GEMaC
Groupe d'Étude de la Matière Condensée

NANO-SIZED MULTIFUNCTIONAL OXIDES FOR FUTURE APPLICATIONS

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Bâtiment Fermat
F-4109

Matters behave very differently at the nano-scale. We have explored how materials can be down-scaled to nano-size in order to tailor and control their properties to meet the industrial needs. These advanced, low-dimensional oxides, ranging from quantum dots, nanoparticles, to ultra-thin films, develop multifunctional properties. As well as demonstrating how down-scaling to nano-size can make materials multifunctional, we will show how this technology can be applied in electronics, medicine, energy, and environment.

I will basically talk about three remarkable cases: diluted magnetic semiconducting oxide thin films; nano-ferrites; and nanoparticle oxides for biomedical applications. The relationship between structural and magnetic properties has been well studied in order to suggest right materials for future devices.