

Complex Oxide Heterostructures

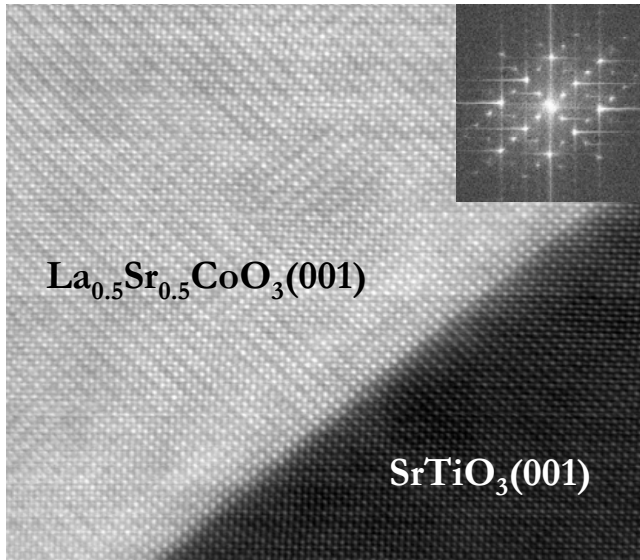
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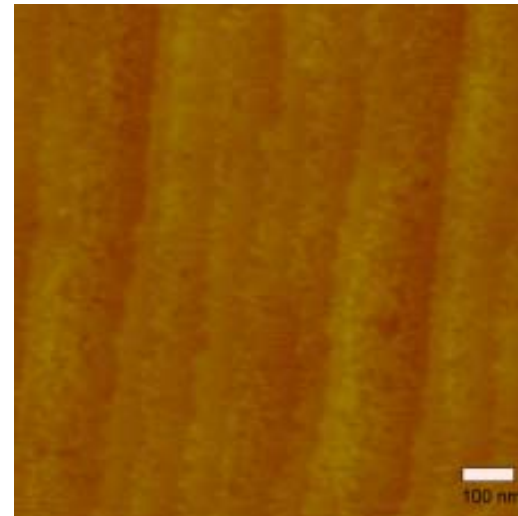
NNIN Facilities utilized: Characterization Facility & Nanofabrication Center

- Fabrication and characterization of complex oxide heterostructures based on perovskites

- ◆ Multi-functional systems
- ◆ Precisely controlled structure and interfaces
- ◆ Applications in magnetism, spin transport, organic conductors.



- Phenomena under investigation:
 - ◆ High K FETs
 - ◆ Spin injection
 - ◆ Magnetic phase separation under dimensional confinement



- Publications (2007)
 - ◆ “Effects of interface states on the transport properties of all-oxide $\text{La}_{0.82}\text{Sr}_{0.18}\text{CoO}_3/\text{SrTi}_{0.99}\text{Nb}_{0.01}\text{O}_3$ p-n heterojunctions”, F. Y. Bruno *et al*, in press Appl. Phys. Lett..
 - ◆ “Epitaxial $\text{La}_{0.5}\text{Sr}_{0.5}\text{CoO}_3$ thin films: Structure, magnetism and transport”, M.A. Torija *et al*, submitted (2007).
 - ◆ “Strongly inhomogeneous conduction in cobaltite films”, V. Orlyanchik *et al*, submitted (2007).