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X-ray Absorption spectroscopic investigation of Novel Magnetic oxides

J.-H. PARK, POSTECH

Magnetic oxides have attracted so much attention as candidates of magnetic materials for next generation magnetic devices such as spintronics device, tera-bit magnetic storages, high efficient magnetic sensors, etc. The magnetic oxides display variety of magnetic behaviors at a function of doping, pressure, external fields, etc., and those behaviors can be even controllable. X-ray absorption spectroscopy including the magnetic circular dichroism is a powerful microscopic probe to characterize and elucidate the origin and the mechanism for the magnetic behaviors. Here I will discuss recent findings in the spectroscopic studies on various magnetic oxides, including magnetic oxide nano-particles, a multiferroic oxide, and spin- orbit-lattice coupled magnetic oxide films.