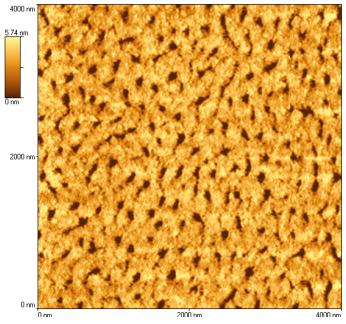

Colossal Magnetoresistance (CMR) ferromagnetic metals are deposited by means of the PPD by transferring the composition of the target onto the substrate. This method allows the fabrication of complex oxides by a simple one step process. The roughness of $\mathbf{La_{0,7}Sr_{0,3}MnO_3}$ (LSMO) is very small (see AFM image in the inset). The surface magnetization is proved by the MOKE response (Fig. 1) even for extremely thin films (20 nm). The surface magnetization is further definitely proved by the X ray absorption dichroism (Fig. 2).

The PPD grown $\mathbf{La_{0,7}Sr_{0,3}MnO_3}$ and $\mathbf{Pr_{0,7}Ca_{0,3}MnO_3}$ thin films are characterized by:

- **Flat surface: roughness of 1-2 nm for a 50 nm thick thin film (see inset)**
- **100% spin polarization at the surface**
- **Stable magnetic properties in ambient conditions**
- **Suitable for spin polarized injecting electrodes in organic spintronics**
- **Suitable for application in spin polarized injection in silicon (see Fig. 3)**

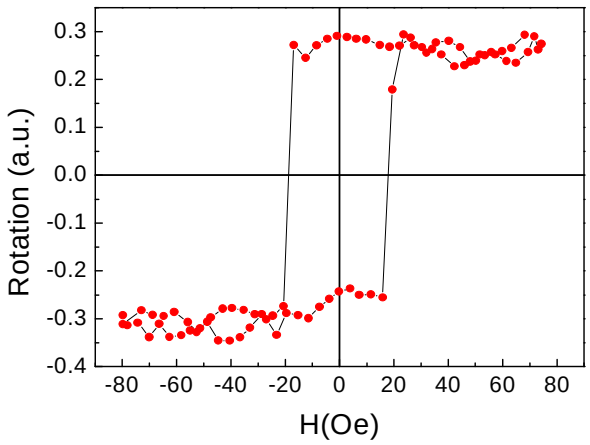

Fig. 1 Magneto-optical Kerr effect of a 20 nm thick film of LSMO.

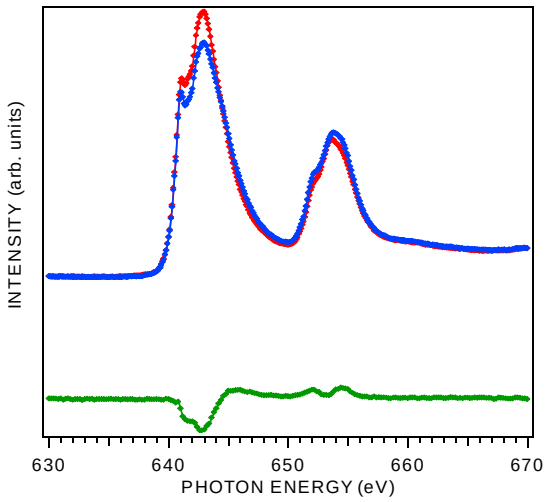

Fig. 2 X-ray absorption dichroism showing the magnetization of the first 3 angstrom surface layer of LSMO.

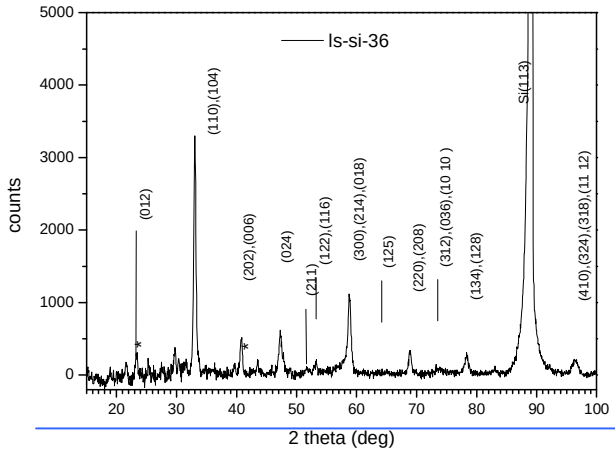

Fig. 3 X ray diffraction $La_{0,7}Sr_{0,3}MnO_3$ grown on silicon.