ E. Zhakina, P.H. McGuinness, M. König, R. Grasset, M.D. Bachmann, S. Khim, C. Putzke, P.J.W. Moll, M. Konczykowski, A.P. Mackenzie, *Crossing the ballistic-ohmic transition via high energy electron irradiation*. Physical Review B, 107 (2023) 094203.

■ J. Zhang, T. Sohler, M. Casula, Z. Chen, J. Caillaux, E. Papalazarou, L. Perfetti, L. Petaccia, A. Bendounan, A. Taleb-Ibrahimi, D. Santos-Cottin, Y. Klein, *Manipulating Dirac states in BaNiS₂ by surface charge doping*. Nano Letters, 23(5) (2023) 1830-1835.