

PATHFINDER

- Tune your resolution at the touch of a button

A variety of measurement techniques are available for the characterization and investigation of thin films using X-rays. The choice among XRR (X-Ray Reflectometry), GID (Grazing Incidence Diffraction), HRXRD (High Resolution X-Ray Diffraction), RSM (Reciprocal Space Mapping) etc. depends upon the thin film morphology and composition.

Each of these applications require a dedicated instrument setup for best data quality. The D8 DISCOVER perfectly addresses the resulting need for highest flexibility.

PATHFINDER – your GPS for reciprocal space

- Push-button switching between three diffracted-beam paths
 - Double motorized slit for XRR and sample alignment
 - Equatorial Soller slit for GID
 - Analyser crystal for HRXRD and RSM
- All beam paths with the same detector
- Alignment-free

Thanks to the DAVINCI design, optics on incident- and diffracted-beam side can be easily exchanged: simply snap in the required optics. Identification, configuration and adjustment take place automatically.

With our patented* PATHFINDER, there is no need to touch the instrument at all for changing optics. This intelligent diffracted-beam component enables motorized switching and reduces optics exchange to a simple mouse-click. The PATHFINDER is combined with a single detector in order realize three different diffracted-beam configurations by remote control.

The first configuration is a high-intensity beam path incorporating two motorized slits. This is highly beneficial for fast and automatic sample alignment, fast XRR, and HRXRD investigations using double-axis geometry.

The second configuration is another high-intensity beam path incorporating a motorized slit and an equatorial Soller. This setup is ideal for GID on polycrystalline thin films.

The third configuration is a high-resolution beam path incorporating a single- or triple-bounce Ge(022) channel-cut monochromator. It is used for high resolution and low background HRXRD (triple-axis geometry) and RSM investigations.

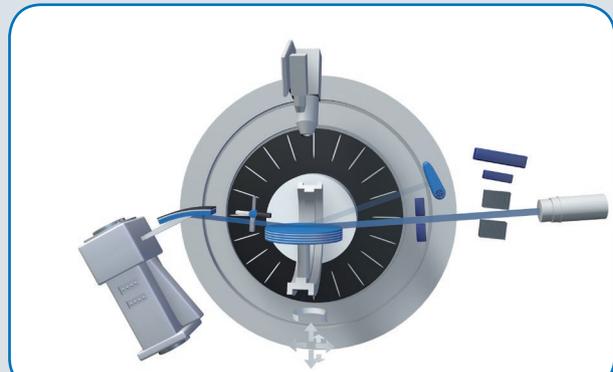


D8 DISCOVER with PATHFINDER on the diffracted-beam path.

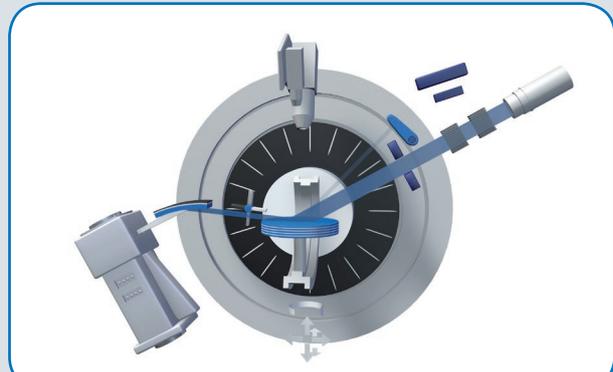
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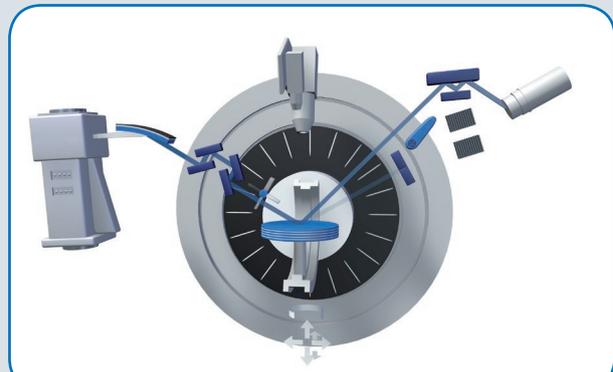
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PATHFINDER configured for XRR and HRXRD



PATHFINDER configured for GID



PATHFINDER configured for HRXRD and RSM

* Patent: US 6 665 372 and DE 10 141 958