

Publications impliquant plusieurs laboratoires de FedPV

2020

- [Influence of Environment and Light-Stress on the Optoelectronic Properties of Triple-Cation Perovskite Thin Films](#)
Lin, H.-J., Cacovich, S., Rebai, A., Rousset, J., Longeaud, C., 2020.. ACS Appl. Mater. Interfaces acsami.0c01732 **IPVF /C2N– prop optiques**
- [Detrimental effects of ion migration in the perovskite and hole transport layers on the efficiency of inverted perovskite solar cells](#)
Yong Huang, Pilar Lopez–Varo, Bernard Geffroy, Heejae Lee, Jean–Eric Bourée, et al.. Journal of Photonics for Energy, Society of Photo–optical Instrumentation Engineers (SPIE), 2020, 10 (2), pp.024502.
FOTON/LPICM/NIMBE/IPVF – ion migration
- [Imaging Electron, Hole and Ion Transport in Halide Perovskite](#)
Bercegol, A., Cacovich, S., Vidon, G., Mejaouri, S., Yaiche, A., Puel, J.-B., Longeaud, C., Guillemoles, J.-F., Jutteau, S., Rousset, J., Ory, D., Lombez, L., 2020. J. Phys. Chem. C acs.jpcc.9b10876. **IPVF / C2N – imaging electron, hole, ion transport**
- [Photoemission Spectroscopy Characterization of Halide Perovskites](#)
Béchu S, Ralairisoa M, Etcheberry A, Schulz P, Adv. Energy Mater. 2020, May 4;201904007 **IPVF/ILV – Photoemission**
- [Strong Performance Enhancement in Lead-Halide Perovskite Solar Cells through Rapid, Atmospheric Deposition of n-type Buffer Layer Oxides](#)
Ravi D. Raninga, Robert A. Jagt, Solène Béchu, Tahmida N. Huq, Weiwei Li, Mark Nikolka, Yen-Hung Lin, Mengyao Sun, Zewei Li, Wen Li, Muriel Bouttemy, Mathieu Frégnaux, Henry J. Snaith, Philip Schulz, Judith L. MacManus-Driscoll, Robert L. Z. Hoyer, Nano Energy (2020) doi :10.14469/hpc/7184 **IPVF/ILV- Layer oxide**
- [Light-induced passivation in triple cation halide perovskites: interplay between surface chemistry and transport properties](#)
Stefania Cacovich, Davina Messou, Adrien Bercegol, Solène Béchu, Armelle Yaiche, Hamza Shafique, Jean Rousset, Philip Schulz, Muriel Bouttemy, and Laurent Lombez, ACS Appl. Mater. Interfaces 2020, 12, 31, 34784–34794, <https://doi.org/10.1021/acsami.0c06844> **IPVF/ILV Passivation – transport**

2021

- [Renormalization of the valence and conduction bands of \(C6H5-C2H4-NH3\)2PbI4 hybrid perovskite](#)
Lee, Min-I ; Khan, Saleem ; Mrezguia, Hela ; Barragán, Ana ; Narayanan Nair, Maya ; Khelidj, Hamza ; KSARI, Younal ; Giovanelli, Luca ; Themlin, Jean-Marc ; Lédée, Ferdinand ; Trippé-Allard, Gaëlle ; Deleporte, Emmanuelle ; Taleb-Ibrahimi, Amina ; Minár, Ján ; Tejada, Antonio [*J. Phys. D : Appl. Phys.* 2021, 54 365301, DOI:10.1088/1361-6463/ac0703] **LPS + IM2NP+ LuMIn**
- [Tetrazine molecules as efficient electronic diversion channel in 2D organic-inorganic perovskites](#)
F. Lédée, P. Audebert, G. Trippé-Allard, L. Galmiche, D. Garrot, J. Marrot, J.-S. Lauret, E. Deleporte, C. Katan, J. Even, C. Quarti **PPSM + Mons + LuMIn + FOTON+ ISCR** [*Mater. Horiz.*, 2021,8, 1547-1560. <https://doi.org/10.1039/D0MH01904F>]

- [Halide ion migration and its role at the interfaces in perovskite solar cells](#)
Minjin Kim, Haeyeon Jun, Heejae Lee, Hindia Nahdi, Denis Tondelier, Yvan Bonnasieux, Jean-Éric Bourée, Bernard Geffroy
[*European Journal of Inorganic Chemistry* 2021 (46), 4781-4789] **LPICM**
- [On the equilibrium electrostatic potential and light-induced charge redistribution under illumination in halide perovskite structures](#)
Davide Regaldo, Aleksandra Bojar, Sean P. Dunfield, Pilar Lopez-Varo, Mathieu Frégnaux, Vincent Dufoulon, Shan-Ting Zhang, José Alvarez, Joseph J. Berry, Jean-Baptiste Puel, Philip Schulz, Jean-Paul Kleider **IPVF + GeePS+ILV**
[38th European Photovoltaic Solar Energy Conference and Exhibition (EU PVSEC 2021), 6-10 Sept 2021, online, pages 389-394, DOI:10.4229/EUPVSEC20212021-3CO.6.4]
- [Substrate-Controlled Electronic Properties of Perovskite Layer in Lateral Heterojunction Configuration](#)
Aleksandra Bojar, Sean P. Dunfield, Stefania Cacovich, Mathieu Frégnaux, Talysa Klein, Rosemary Bramante, Fei Zhang, Davide Regaldo, Jean-Baptiste Puel, Glenn Teeter, Joseph M. Luther, Muriel Bouttemy, Dennis Nordlund, Kai Zhu, David T. Moore, Maikel F.A.M. van Hest, Jean-Paul Kleider, Joseph J. Berry, Philip Schulz **IPVF + GeePS + ILV**
[48th IEEE-PVSC, 20-25 June 2021, proceedings pages 1001-1003, DOI : 10.1109/PVSC43889.2021.9518691]
- [On the equilibrium electrostatic potential and light-induced charge redistribution under illumination in halide perovskite structures](#)
Davide Regaldo, Aleksandra Bojar, Sean P. Dunfield, Pilar Lopez-Varo, Mathieu Frégnaux, Vincent Dufoulon, Shan-Ting Zhang, José Alvarez, Joseph J. Berry, Jean-Baptiste Puel, Philip Schulz, Jean-Paul Kleider **IPVF + GeePS + ILV**
[*Prog Photovolt Res Appl* 2021, <https://doi.org/10.1002/pip.3529>]
- [Carrier Gradients and the Role of Charge Selective Contacts in Lateral Heterojunction All Back-Contact Perovskite Solar Cells](#)
Sean P. Dunfield, Aleksandra Bojar, Stefania Cacovich, Mathieu Frégnaux, Talysa Klein, Rosemary Bramante, Fei Zhang, Davide Regaldo, Jean-Baptiste Puel, Glenn Teeter, Joseph M. Luther, Muriel Bouttemy, Dennis Nordlund, Kai Zhu, David T. Moore, Maikel F.A.M. van Hest, Jean-Paul Kleider, Joseph J. Berry, Philip Schulz **IPVF + GeePS + ILV**
[*Cell Rep. Phys. Sci.* 2 (2021) 100520, doi:10.1016/j.xcrp.2021.100520]
- [Three-terminal perovskite/integrated back contact silicon tandem solar cells under low light intensity conditions](#)
Hiroyuki Kanda, |Valentin Dan Mihailetchi, Marie-Estelle Gueunier-Farret, Jean-Paul Kleider, Zakaria Djebbour, Jose Alvarez, Philippe Baranek, Olindo Isabella, Malte R. Vogt, Rudi Santbergen, Philip Schulz, Fiala Peter, Mohammad K. Nazeeruddin, James P. Connolly **GeePS + IPVF**
[*Interdisciplinary Materials* 1 (2022) 148, doi:10.1002/idm2.12006]
- [Synthesis method of highly calibrated CsPbBr₃ nanocrystals perovskites by soft chemistry](#)
Cédric R. Mayer, Hugo Levy-Falk, Maxime Rémond, Gaëlle Trippé-Allard, Frédéric Fossard, Maxime Vallet, Marc Lepeltier, Nicolas Guiblin, Jean-Sébastien Lauret, Damien Garrot and Emmanuelle Deleporte **LuMIn + GEMAC + ILV**
Chem. Commun., 2022,58, 5960-5963, <https://doi.org/10.1039/D2CC01028C>
-

Liste d'articles impliquant une seule équipe de FedPV

[Schmitt20] Tanja Schmitt, Sean Bourelle, Nathaniel Tye, Giancarlo Soavi, Andrew Bond, et al.. Control of crystal symmetry breaking with halogen substituted benzylammonium in layered hybrid metal–halide perovskites. *Journal of the American Chemical Society*, American Chemical Society, 2020, 142 (11), pp.5060–5067. [FOTON/ISCR – 2D](#)

[Mao20] Lingling Mao, Peijun Guo, Mikael Kepenekian, Ioannis Spanopoulos, Yihui He, et al.. Organic Cation Alloying on Intralayer A and Interlayer A' sites in 2D Hybrid Dion–Jacobson Lead Bromide Perovskites (A')(A)Pb₂Br₇. *Journal of the American Chemical Society*, American Chemical Society, 2020, 142 (18), pp.8342–8351. [FOTON/ISCR – 2D – dion/jacobson](#)

[fu20] Yongping Fu, Xinyi Jiang, Xiaotong Li, Boubacar Traoré, Ioannis Spanopoulos, et al.. Cation Engineering in Two–Dimensional Ruddlesden–Popper Lead Iodide Perovskites with Mixed Large A–Site Cations in the Cages. *Journal of the American Chemical Society*, American Chemical Society, 2020, 142 (8), pp.4008–4021. [FOTON/ISCR – 2D](#)

[Spanopoulos20] Ioannis Spanopoulos, Ido Hadar, Weijun Ke, Peijun Guo, Siraj Sidhik, et al.. Water Stable 1D Hybrid Tin(II) Iodide Emits Broad Light with 36% Photoluminescence Quantum Efficiency. *Journal of the American Chemical Society*, American Chemical Society, 2020, 142 (19), pp.9028–9038. [FOTON/ISCR – sansplomb – emission](#)

[Nenito20] Inés García–Benito, Claudio Quarti, Valentin Queloz, Yvonne Hofstetter, David Becker–Koch, et al.. Fluorination of Organic Spacer Impacts on the Structural and Optical Response of 2D Perovskites. *Frontiers in Chemistry*, Frontiers, 2020, 7, pp.946.; [FOTON/Mons – fluor - struct/opt prop](#)

[Urban20] J. M. Urban, G. Chehade, M. Dyksik, M. Menahem, A. Surrente, G. Trippé–Allard, D. K. Maude, D. Garrot, O. Yaffe, E. Deleporte, P. Plochocka, and M. Baranowski. « Revealing Excitonic Phonon Coupling in (PEA)₂(MA)_n–1PbnI_{3n+1} 2D Layered Perovskites ». *J. Phys. Chem. Lett.* 2020, 11, 15, 5830–5835. , DOI: 10.1021/acs.jpcllett.0c01714 [LuMin / GEMAC / LNCMI – exciton](#)

[Fang20] Hong-hua Fang, Jie Yang, Sampson Adjokatse, Eelco Tekelenburg, Machteld Kamminga, et al.. Band-Edge Exciton Fine Structure and Exciton Recombination Dynamics in Single Crystals of Layered Hybrid Perovskites. *Advanced Functional Materials*, Wiley, 2020, 30 (6), pp.1907979. [FOTON – 2D- exciton](#)

[Tamarat20] The dark exciton ground state promotes photon-pair emission in individual perovskite nanocrystals » P. Tamarat, L. Hou, J.-B. Trebbia, A. Swarnkar, L. Biadala, Y. Louyer, M. I. Bodnarchuk, M. V. Kovalenko, J. Even, B. Lounis. *Accepted dans Nature Communications* (2020). [LP2N/Kovalenko/FOTON – nanocrystals – dark exciton](#)

[Subodh20] *Reversible photo-induced phase segregation and origin of long carrier lifetime in mixed-halide perovskite films.* Subodh K. Gautam, Minjin Kim, Douglas R. Miquita, Jean-Eric Bourée, Bernard Geffroy, and Olivier Plantevin, *Adv. Funct. Mater.*, 2020, 2002622, DOI: 10.1002/afm.202002622. [LPICM/CSNSM/NIMBE phase segregation – carrier lifetime](#)

[Aversa20] *Electron irradiation induced aging effects on radiative recombination properties of quadruple cation organic-inorganic perovskite layers.* Pierfrancesco Aversa, Senol Öz, Eunhwan Jung, Olivier Plantevin, Olivier Cavani, Nadège Ollier, Jean-Eric Bourée, Bernard Geffroy, Tsutomu Miyasaka, Sanjay Mathur and Catherine Corbel, *Emergent Materials*, 2020, DOI: 10.1007/s42247-020-00096-z. [LSI/LPICM/CSNSM/NIMBE/Université de Cologne– aging effects – radiative recombination – electron irradiation](#)

[Ferreira20] Afonso Ferreira, Serge Paofai, Antoine Létoublon, Jacques Ollivier, Stéphane Raymond, et al.. Direct evidence of weakly dispersed and strongly anharmonic optical phonons in hybrid perovskites. *Communications Physics, Nature Research*, 2020, 3 (48) [FOTON/ISCR – anharmonicity](#)

[Li20] Xiaotong Li, Yongping Fu, Laurent Pedesseau, Peijun Guo, Shelby Cuthriell, et al.. Negative Pressure Engineering with Large Cage Cations in 2D Halide Perovskites Causes Lattice Softening. *Journal of the American Chemical Society, American Chemical Society*, 2020, DOI 10.1021/jacs.0c03860 [FOTON/ISCR - structure](#)

[Fenning20] Fenning DP, Schulz P, Stranks SD, Halide Perovskites – Optoelectronic and Structural Characterization Methods, *Adv. Energy Mater.* 2020, (in press) [IPVF – Structure](#)

[Kuai20] Revealing Crystallization Dynamics and the Compositional Control Mechanism of 2D Perovskite Film Growth by In Situ Synchrotron-Based GIXRD

L. Kuai, J. Li, Y. Li, Y. Wang, P. Li, Y. Qin, T. Song, Y. Yang, Z. Chen, X. Gao, B. Sun, *ACS Energy Lett.* 2020, 5, 1, 8-16. DOI: 10.1021/acsenerylett.9b02366 [LPEM – Synchrotron GIXRD](#)

[Binyamin20] Tal Binyamin, Laurent Pedesseau, Sergei Remennik, Amal Sawahreh, Jacky Even, et al.. Fully inorganic mixed cation lead halide perovskite nanoparticles: a study at the atomic level. *Chemistry of Materials, American Chemical Society*, 2020, 32 (4), pp.1467–1474 [FOTON – simulation – nanoparticles](#)

[Rybin20] Nikita Rybin, Dibyajyoti Ghosh, Jeremy Tisdale, Shreetu Shrestha, Michael Yoho, et al.. Effects of Chlorine Mixing on Optoelectronics, Ion–Migration and Gamma–ray Detection In Bromide Perovskites. *Chemistry of Materials, American Chemical Society*, 2020, 32 (5), pp.1854–1863. [FOTON/ISCR – ion migration](#)

[Sadhu20] **Observing the migration of hydrogen species in hybrid perovskite materials through D/H isotope exchange**

Subha Sadhu, Thierry Buffeteau, Simon Sandrez, Lionel Hirsch, Dario M Bassani

J. Am. Chem. Soc. 2020, ASAP <https://doi.org/10.1021/jacs.0c02597> [ISM/IMS - Ion migration](#)

[Gautam20] Reversible Photoinduced Phase Segregation and Origin of Long Carrier Lifetime in Mixed-Halide Perovskite Films. Subodh K. Gautam, Minjin Kim, Douglas R. Miquita, Jean-Eric Bourée, Bernard Geffroy and Olivier Plantevin. *Adv. Funct. Mater.* 2020, 2002622. [LPS / LPICM / NIMBE – Segregation – long carrier lifetime](#)

[Hu20bis] Thermal conductivity and diffusivity of triple-cation perovskite halide materials for solar cells. Z. Hu, L. Aigouy, Z. Chen, D. Fournier, *J. Appl. Phys.* 2020, 127 (12), 125113. DOI: 10.1063/1.5138480 [LPEM – thermal conductivity](#)

[Traore20] Boubacar Traoré, Laurent Pedesseau, Jean–Christophe Blancon, Sergei Tretiak, Aditya Mohite, et al.. Importance of Vacancies and Doping in the Hole–Transporting Nickel Oxide Interface with Halide Perovskites. *ACS Applied Materials & Interfaces, Washington, D.C. : American Chemical Society*, 2020, 12 (5), pp.6633–6640. [FOTON/ISCR – NiO](#)

[Hu20] TiO₂ Nanocolumn Arrays for More Efficient and Stable Perovskite Solar Cells

Z. Hu, J. M. Garcia-Martin, Y. Li, L. Billot, B. Sun, F. Fresno, A. García-Martín, M. U. González, L. Aigouy, Z. Chen, *ACS Appl. Mater. Interfaces* 2020, 12, 5, 5979-5989. DOI : 10.1021/acсами.9b21628 [LPEM – TiO₂ – PV](#)

- [Energy Tuning of the Electronic Spin Coherent Evolution in Methylammonium Lead Iodide Perovskites](#)

Guadalupe Garcia-Arellano, Gaëlle Trippé-Allard, Laurent Legrand, Thierry Barisien, Damien Garrot, Emmanuelle Deleporte, Frédéric Bernardot, Christophe Testelin, Maria Chamarro [LuMin](#)

- [Energy Tuning of Electronic Spin Coherent Evolution in Methylammonium Lead Iodide Perovskites](#)

Guadalupe Garcia-Arellano, Gaëlle Trippé-Allard, Laurent Legrand, Thierry Barisien, Damien

Garrot, Emmanuelle Deleporte, Frédérick Bernardot, Christophe Testelin, Maria Chamarro
[*J. Phys. Chem. Lett.*, 12, 8272-8279, (2021), <https://pubs.acs.org/doi/abs/10.102...>] **LuMIn**

- **[Exciton Cooling in 2D Perovskite Nanoplatelets : Rationalized Carrier-Induced Stark and Phonon Bottleneck Effects](#)**

Villamil Franco, C. ; Trippé-Allard, G. ; Mahler, B. ; Cornaggia, C. ; Lauret, J.-S. ; Gustavsson, T. ;
Cassette, E **LuMIn + LIDYL**

[*J. Phys. Chem. Lett.* 2022, 13 (1), 393–399, <https://doi.org/10.1021/acs.jpcllett...>]