



Meet our Research Faculty

Ahmed Slimani

Assistant Professor



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Research Interests

My research focuses on material science as spin materials. These compounds are likely to be present in two different magnetic states and it is possible to switch from one state to another by the action of an external disturbance as temperature, light, pressure, magnetic and electric field. The spin transition in these materials causes dramatic changes in the electronic and structural properties, making them potential candidates for several applications as sensors, actuators, high density data storage.

My works focus on:

The spatio-temporals aspects of the spin transition on single crystals revealed by optical microscopy

Simulation of the spin transition at the nanoscale to highlight the effects of confinement and interface

Research Collaborations

Participation in Scientific Conferences

International Workshop on Phase transition and Dynamical properties of Spin Transition Materials, May 6-10, 2019, Florida, USA

The international conference of Ultra control of Materials, June 11-14, 2018, Rennes, France

International Conference on Multifunctional Materials and their Applications (2MAP-2016) , May 6-8, 2016, Sousse, Tunisia

International Meeting on Advanced Materials (MAM-2015), September 7 -9, 2015, Hammamet, Tunisia

The 2nd Awaji International Workshop on Electron Spin Science & Technology: Biological and Materials Science Oriented Applications" (2nd AWEST 2014), June 15-17, 2014, the Awaji Island, Hyogo, Japan

The American Physical Society march meeting, March 3-7, 2014, Denver, USA

The 5th JCS International Symposium on Theoretical Chemistry, December 2-6, Nara-2013, Japan

The fourth International Workshop on Phase transition and Dynamical properties of Spin Transition Materials, May 22-25, 2012, Meudon, France

Third European Conference on Molecular Magnetism, November 22-25, 2011, Paris, France

The international symposium on the Advanced Complex Inorganic Nanomaterials, September, 11-14 2011, Namur, Belgium

International workshop Switchable materials, 27-29 November 2011, Brest, France

The fourth International Conference on Molecular Materials, 5-8 July 2010, Montpellier, France

Organisation of Scientific Conferences

Member of the Organising Committee which organised the International Meeting on TRAMP2017 : Nanomatériaux : Microstructure Et Propriétés at Hammamet, Tunisia (22 - 24 March 2017)

Member of the Organising Committee which organised the International Meeting on "Research to Applications & Markets (RAM 2016) at Hammamet, Tunisia (16-18 September 2016)

Member of the Organising Committee which organised the International Meeting on Advanced Materials (MAM-2015) at Hammamet, Tunisia (7 -9 September 2015)

Member of the Organising Committee which organised the fourth International Workshop on Phase transition and Dynamical properties of Spin Transition Materials (PDSTM2012) at Versailles, France (22th -25th May 2012),

Member of the Organising Committee which organised the International Meeting on Materials for Electronic Applications (IMMEA-2009) at Hammamet, Tunisia (May 8-10, 2009)

Publications

Book Chapters

K. Boukheddaden, A. Slimani, M. Sy, F. Varret, H. Oubouchou, and R. Traiche in " Magnetic Structures of 2D and 3D Nanoparticles: Properties and Applications" Edited by Jean-Claude Serge Levy (Pan Stanford, 2015)

F. Varret, C. Chong, A. Slimani, D. Garrot, Y. Garcia, and Anil D. Naik in "Spin-Crossover Materials : Properties and applications" Edited by Malcolm A. Halcrow (John Wiley & Sons Ltd, Oxford, UK, 2013)

Journal Articles

K Affes, A Slimani, Y Singh, A Maalej, K Boukheddaden, Journal of Physics: Condensed Matter, (2020)

K Affes, H Fourati, A Slimani, K Boukheddaden, Journal of the Physical Society of Japan, 88 (12), 124701, (2019)

O. Turki, A. Slimani, L. Seveyrat, Z. Sassi, H. Khemakhem, L. Lebrun, Journal of applied physics, 125, 174103 (2019)

K. Affes, A. Slimani, A. Maalej, K. Boukheddaden, Chemical Physics Letters, Volume 718, p. 46-53, (2019)

A. Slimani, K. Boukheddaden, Physical Chemistry Chemical Physics, DOI: 10.1039/C8CP05578E, (2018)

A.C. Felts, A. Slimani, J.M. Cain, M.J. Andrus, A.R. Ahir, K.A. Abboud, M.W. Meisel, K. Boukheddaden, D.R. Talham, Journal of the American Chemical Society, 140, Pages 5814-5824, (2018)

H. Fourati, E. Milin, A. Slimani, G. Chastanet, Y. Abid, S. Triki, K. Boukheddaden, Physical Chemistry Chemical Physics, 20, Pages 10142-10154, (2018)

A. Slimani, H. Khemakhem, K. Boukheddaden, Physical Review B 95, 174104 (2017)

O. Turki, A. Slimani, L. Seveyrat, G. Sebald, V. Perrin, Z. Sassi, H. Khemakhem, L. Lebrun, Journal of applied physics, 120, 054102, (2016)

M. Sy, D. Garrot, A. Slimani, M. Páez-Espejo, F. Varret, and K. Boukheddaden, Angewandte Chemie-International Edition, 128, Issue 5, 1787–1791, (2016)

K. Boukheddaden, M. Sy, M. Paez-Espejo, A. Slimani and F. Varret, Physica B : condensed matter, Volume 486, 187–191, (2016)

A. Slimani, K. Boukheddaden, K. Yamashita, Physical Review B, 92, 014111, (2015)

A. Slimani, K. Boukheddaden, K. Yamashita, Physical Review B, 89, 214109, (2014)

A. Slimani, X. Yu, A. Muraoka, K. Boukheddaden, K. Yamashita, Journal of Physical Chemistry A., 118 (39):9005-12, (2014)

A. Slimani, F. Varret, K. Boukheddaden, D. Garrot, H. Oubouchou, S. Kaizaki, Physical Review Letters 110, 087208, (2013)

A. Slimani, K. Boukheddaden, F. Varret, H. Oubouchou, M. Nishino, S. Miyashita, *Physical Review B*. 87, 014111, (2013)

H. Oubouchou, A. Slimani, K. Boukheddaden, *Physical Review B* 87, 104104, (2013)

A. Slimani, K. Boukheddaden, F. Varret, M. Nishino, and S. Miyashita, *The Journal of Chemical Physics*, 139, 19, 194706, (2013)

H. Oubouchou, A. Slimani, G. Zribi, N. Haine, M. Zergoug, and K. Boukheddaden, *Sensor Letters*, Vol. 11, No. 08, (2013)

A. Slimani, F. Varret, K. Boukheddaden, C. Chong, H. Mishra, J. Haasnoot, S. Pillet, *Physical Review B*. 84, 094442, (2011)

F. Varret, A. Slimani, K. Boukheddaden, C. Chong, H. Mishra, E. Collet, J. Haasnoot, S. Pillet, *New Journal Chemistry*, 35, 2333-2340, (2011)

C. Chong, A. Slimani, F. Varret, K. Boukheddaden, E. Collet, J.C. Ameline, R. Bronisz, A. Hauser, *Chemical Physics Letters*, Volume 504, Issues 1-3, (2011)

A. Rotaru, J. Linares, F. Varret, E. Codjovi, A. Slimani, R. Tanasa, C. Enachescu, A. Stancu, J. Haasnoot, *Physical Review B* 83, 224107, (2011)