

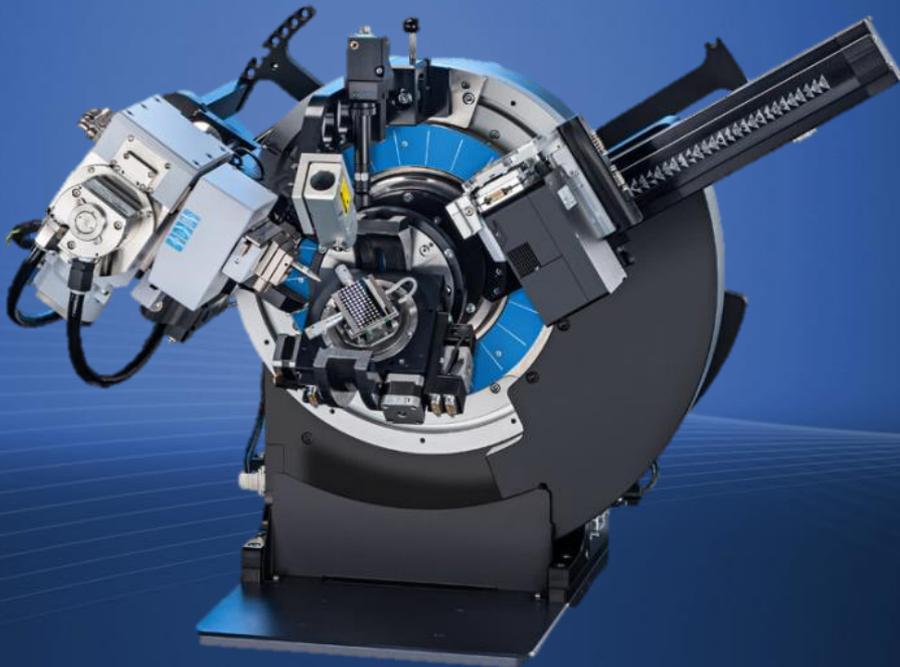


D8 DISCOVER Plus

Uncompromised Power

Unmatched Accuracy

Unparalleled Efficiency



BRUKER X-Ray Diffraction Solutions

XRD for Everyone



D2 PHASER
XRD for Everywhere

D8 ENDEAVOR
Push-Button Process Support

D8 ADVANCE
Quick-Change Artist

D8 DISCOVER
Premium Class XRD Solution

BRUKER X-Ray Diffraction Solutions

D8 DISCOVER Family



D8 DISCOVER

Ultimate Flexibility

D8 DISCOVER μ MR

Discover the world of
Microdiffraction

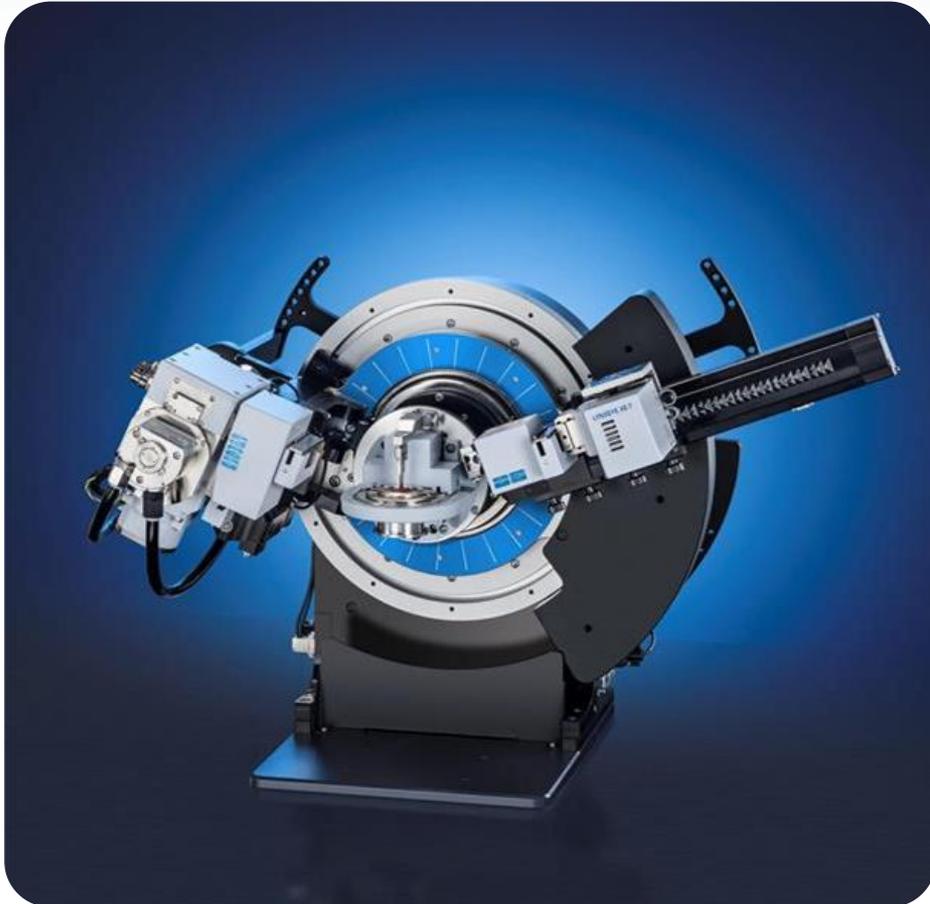
NEW

D8 DISCOVER Plus

Unrivaled Analytical Capability

D8 DISCOVER Plus

Unrivaled Premium Class XRD



Key Benefits

- Uncompromised Power of the **TXS-HE**
- Solid Foundation of **ATLAS**
- Solution Level **Integration**

D8 DISCOVER Plus

Uncompromised Power



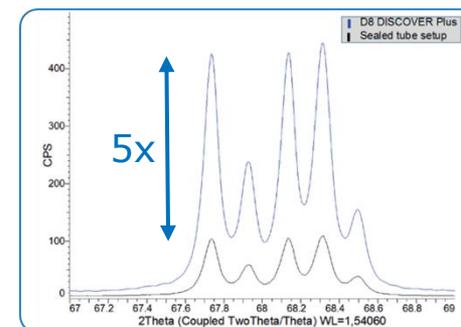
Compact for **maximum** yield

- 70% smaller design
- Large capture angle for optics
- Closer to the sample



Up to **5x** more intensity

- Improved Signal/Noise
- Better sensitivity in reasonable time



Optimized for **line** and **spot**

- 0.3 x 3mm filament
- Highest power density (6kW/mm²)



Minimal scheduled maintenance

D8 DISCOVER Plus Solid Foundation of **ATLAS**



Vertical θ/θ configuration

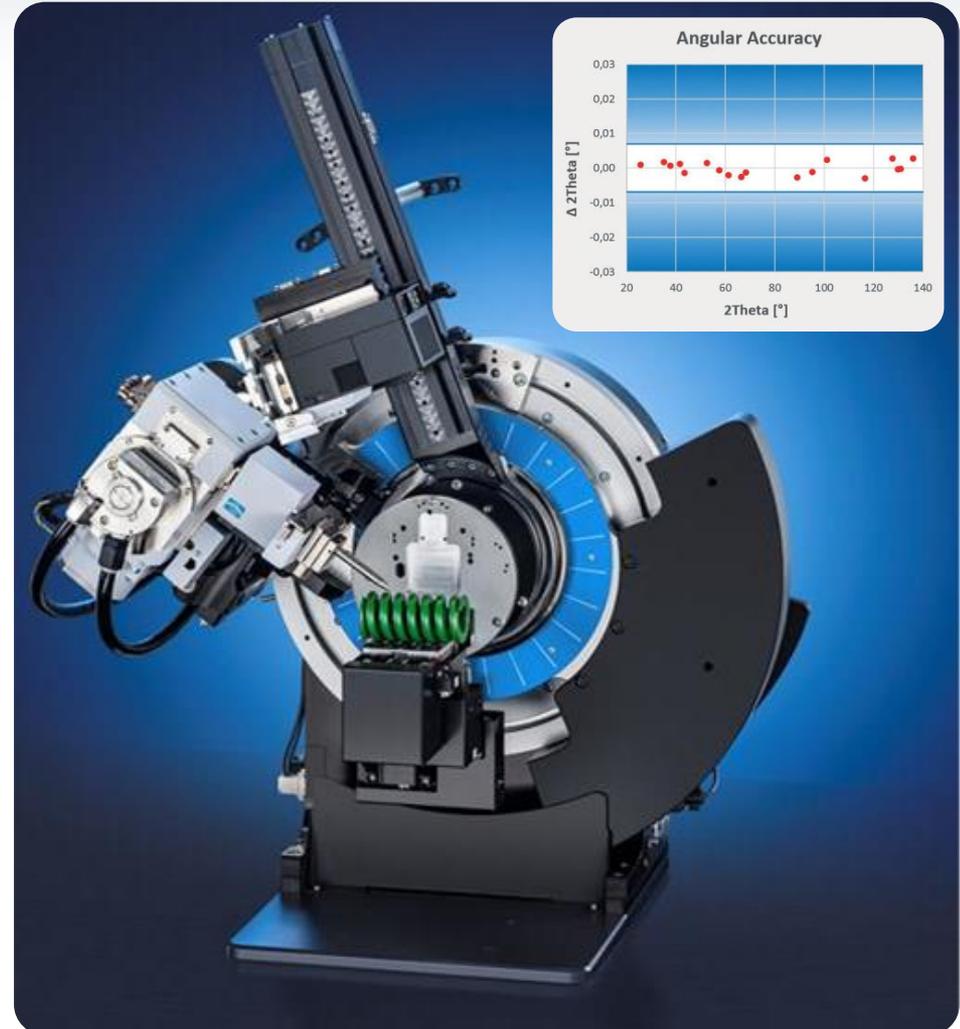
- Horizontal sample handling
- More options for sample stages

Based on proven **D8 goniometer**

- Long lifetime
- Maintenance-free

Enhanced to support **TXS-HE**

- Enhanced load capability
- Enhanced mechanical stability
- Enhanced Accuracy Guarantee
 - $\Delta 2\theta \leq \pm 0.007^\circ$



D8 DISCOVER Plus

Solution Level Integration



Optimized for **D8 components**

- Alignment-free Beam Conditioning
- Versatile Sample Handling
- Multimode Detectors



Comprehensive Software Support

- **DAVINCI** Component Recognition
 - Real-time Identification
 - Automatic Beam Compensation
- Plan.Measure.Analyze in **DIFFRAC.SUITE**

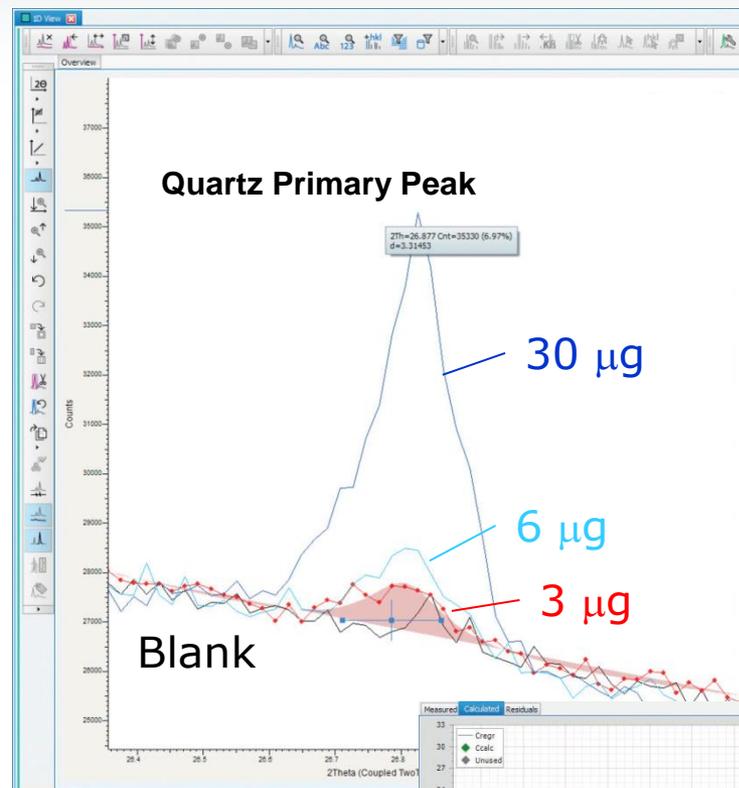
D8 DISCOVER Plus

Low Limits of Detection

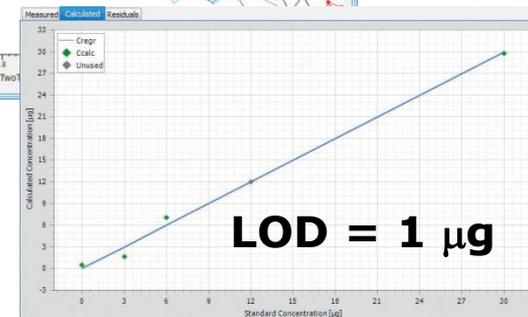


Bragg Brentano Powder Diffraction

- Respirable Quartz Standard
- TXS-HE (Cu) with LYNXEYE XE 1D detector
- 1 min scan time



Extreme sensitivity in only 1 minute!



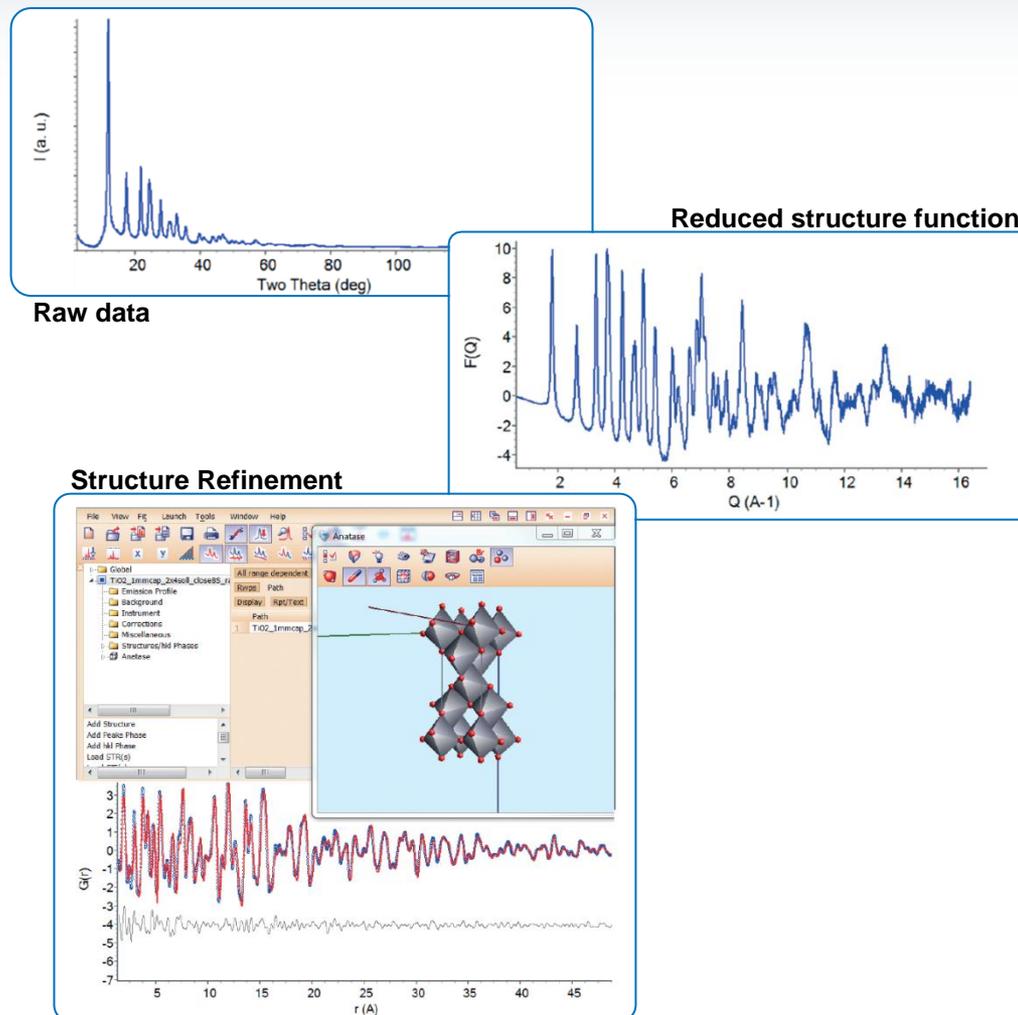
D8 DISCOVER Plus PDF Analysis



Transmission Powder Diffraction

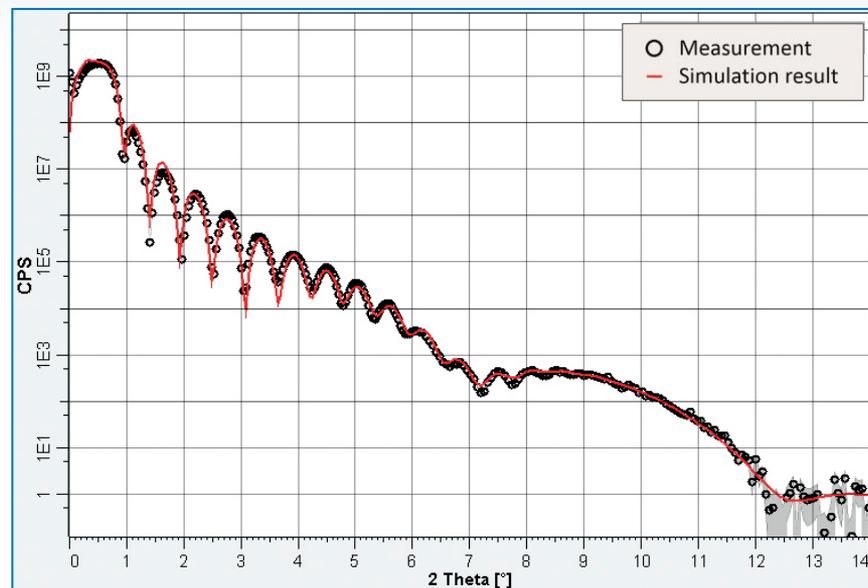
- TiO_2 Nanoparticles in Capillary
- TXS-HE (Mo) with Focusing Mirror
- 3.5 h scan time

**Fast PDF analysis with
hard radiation!**



D8 DISCOVER Plus

Film Thickness Determination



X-Ray Reflectometry

- 15 nm RuO₂ on Si
- TXS-HE (Cu) with Parallel Mirror
- 15 min / scan

Data spans 9 orders of magnitude!

Layer	Material	Thickness [nm]	Density [g/cm ³]	Roughness [nm]
Layer	RuO ₂	1,77	1,28	0,193
Layer	RuO ₂	14,85	6,97	0,288
Layer	SiO ₂	0,68	2,65	0,453
Substrate	Si	∞	2,32	1,078

D8 DISCOVER Plus

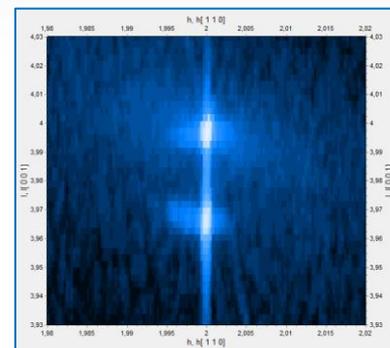
Epitaxial Thin Film Characterization



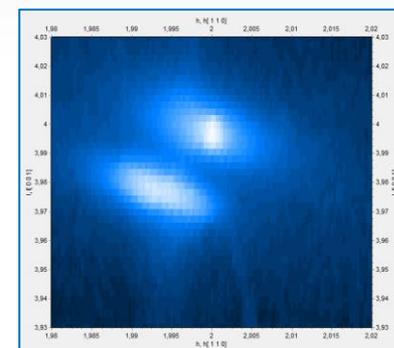
Rapid Reciprocal Space Mapping

- TXS-HE (Cu) with Parallel Mirror and 004 2B Mono
- Continuously Scanned 1D detector
- <25s per map

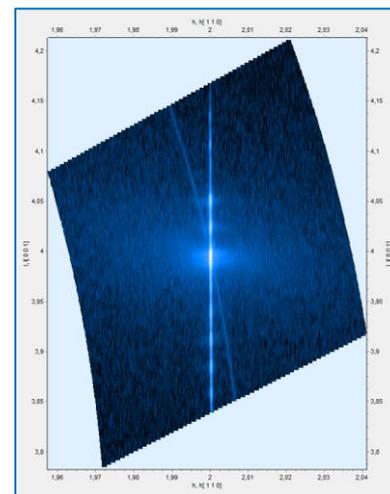
Fastest available RSM!



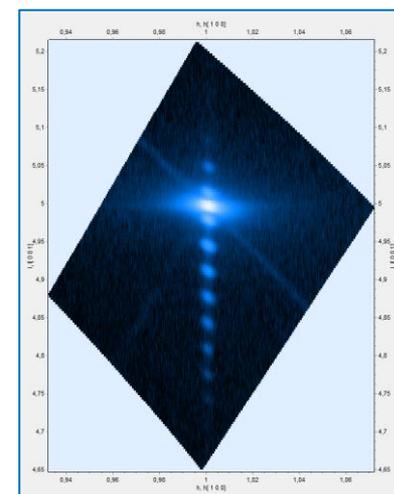
Strained InGaAs on GaAs



Relaxed InGaAs on GaAs



InP Superlattice



InGaN Superlattice

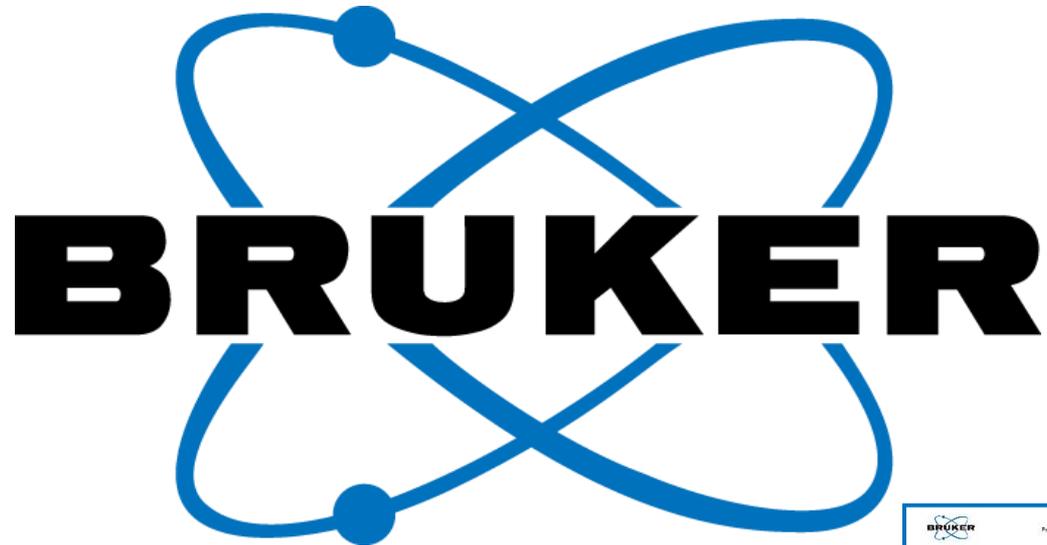
D8 DISCOVER Plus

Unrivaled Premium Class XRD



Key Benefits

- Uncompromised Power of the **TXS-HE**
 - Compact for maximum yield
 - Up to 5x more intensity
 - Optimized for line and spot
 - Minimal scheduled maintenance
- Solid Foundation of **ATLAS**
 - Vertical θ/θ configuration
 - Based on proven D8 goniometer
 - Enhanced to support TXS-HE
- Solution Level **Integration**
 - Optimized for D8 components
 - Comprehensive Software Support



Innovation with Integrity

The screenshot shows the Bruker website for the D8 DISCOVER Plus. The page features a blue header with the Bruker logo and navigation links for Products, Applications, Service, News, Events, and About Us. Below the header is a large blue banner with the product name 'D8 DISCOVER Plus' and a 'Search' button. A small image of the instrument is visible on the right side of the banner. Below the banner, there is a breadcrumb trail: Home > Products > X-ray Diffractometers & Detectors > X-ray Diffractometers > D8 DISCOVER Family > D8 DISCOVER Plus > Overview. The main content area has three tabs: Overview (selected), Technical Details, and Learn more. The title is 'The D8 DISCOVER Plus'. The text describes the instrument as a flagship of X-ray diffraction solutions, combining high intensity and accuracy. It lists key features: 6000 high efficiency TurboLine Source (30kV) ideal for line and spot focus application; XRD® goniometer with industry leading guaranteed angular accuracy; and three preflight source-to-sample distances to ensure full compatibility with available components, optics and detectors. A link is provided to read more about the D8 DISCOVER Plus in the press release. Below this, there is a section for 'Multi-purpose Solutions' with two images of the instrument. The first image is captioned 'Ultimate performance for powder XRD with push-button switching between parallel-focusing Bragg-Brentano for classic methods and parallel beam for capillary measurements and GIXD.' The second image is captioned 'The perfect high power materials research XRD solution for all types of samples ranging from powders to polycrystalline or epitaxial films.'