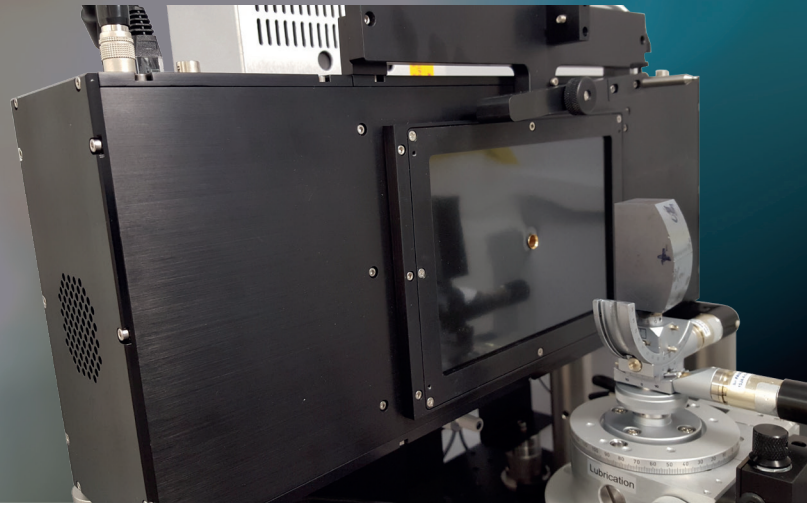


## Laue X-ray Diffraction Camera



### 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.

### Applications

Realtime crystal orientation  
down to 0.1 degrees accuracy

Misalignment measurements  
down to 0.5 degrees using PSEL software

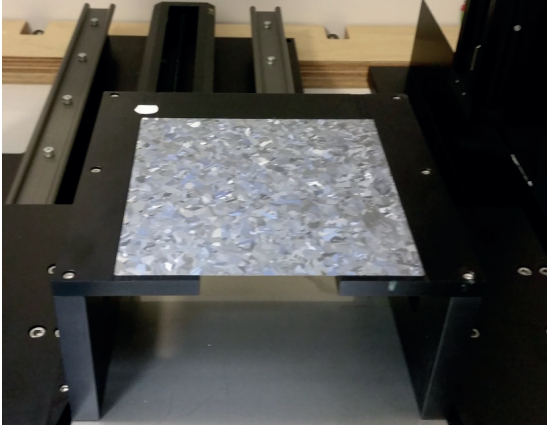
### Key Features

- | Active input area of approx. 155(h) x 105(v) mm
- | Pixel size 61 $\mu$  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

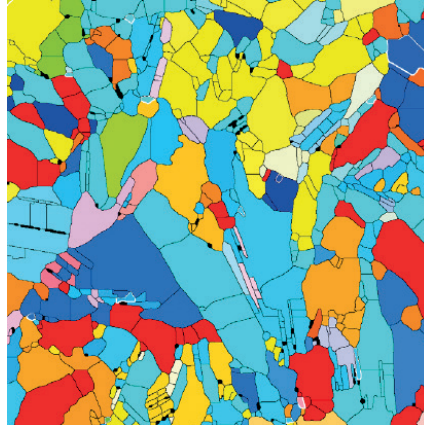
Two dimensional orientation mapping  
of polycrystalline silicon wafers

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

## Application images for Laue X-ray Diffraction Camera



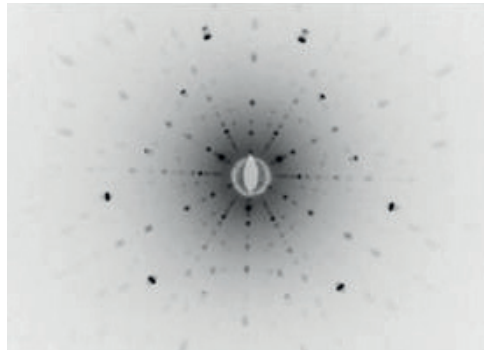
Polycrystalline silicone wafer scanner



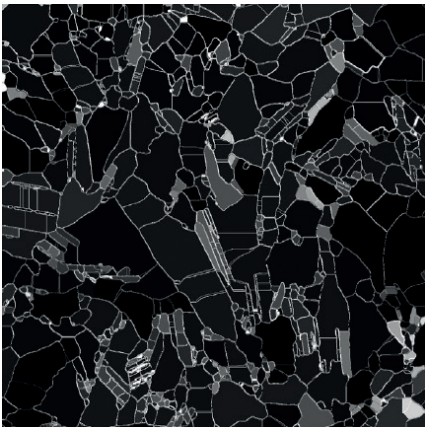
Two dimensional orientation map



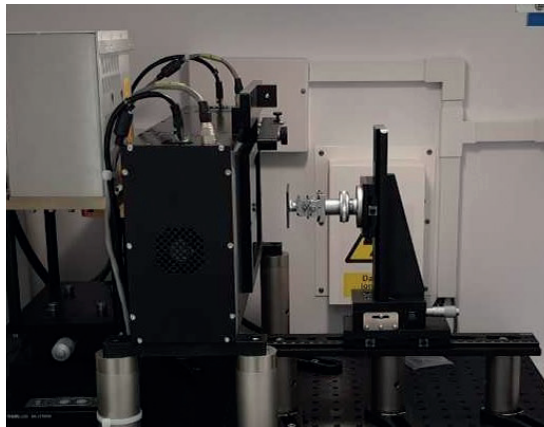
Sapphire C-axis aligned



SiC Hex aligned



Poly crystalline Si Wafer



Standard Laue system outline

### Detector Materials:

HgCdTe / CdTe  
GaAs  
InSb

### Window Materials and piezo/ferro electric ceramics:

Al<sub>2</sub>O<sub>3</sub>  
Quartz  
LiNbO<sub>3</sub>

### 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  
CdWO<sub>4</sub>  
BaF<sub>2</sub>/CaF<sub>2</sub>

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