

# PUBLICATIONS 2020 - OXYDES COMPLEXES FONCTIONNELS

J. Belhadi, F. Ravaux, M. Jouiad and M. El Marssi : *Quantification and Mapping of Elastic Strains in Ferroelectric [BaZrO<sub>3</sub>]<sub>x</sub>/[BaTiO<sub>3</sub>]<sub>(1-x)</sub> Superlattices*  
**Applied Surface Science** 512, 145761

M Ait Tamerd, B Abraime, A Lahmar, M El Marssi, M Hamedoun, A Benyoussef, A ElKenz : *Magnetolectric coupling at the NiFe<sub>2</sub>O<sub>4</sub>/PZT(001) interface: A density functional theory investigation*  
**Superlattices and Microstructures** 139, 106401

## LABORATOIRE DE PHYSIQUE DE LA MATIÈRE CONDENSÉE

E. Haily, L. Bih, A. Lahmar, M. El Marssi, B. Manoun : *Effect of BaO–Bi<sub>2</sub>O<sub>3</sub>–P<sub>2</sub>O<sub>5</sub> glass additive on structural, dielectric and energy storage properties of BaTiO<sub>3</sub> ceramics*  
**Mater.Chem. Phys.**241, 122434

M. Benyoussef, M. Zannen, J. Belhadi, B. Manoun, J-Luc Dellis, A. Lahmar, M. El Marssi *Complex impedance and Raman spectroscopy of Na<sub>0.5</sub>(Bi<sub>1-x</sub>Dy<sub>x</sub>)<sub>0.5</sub>TiO<sub>3</sub> ceramics*  
**Ceramics International**

M Ait Tamerd, B Abraime, O El Rhazouani, A Lahmar, M El Marssi, M Hamedoun, A Benyoussef, A El Kenz : *Modelling of the ferroelectric and energy storage properties of PbZr<sub>1-x</sub>Ti<sub>x</sub>O<sub>3</sub> thin films using Monte Carlo simulation*  
**Materials Research Express**6

J Belhadi, S Yousfi, M El Marssi, D C Arnold, H Bouyanfif : *Tailoring the photovoltaic effect in (111) oriented BiFeO<sub>3</sub>/LaFeO<sub>3</sub> superlattices*  
**J. Phys.: Condens. Matter** 32,135301

S Benyoussef, Y El Amraoui, H. Ez-Zahraouy, D Mezzane, Z Kutnjak, I. A. Luk'yanchuk and M. El-Marssi : *Mean field theory and Monte Carlo simulation of phase transitions and magnetic properties of a tridimensional Fe<sub>7</sub>S<sub>8</sub> Compound*  
**Physica Scripta** 95 vol 4,045803

Razumnaya, AG; Mikheykin, AS; Stryukov, DV; Anokhin, AS; Pavlenko, AV; Shirokov, VB; Kaliteevski, MA; Mezzane, D; Lukyanchuk, I;  
*Built-in electric field induces polarization rotation in bilayer BiFeO<sub>3</sub>/(Ba, Sr) TiO<sub>3</sub> thin films*  
**Journal of Alloys and Compounds** 812, 152164

Zaitseva, E.; Levashenko, V.; Lukyanchuk, I.; Rabcan, J.; Kvassay, M.; Rusnak, P.;  
*Application of Generalized Reed–Muller Expression for Development of Non-Binary Circuits*  
**Electronics** 9, 12

Levashenko, V.; Lukyanchuk, I.; Zaitseva, E.; Kvassay, M.; Rabcan, J.; Rusnak, P.;  
*Development of Programmable Logic Array for Multiple-Valued Logic Functions*  
**IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems**