

Materials Science X-Ray Diffraction Analysis Laboratory

Philips X'Pert High Resolution Materials Research Diffractometer

MATERIALS STRUCTURES

- Semiconductor Epitaxial Layers in III-V Compounds either Perfect or Lattice Mismatched
- Highly Textured Films such as II-VI Semiconductors or High Temperature Superconductors
- Bulk Polycrystalline Materials with Texture or Stress
- X-Ray Diffraction Topography
- Non-Ambient Temperature and Environmental Chamber
- Powder Diffraction
- Amorphous and Polycrystalline Thin-film Layers

HARDWARE

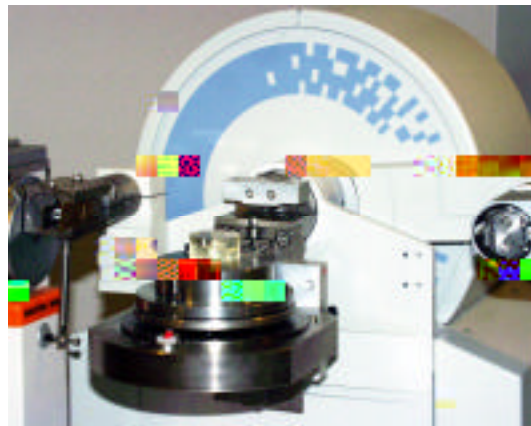
- Omega--Two-theta, High Resolution Goniometers
- Direct Optical Positioning Sensing Goniometers
- Rugged Eulerian Cradle Design
- PREFIX Optical Modules
- Computer Control
- Bartels Asymmetrical Germanium Monochromator

SOFTWARE

- Automated Powder Diffraction, APD
- Rietveld Structure Analysis



- Stress Analysis, and Stress Methods
- High Resolution Dynamical Diffraction Simulations
- Texture, Pole Figures and Preferred Orientation
- Reflectivity Simulations at X-Ray Wavelengths



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