

10-year accomplishment and future of Korea-France international collaboration at Ewha-Physics

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Since I have visited l'Institut de Physique et Chimie des Matériaux de Strasbourg (IPCMS) in Strasbourg, France in 2006, I and my French colleagues accomplished a great many things in science and education. I would like to reflect the accomplishments and next phase of the collaboration. Furthermore, I want to share the core competence of the scientific works with professors and students in University of Ulsan. Following is a short list of the published papers throughout the co-works.

- [11] S. H. Oh, Aziz Dinia, Abdelilah Slaoui, Gerald Ferblantier, Emilie Steveler, Thomas Fix, and W. Jo, "Effect of Sn composition on optical and electric properties of amorphous Zn-Sn-O transparent conducting films prepared by radio frequency magnetron sputtering", (in preparation).
- [10] J. H. Kim, S. H. Oh, N. Lee, W. Jo, and C. Mény, "Tuning the bipolar resistive switching of nickel oxide nanodots with Co-based electrodes", (in preparation).
- [9] S. H. Oh, R. H. Shin, C. Lefèvre, A. Thomasson, F. Roulland, Y. Shin, D.-H. Kim, J.-Y. Kim, A. Demchenko, C. Leuvrey, C. Mény, W. Jo, and N. Viart, "Incorporation of cobalt ions into magnetoelectric gallium ferrite epitaxial thin-films: tuning of conductivity and magnetization", RSC Advances, 5, 34265 (2015).
- [8] S. H. Oh, J. H. Lee, R. H. Shin, M. Kim, Y. Shin, C. Mény, and W. Jo, "Room-temperature polarization switching and antiferromagnetic coupling in $(\text{Ga,Fe})_2\text{O}_3/\text{SrRuO}_3$ epitaxial heterostructure", Applied Physics Letters, 106, 142902 (2015).
- [7] N. Lee, W. Jo, C. L. Liu, and C. Mény, "Size dependent bipolar resistance switching of NiO nanodots for low-power and multistate operation", Nanotechnology 25, 415302 (2014).
- [6] Alexandre Thomasson, Fatima Ibrahim, Sukgeun Choi, Christophe Lefevre, Emmanuel Autissier, François Roulland, Christian Mény, Cédric Leuvrey, W. Jo, Olivier Crégut, Gilles Versini, Sophie Barre, Mébarek Alouani and Nathalie Viart "Effects of iron concentration and cationic site disorder on the optical properties of magnetoelectric gallium ferrite thin films", RSC Advances 3, 3124 (2013).
- [5] C. Lefevre, R. H. Shin, J. H. Lee, S. H. Oh, F. Roulland, A. Thomasson, E. Autissier, C. Meny, W. Jo, and N. Viart, "Reduced leakage currents and charge carriers tuning in Mg-doped $\text{Ga}_{0.6}\text{Fe}_{1.4}\text{O}_3$ thin films", Applied Physics Letters 100, 262904 (2012).
- [4] S. G. Choi, C. Lefevre, F. Rolland, C. Meny, N. Viart, B. To, D. E. Shafer, R. H. Shin, J. H. Lee, and W. Jo, "Optical transitions of $\text{Ga}_{0.6}\text{Fe}_{1.4}\text{O}_3$ from 0.73 to 6.45 eV", Journal of Vacuum Science and Technology B 30, 041204 (2012).
- [3] D. J. Kim, W. S. Choi, F. Schleicher, R. H. Shin, S. Boukari, V. Davesne, C. Kieber, J. Arabski, G. Schmerber, E. Beaurepaire, W. Jo, and M. Bowen, "Control of defect-mediated tunneling barrier heights in ultrathin MgO films", Applied Physics Letters, 97, 263502 (2010).
- [2] M. Trassin, N. Viart, G. Versini, S. Barre, G. Pourroy, J. H. Lee, W. Jo, K. Dumesnil, C. Dufour and S. Robert, "Room temperature ferrimagnetic thin films of the magnetoelectric $\text{Ga}_{2-x}\text{Fe}_x\text{O}_3$ ", Journal of Materials Chemistry 19, 8876 (2009).
- [1] M. Trassin, N. Viart, G. Versini, J.-L. Loison, J.-P. Vola, G. Schmerber, O. Crégut, S. Barre, G. Pourroy, J. H. Lee, W. Jo, and C. Mény, "Epitaxial thin films of multiferroic GaFeO_3 on conducting indium tin oxide (001) buffered yttrium-stabilized zirconia (001) by pulsed laser deposition", Appl. Phys. Lett. 91, 202504 (2007).