



STADIVARI

THE FASTEST AND
MOST FLEXIBLE
WAY TO EXPLORE
RECIPROCAL SPACE



SINGLE CRYSTAL DIFFRACTOMETRY

- Flexible goniometer (Eulerian cradle and various fixed chi, horizontal & vertical setups)
- Sphere of confusion <0.005 mm (radius)
- State of the art interface
- Various sources (Microfocus BDS etc.)
- Ultrafast hybrid pixel detectors

YOUR PARTNER IN X-RAY DIFFRACTION

STOE & Cie GmbH | WWW.STOE.COM

STADIVARI

RAPID, COMPREHENSIVE AND EXTREMELY VERSATILE ANALYSIS OF A WIDE VARIETY OF MATERIALS

SOURCES

- Standard sealed tubes (Ag, Mo, Cu)
- Conventional & High Performance Microfocus sources (Ag, Mo, Cu)
- Metaljet liquid-metal-jet anode x-ray source
- Rotating anodes or synchrotron

OPEN EULERIAN CRADLE

- High precision
- Sphere of confusion < 0.005 mm (radius)
- Virtually maintenance-free
- State of the art interface
- Sufficient completeness up to 150°

NEW DETECTOR GENERATION

- Dectris Pilatus 100K, 200K, 300K and Eiger pixel detectors
- CMOS hybrid-pixel technology
- Single-photon-counting mode
- No dark current
- Ultra-fast data collection as well as ultra-long exposure times



With the possibility to be set-up vertically as well as horizontally, the **STADIVARI** increases its scope of application. The **STADIVARI** can be used for single crystal and powder diffraction. The Open Eulerian Cradle offers enough space to add high

pressure cells, high- or low-temperature devices or other chambers. As the youngest member of the long line of STOE diffractometers, the **STADIVARI** is fully integrated in the well-established STOE X-Area software package.

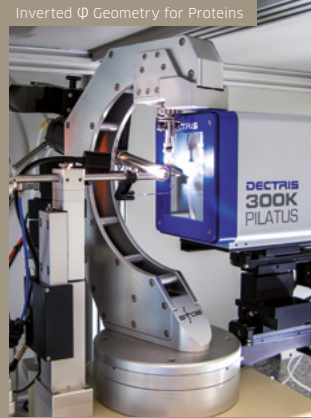
FLEXIBLE GONIOMETER SETUP

- Eulerian Cradle
- Horizontal
- Vertical
- Inverted ϕ
- Fixed Chi

Vertical Setup



Inverted ϕ Geometry for Proteins



Fixed Chi



DOUBLE BEAM SETUP

Various combinations possible:

- Standard Sealed Tubes
- Conventional Microfocus Sources
- High Performance Microfocus Sources

Dual Microfocus Setup with Cryostream



HEATSTREAM

- Temperature range from RT to 1000K
- Temperature accuracy within $\pm 1^\circ$
- Heating medium N₂ (open flow)
- Vertical gas flow for optimal sample heating

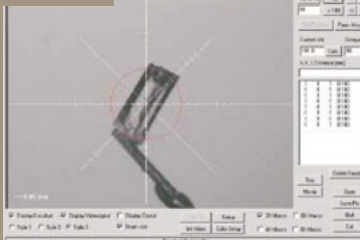
Heatstream Setup



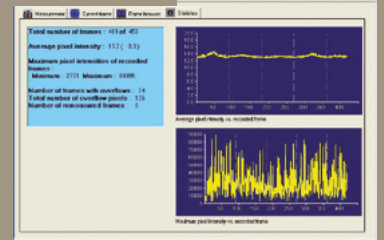
X-Area

- Software for easy data collection and evaluation
- Powerful solution for complicated situations (multi-domain and modulated crystals)
- Support for DACs

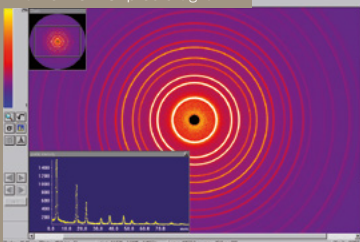
Facet Video



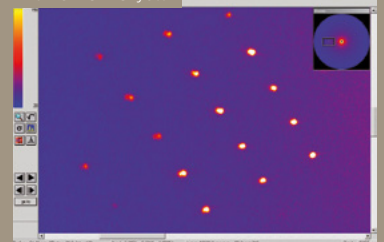
WinXpose-Statistic



Frame from Si plus diagram



Frame from Crystal





SYSTEM SPECIFICATIONS

Dimensions (including system cabinet, max.)	1680 x 1150 x 2050 mm
Weight (complete system)	480 kg (depending on configuration)
Sphere of confusion	< 0.01 mm
Goniometer (utilized angular regions)	2 θ : 240° / ω : 205° / X: 90° / Φ : 360°
Detector distance	40 - 140 mm (automatically set)
X-ray sources	Standard sealed tubes (Ag, Mo, Cu), Conventional and High Performance Microfocus sources (Ag, Mo, Cu), MetalJet, rotating anodes or synchrotron

DETECTOR SPECIFICATIONS

	PILATUS3 R 200K-A	PILATUS3 R 300K
Sensor	Reverse-biased silicon diode array	Reverse-biased silicon diode array
Sensor thickness	450 μ m / 1000 μ m	450 μ m / 1000 μ m
Pixel size	172 x 172 μ m ²	172 x 172 μ m ²
Number of modules	1 x 2	1 x 3
Format	487 x 407 = 198,209 pixel	487 x 619 = 301,453 pixel
Area	83.8 x 70.0 mm ²	83.8 x 106.5 mm ²
Dynamic range	20 bits (1:1,048,576)	20 bits (1:1,048,576)
Counting rate per pixel	> 2 x 10 ⁶ cps	> 2 x 10 ⁶ cps
Energy range	3 - 30 keV	3 - 30 keV
Readout time	7 ms	7 ms
Maximum frame rate	20 Hz	20 Hz
Cooling	Air-cooled	Water-cooled

Specifications without obligation and subject to change without notice.

Also available with DECTRIS EIGER2 and PILATUS3 CdTe-Detectors.



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