

# Temperature- & Magnetic Field-Dependent Powder Diffraction



**Rigaku TTRAX** rotating-anode powder diffractometer with a custom-built cryostat & superconducting magnet

- Operating parameters
  - Temperature from 2.2 to 1000 Kelvin
  - Magnetic field from 0 to 4 Tesla
- Suitable for the analysis of
  - Powders
  - Flat-cut bulk materials
  - Melt-spun ribbons and foils
- High resolution & data acquisition speeds
  - Diffracted-beam monochromator
  - Scintillation detector
- Rietveld-quality data assure accurate
  - In-situ studies of temperature & magnetic field effects on the crystal structure
  - Thermal expansion and magnetostriction
  - Phase identification
  - Molecular and atomic structures

A.P. Holm et al., X-ray powder diffractometer for in-situ structural studies in magnetic fields from 0 to 35 kOe between 2.2 and 315 K. Rev. Sci. Instr. **75**, 1081-1088 (2004).