Single crystal growth of various oxide materials for basic research and applications

Single crystals play an important role in our technological world and are present in our daily life even though most people are not aware of this. For fundamental research the use of single crystals is often the only way to study the intrinsic properties of new materials, especially when physical properties are anisotropic with respect to the crystal lattice. Moreover the purity of single crystals is often supreme to polycrystalline material, since the process of growing crystals is often also a method to purify materials. The presentation will give an overview into the crystal growth methods of a variety for different material classes from superconductors, magnetic systems, laser crystals to crystals used as detectors in astrophysics.