
Publications 2020

[2022](#) [2021](#) **2020**

Cini, A., Poggini, L., Chumakov, A. I., Ruffer, R., Spina, G., **Wattiaux, A., Duttine, M.**, Gonidec, M., Fittipaldi, M., Rosa, P. & Mannini, M.

"Synchrotron-based Mössbauer spectroscopy characterization of sublimated spin crossover molecules."

Physical Chemistry Chemical Physics 22(12) (2020) 6626-6637.

[DOI : 10.1039/C9CP04464G](https://doi.org/10.1039/C9CP04464G)

<https://www.gfsm.fr/extensions/vertebres/analyse/>

Cotin, G., Perton, F., Petit, C., Sall, S., Kiefer, C., Begin, V., Pichon, B., Lefevre, C., Mertz, D., **Grenèche, J.-M.** & Begin-Colin, S.

"Harnessing composition of iron oxide nanoparticle : impact of solvent mediated ligand-ligand interaction and of competition between oxidation and growth kinetics"

Chem. Mater. 32 (2020) 9245 9259

[DOI : 10.1021/acs.chemmater.0c03041](https://doi.org/10.1021/acs.chemmater.0c03041)

M. J. Dzara, K. Artyushkova, **M. T. Sougrati**, C. Ngo, M. A. Fitzgerald, A. Serov, B. Zulevi, P. Atanassov, F. Jaouen & S. Pylypenko

"Characterizing Complex Gas-Solid Interfaces with in Situ Spectroscopy : Oxygen Adsorption Behavior on Fe-N-C Catalysts"

Journal of Physical Chemistry C 124 (2020) 16529-16543

[DOI : 10.1021/acs.jpcc.0c05244](https://doi.org/10.1021/acs.jpcc.0c05244)

Doggaz, A., **Coustel, R.**, Durand, P., Humbert, F. & Ruby, C.

"Birnessite : a new oxydant for Green Rust formation"

Materials 13 (2020) 3777

[DOI : 10.3390/ma13173777](https://doi.org/10.3390/ma13173777)

Duboscq, M., **Abdelmoula, M.**, Remazeilles, C., Jeannin, M., Sabot, R. & Refait, Ph.

"On the formation and transformation of Fe(III)-containing chukanovite, $Fe_{1-2-x}Fe_{III}x(OH)_2-xO_xCO_3$ "

Journal of Physics and Chemistry of Solids 138 (2020) 109310

[DOI : 10.1016/j.jpccs.2019.109310](https://doi.org/10.1016/j.jpccs.2019.109310)

F. Eveillard, C. Gervillie, C. Taviot-Gueho, F. Leroux, K. Guerin, **M. T. Sougrati**, S. Belin & D. Delbecq

"Unravelling lithiation mechanisms of iron trifluoride by operando X-ray absorption spectroscopy and MCR-ALS chemometric tools"

New Journal of Chemistry 44 (2020) 10153-10164

[DOI : 10.1039/c9nj06321h](https://doi.org/10.1039/c9nj06321h)

M. Fehse, D. Bessas, A. Mahmoud, A. Diatta, R. P. Hermann, L. Stievano & **M. T. Sougrati**

"The Fe⁴⁺/3⁺ redox mechanism in NaFeO₂ : A simultaneous operando Nuclear Resonance and X-ray Scattering study"

Batteries & Supercaps 3 (2020) 1341-1349

[DOI : 10.1002/batt.202000157](https://doi.org/10.1002/batt.202000157)

Franceschin, G., Gaudisson, T., Perez Quiros, S., Yaacoub, N., **Grenèche, J.-M.**, Menguy, N., Mercone, S., Mazaleyra, F. & Ammar, S.

"Exchange-bias features in nanoceramics prepared by spark plasma sintering of exchange-biased nanopowders"

Journal of Materials Chemistry C 8 (2020) 5941-594

[DOI : 10.1039/d0tc00428f](https://doi.org/10.1039/d0tc00428f)

Fujieda, S., Gaudisson, T., **Grenèche, J.-M.**, François, M. & Ammar, S.

"Synthesis of Magnetic Wires from Polyol-Derived Fe-Glycolate Wires"

Nanomaterials 10 (2020) 318

[DOI : 10.3390/nano10020318](https://doi.org/10.3390/nano10020318)

Garcia, Y.

"Selected polyazole based coordination polymers displaying functional properties"

Adv. Inorg. Chem. 76 (2020) 121-153.

T. Kosmala, N. Bibent, **M. T. Sougrati**, G. Drazic, S. Agnoli, F. Jaouen & G. Granozzi

"Stable, Active, and Methanol-Tolerant PGM-Free Surfaces in an Acidic Medium : Electron Tunneling at Play in Pt/FeNC Hybrid Catalysts for Direct Methanol Fuel Cell Cathodes"

ACS Catalysis 10 (2020) 7475-7485

[DOI : 10.1021/acscatal.0c01288](https://doi.org/10.1021/acscatal.0c01288)

Kumar, V., El Massaoudi, M., Radi, S., Van Hecke, K., Rotaru, A. & **Garcia, Y.**

"Iron(II) coordination pyrazole complexes with aromatic sulfonate ligands : the role of ether"

New J. Chem. 44 (2020) 13902 - 13912.

Kumar, V., Fusaro, L., Aprile, C., Robeyns, K. & **Garcia, Y.**

"[2+2] photodimerization of sulfonate derivative of trans-cinnamic acid : Kinetics study using solid state ¹³C NMR, and hybrid material inclusion"

Cryst. Growth Des. 20 (2020) 7850-7861.

Lemoine, K., Moury, R., Lhoste, J., Hémon-Ribaud, A., Leblanc, M., **Grenèche, J.-M.**, Tarascon, J.-M. & Maisonneuve, V.

"Stabilization of a mixed iron vanadium based hexagonal tungsten bronze hydroxyfluoride HTB-(Fe_{0.55}V_{0.45})F_{2.67}(OH)_{0.33} as a positive electrode for lithium-ion batteries"

Dalton Trans. 49 (2020) 8186-8193

[DOI : 10.1039/d0dt01310b](https://doi.org/10.1039/d0dt01310b)

J. K. Li, L. Jiao, E. Wegener, L. L. Richard, E. S. Liu, A. Zitolo, **M. T. Sougrati**, S. Mukerjee, Z. P. Zhao, Y. Huang, F. Yang, S. C. Zhong, H. Xu, A. J. Kropf, F. Jaouen, D. J. Myers & Q. Y. Jia

"Evolution Pathway from Iron Compounds to Fe-1(II)-N-4 Sites through Gas-Phase Iron during Pyrolysis"

Journal of the American Chemical Society 142 (2020) 1417-1423

[DOI : 10.1021/jacs.9b11197](https://doi.org/10.1021/jacs.9b11197)

J. K. Li, **M. T. Sougrati**, A. Zitolo, J. M. Ablett, I. C. Oguz, T. Mineva, I. Matanovic, P. Atanassov, Y. Huang, I. Zenyuk, A. Di Cicco, K. Kumar, L. Dubau, F. Maillard, G. Drazic & F. Jaouen

"Identification of durable and non-durable Fe_{Nx} sites in Fe-N-C materials for proton exchange membrane fuel cells"

Nature Catalysis 4 (2020) 10-19

[DOI : 10.1038/s41929-020-00545-2](https://doi.org/10.1038/s41929-020-00545-2)

Lizhong Zhao & **Jean-Marc Grenèche**

"On the magnetism of grain boundary phase and its contribution to the abnormal openness of recoil loops in hot-deformed magnets"

J. Phys. D : Appl. Phys. 53 (2020) 095002

[DOI : 10.1088/1361-6463/ab58e1](https://doi.org/10.1088/1361-6463/ab58e1)

Lizhong Zhao, Chengli Li, Xuefeng Zhang, Sateesh Bandaru, Kunpeng Su, Xiaolian Liu, Qing Zhou, Lingwei Li, **Jean-Marc Grenèche**, Jiayin Jin & Mi Yan

"Effects of Sm content on the phase structure, microstructure and magnetic properties of the Sm_xZr_{0.2}(Fe_{0.8}Co_{0.2})_{11.5}Ti_{0.5} (x^{1/4}0.8) alloys"

Journal of Alloys and Compounds 828 (2020) 154428

[DOI : 10.1016/j.jallcom.2020.154428](https://doi.org/10.1016/j.jallcom.2020.154428)

Lizhong Zhao, Huacun Tian, Xichun Zhong, Zhongwu Liu, **Jean-Marc Grenèche** & R.V. Ramanujan

"Influence of gadolinium and dysprosium substitution on magnetic properties and magnetocaloric effect of Fe₇₈xRE_xSi₄Nb₅B₁₂Cu₁ amorphous alloys"

Journal of Rare Earth 38 (2020) 1317e1321

[DOI : 10.1016/j.jre.2020.02.005](https://doi.org/10.1016/j.jre.2020.02.005)

Lu, C., Kim, TH., Bendix, J., **Abdelmoula, M.**, Ruby, C., Nielsen, U. G. & Brun Hansen, H.C.

"Stability of magnetic LDH composites used for phosphate recovery"

Journal of Colloid and Interface Science 580 (2020) 660-668

[DOI : 10.1016/j.jcis.2020.07.020](https://doi.org/10.1016/j.jcis.2020.07.020)

F. Luo, A. R. Roy, L. Silvioli, D. A. Cullen, A. Zitolo, **M. T. Sougrati**, I. C. Oguz, T. Mineva, D. Teschner, S. Wagner,

J. Wen, F. Dionigi, U. I. Kramm, J. Rossmesl, F. Jaouen & P. Strasser

"P-block single-metal-site tin/nitrogen-doped carbon fuel cell cathode catalyst for oxygen reduction reaction"

Nature Materials 19 (2020) 1215

[DOI : 10.1038/s41563-020-0717-5](https://doi.org/10.1038/s41563-020-0717-5)

Mari , I., `ijakovi Vujii , N., Pustak, A., Goti , M., `tefani , G., **Jean-Marc Grenèche**, Dra~i , G. & Jurkin, T.

"Rheological, Microstructural and Thermal Properties of Magnetic Poly(Ethylene Oxide)/Iron Oxide Nanocomposite Hydrogels Synthesized Using a One-Step Gamma-Irradiation Method"

Nanomaterials 10 (2020) 1823 ;

[DOI : 10.3390/nano10091823](https://doi.org/10.3390/nano10091823)

Mosser-Ruck, R., Stermenich, J., Michau, N., Jodin-Caumon, M., Randi, A., **Abdelmoula, M.**, Barrès, O. & Cathelineau, M.

"Serpentinization and H₂ production during an iron-clay interaction experiment at 90C under low CO₂ pressure"

Applied Clay Science 191 (2020) 105609

[DOI : 10.1016/j.clay.2020.105609](https://doi.org/10.1016/j.clay.2020.105609)

Odin, G. P., Belhadj, O., Vanmeert, F., Janssens, K., **Wattiaux, A.**, François, A. & Rouchon, V.

"Study of the influence of water and oxygen on the morphology and chemistry of pyritized lignite : Implications for the development of a preventive drying protocol."

Journal of Cultural Heritage 42 (2020) 117-130.

[DOI : 10.1016/j.culher.2019.08.004](https://doi.org/10.1016/j.culher.2019.08.004)

Ona-Nguema, G., Guerbois, D., Pallud, C., Brest, J., **Abdelmoula, M.** & Morin, G.

"Biogenic Fe(II-III) hydroxycarbonate green rust enhances nitrate removal and decreases ammonium selectivity during heterotrophic denitrification"

Minerals 10(9) (2020) 818

[DOI : 10.3390/min10090818](https://doi.org/10.3390/min10090818)

M. Primbs, Y. Y. Sun, A. Roy, D. Malko, A. Mehmood, **M. T. Sougrati**, P. Y. Blanchard, G. Granozzi, T. Kosmala, G. Daniel, P. Atanassov, J. Sharman, C. Durante, A. Kucernak, D. Jones, F. Jaouen & P. Strasser

"Establishing reactivity descriptors for platinum group metal (PGM)-free Fe-N-C catalysts for PEM fuel cells"

Energy & Environmental Science 13 (2020) 2480-2500

[DOI : 10.1039/d0ee01013h](https://doi.org/10.1039/d0ee01013h)

Rabi, B., Essoumhi, A., Sajjeddine, M., **Grenèche, J.-M.**, EK Hlil, Razouk, A. & Valente, M.A.

"Structural, magnetic and magnetocaloric study of Ni_{0.5}Zn_{0.5}Fe₂O₄ spinel"

Applied Physics A 126 (2020) 1-11

[DOI : 10.1007/s00339-020-3344-8](https://doi.org/10.1007/s00339-020-3344-8)

Rakotomalala Robinson, M., Coustel, R., **Abdelmoula, M.** & Mallet, M.

"As(V) and As(III) sequestration by starch functionalized magnetite nanoparticles : influence of the route onto the

trapping efficiency"

Science and Technology of Advanced Materials 21(1) (2020) 524-539

[DOI : 10.1080/14686996.2020.1782714](https://doi.org/10.1080/14686996.2020.1782714)

Sartori, K., Gailly, D., Bouillet, C., **Grenèche, J.-M.**, Dueñas-Ramirez, P., Begin-Colin, S., Choueikani, F. & Pichon, B. P.

"Increasing the size of Fe₃O₄ Nanoparticles by Performing a Multistep Seed-Mediated Growth Approach"

Cryst. Growth Des. 20(3) (2020) 1572-1582

[DOI : 10.1021/acs.cgd.9b01300](https://doi.org/10.1021/acs.cgd.9b01300)

R. Sibul, E. Kibena-Poldsepp, S. Ratso, M. Kook, **M. T. Sougrati**, M. Kaarik, M. Merisalu, J. Aruvali, P. Paiste, A. Treshchalov, J. Leis, V. Kisand, V. Sammelselg, S. Holdcroft, F. Jaouen & K. Tammeveski

"Iron- and Nitrogen-Doped Graphene-Based Catalysts for Fuel Cell Applications"

Chemelectrochem 7 (2020) 1739-1747

[DOI : 10.1002/celec.202000011](https://doi.org/10.1002/celec.202000011)

Soulmi, N., Porrás-Gutierrez, A. G., Rizzi, C., Sirieix-Plénet, J., Gaillon, L., Groult, H., Rollet, A.-L., Umut, E., **Duttine, M.**, Borkiewicz, O. J., Lebedev, O. I. & Dambournet, D.

"Sn-based alloys synthesized in an ionic liquid at room temperature : Cu₆Sn₅ as a case study."

ChemNanoMat 6(4) (2020) 639-647.

[DOI : 10.1002/cnma.201900718](https://doi.org/10.1002/cnma.201900718)

N. Soulmi, **M. T. Sougrati**, **L. Stievano**, A. G. P. Gutierrez, O. I. Lebedev, C. Rizzi, J. Sirieix-Plénet, L. Gaillon, H. Groult & D. Dambournet

"Lithium-driven conversion and alloying mechanisms in core-shell Sn/SnO_x nanoparticles"

Solid State Sciences 101 (2020) 106153

[DOI : 10.1016/j.solidstatesciences.2020.106153](https://doi.org/10.1016/j.solidstatesciences.2020.106153)

Vallés-García, C., Gkaniatsou, E., Santiago-Portillo, A., Gimenez-Marques, M., Alvaro, M., **Grenèche, J.-M.**, Steunou, N., Sicard, C., Navalon, S., Serre, C. & García, H.

"Design of stable mixed-metal MIL-101(Cr/Fe) materials with enhanced catalytic activity for the Prins reaction"

J. Mater. Chem. A 8 (2020) 17002

[DOI : 10.1039/d0ta02991b](https://doi.org/10.1039/d0ta02991b)

Villacorta, V., Augusto Barrero, C., Turrion, M.-B., Lafuente, F., **Grenèche, J.-M.** & García, K. E.

"Removal of As³⁺, As⁵⁺, Sb³⁺, and Hg²⁺ ions from aqueous solutions by pure and co-precipitated akaganeite nanoparticles : adsorption kinetics studies"

RSC Adv. 10 (2020) 42688

[DOI : 10.1039/d0ra08075f](https://doi.org/10.1039/d0ra08075f)

M. Worle, C. P. Guntlin, L. Gyr, **M. T. Sougrati**, C. H. Lambert, K. V. Kravchyk, R. Zenobi & M. V. Kovalenko

"Structural Evolution of Iron(III) Trifluoroacetate upon Thermal Decomposition : Chains, Layers, and Rings"

Chemistry of Materials 32 (2020) 2482-2488

[DOI : 10.1021/acs.chemmater.9b05004](https://doi.org/10.1021/acs.chemmater.9b05004)

[2022](#) [2021](#) **2020**
