High-resolution XRD

Brand/model: Bruker D8 Discover
High-resolution X-ray diffraction (HRXRD) is a collection of application techniques for the non-destructive analysis of mostly layered, nearly-perfect crystalline epitaxial layers, heterostructures and superlattice systems. Information such as layer thickness, composition, stress/strain, relaxation and structural quality is obtained by measuring rocking curves and reciprocal space maps using high-resolution X-ray optics. The spatial distribution of defects can be visualized by X-ray diffraction imaging methods such as X-ray topography.

To reach the required resolution the instrument provides a highly monochromated X-ray beam with a well defined wavelength spread and a low angular divergence. A high beam intensity is achieved by a rotating anode generator system.