



PHOTONICS LECTURE

WEDNESDAY, 15 MAY 2024 | 16:00 H

DR. JUTTA SCHWARZKOPF

LECTURE HALL A1

Epitaxy of oxide thin films

Compared to three-dimensional bulk materials, thin films exhibit a reduced dimensionality (2D) leading to anisotropic physical properties in-plane and out-of-plane to the film surface.

Furthermore, epitaxial growth of thin films offers additional degrees of freedom to tune functional properties of complex oxides by the incorporation of lattice strain and/or (point) defects. This can be achieved, for example, by the (hetero-) epitaxial growth on mismatched substrates and of deliberately off-stoichiometric films. In my talk, I will present some fundamental aspects of epitaxial growth of oxide thin films.

By means of the material systems $(\text{K,Na})\text{NbO}_3$ and SrTiO_3 I will exemplarily discuss the impact of lattice strain and gas phase composition on structural and (ferro-) electrical properties of thin films.



Dr. Jutta Schwarzkopf,
Leibniz-Institut für
Kristallzüchtung im
Forschungsverbund Berlin e.V.