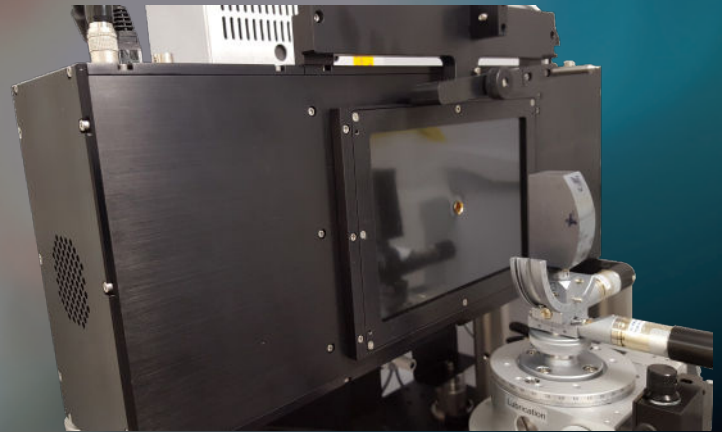


## X-ray Laue Back-scattered Camera



The high resolution Laue X-ray camera allows a digital Laue diffraction pattern to be recorded with a resolution of 2774 x 1843 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. 156 mm x 104.4 mm. Exposures from a few seconds up to >30 minutes can be adjusted during manual or automatic crystal orientations before being cut. 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.

Active input area of approx. 155(h) x 105(v)  
155(h) x 105(v) mm imaged on the sensor

Minimum input sizes 57 $\mu$  square, 2,774 x 1,843 pixels

Selectable exposure from 1ms to 35 minutes

On chip pixel addition allowing increased sensitivity at the expense of resolution

18-bit high precision acquisition mode

14-bit fast preview mode

Automatic background subtraction mode

PSEL acquisition Laue image processing software

Realtime crystal orientation down to 0.1 degrees accuracy

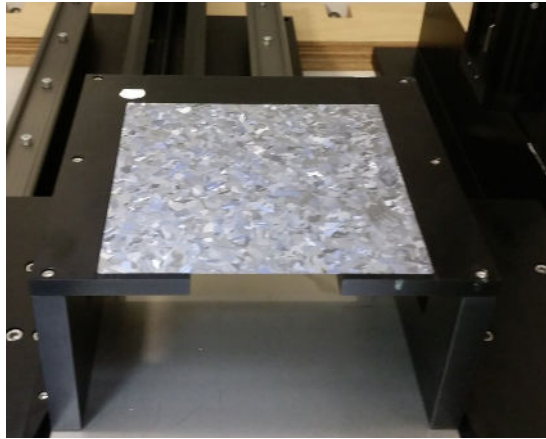
Misalignment measurements down to 0.5 degrees using PSEL software

Two dimensional orientation mapping of polycrystalline silicon wafers

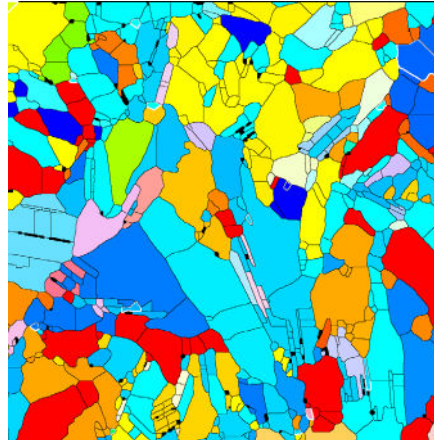
High throughput sapphire sample screening. Heavy duty sample screening up to 20kg

# PHOTONIC

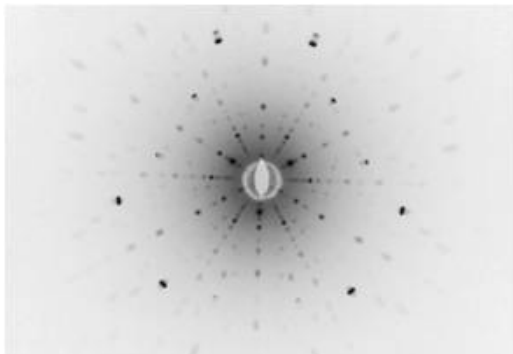
## Application images for Laue X-ray camera



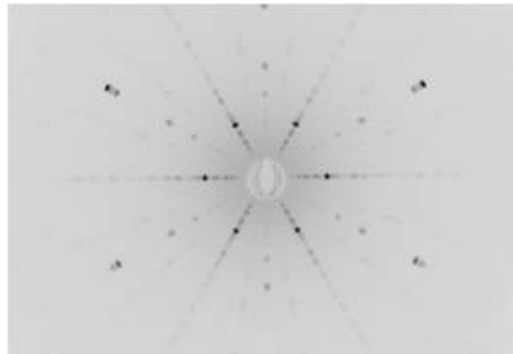
Polycrystalline silicon wafer scanner



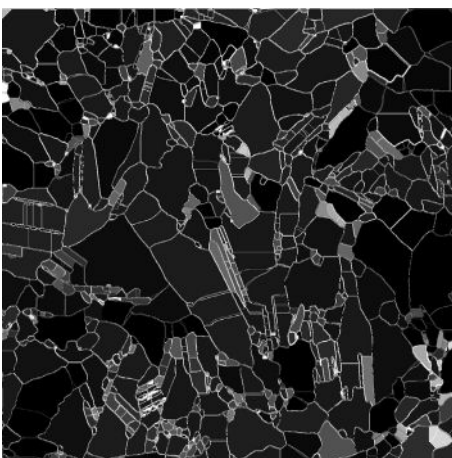
Two dimensional orientation map



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>