



## **Magnetism at interfaces**

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### **Abstract**

Transition metal oxides are widely studied systems due to the rich variety of interesting properties they exhibit as metal-insulator transitions, superconductivity, magneto-electric coupling and colossal magneto-resistance, to cite a few. This rich scenario has its origin on the correlation between different degrees of freedom as charge, orbital and spin. This scenario becomes even richer when two dissimilar materials come in contact in heterostructures. The interface appears as one additional degree of freedom giving rise to properties not observed individually in the constituting materials. In this talk I will present work in superlattices oxides and artificial multiferroics evidencing the magnetic coupling appearing at the interface. I will show how x-ray magnetic dichroism can be used as a tool to investigate these systems. In addition, some results on neutron reflectometry will also be shown.