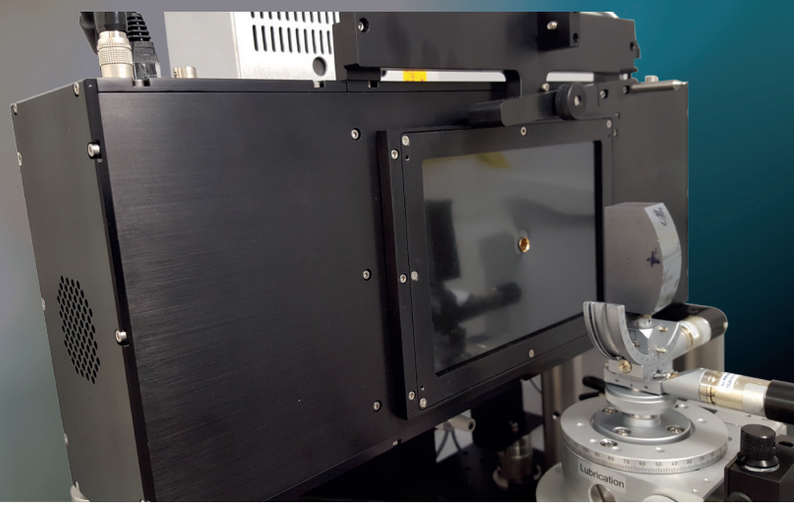
PHOTONIC SCIENCE

Laue X-ray Diffraction Camera



High precision crystal orientation

The high resolution Laue X-ray camera allows a digital Laue diffraction pattern to be recorded with a resolution of 2570 x 1710 pixels and 14-bit digitization.

The X-ray passes through the camera and is collimated down < 1mm diameter. The active area input dimension is similar to that of Polaroid film i.e. 155 mm x 105 mm. Exposures from a few seconds up to >30 minutes can be used to acquire Laue diffraction patterns, allowing crystal orientation to be determined by the integrated PSEL software module. Twinned structures occurring during crystal growth can be unveiled using a high resolution mode.

Upgrades from existing X-ray sources are made using high precision mechanics allowing accuracy down to 0.05 degrees. A micro-diffraction set-up for both laboratory and or synchrotron sources can be provided on demand.

Key Features

- Active input area of approx. 155(h) x 105(v) mm
- Pixel size 61µ square, 2,570 x 1,710 pixels
- Selectable exposure from 1ms to 35 minutes
- On chip pixel addition allowing increased sensitivity at the expense of resolution
- 14-bit fast imaging mode
- Automatic background subtraction and flatfielding
- PSEL acquisition Laue image processing software

Applications

Realtime crystal orientation
down to 0.1 degrees accuracy

Misalignment measurements
down to 0.5 degrees using PSEL software

Two dimensional orientation mapping
of polycrystalline silicon wafers

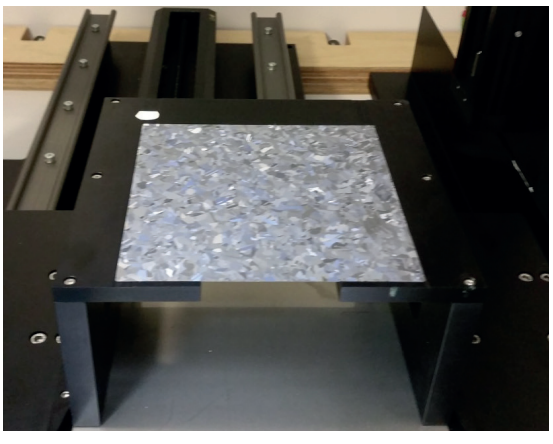
High throughput sapphire sample screening
Heavy duty sample screening up tp 20kg

Specialist Camera Solutions Industrial | Surveillance | Scientific

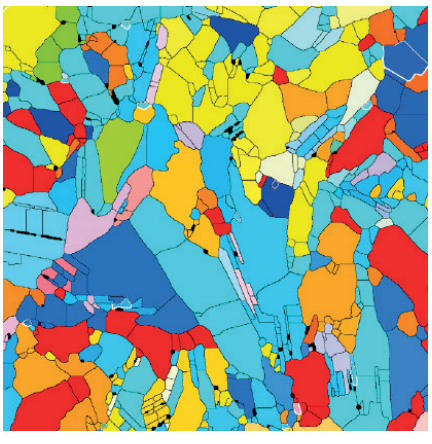
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Application images for Laue X-ray Diffraction Camera



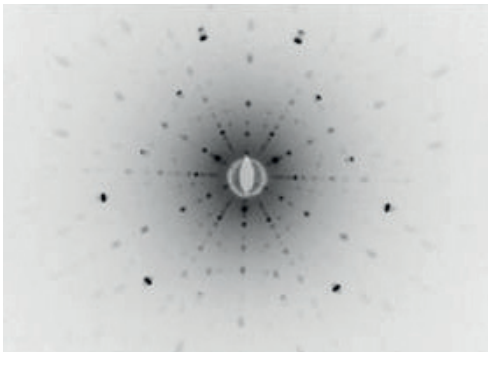
Polycrystalline silicone wafer scanner



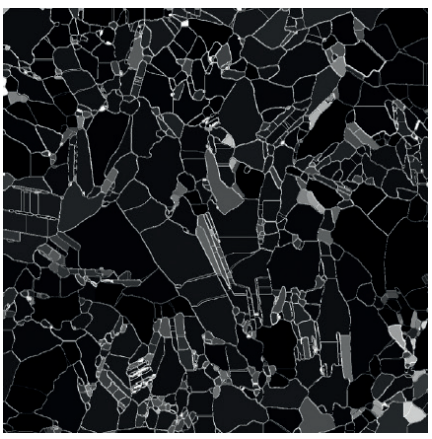
Two dimensional orientation map



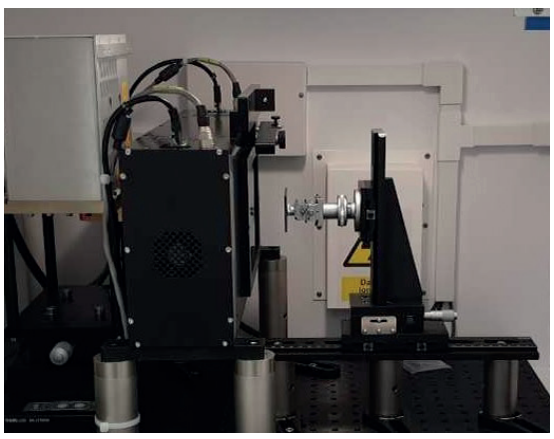
Sapphire C-axis aligned



SiC Hex aligned



Poly crystalline Si Wafer



Standard Laue system outline

Detector Materials:

HgCdTe / CdTe
GaAs
InSb

Window Materials and piezo/ferro electric ceramics:

Al203
Quartz
LiNb03

Metals and alloys:

Tungsten
Molybdenum
Nickel based alloys

Laser Materials:

YAG
LuAg
KTP

Thin films / semiconductor substrates:

AlN
InP
SiC

Magnetic and superconducting materials:

YBCO/BSCCO/HBCCO
FeSe
NbSn / NbTi

Scintillator materials:

BGO / LYSO
CdWO4
BaF2/CaF2

Please Note: All specifications in this document are typical and subject to change without notice.

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Product selection, configuration & integration support

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