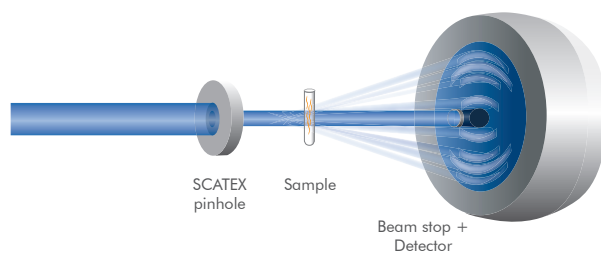


Synchrotron Accessories - Made by INCOATEC

Scatterless Pinholes SCATEX

Parasitic scattering caused by conventional metal apertures results in a degradation of the data quality at low resolution, and enforces the use of additional cleaning pinholes and longer exposure times. Incoatec's scatterless SCATEX pinholes overcome these limitations of conventional apertures by suppressing the parasitic scattering, leading to a significant improvement of the data quality (e.g. in SAXS experiments).



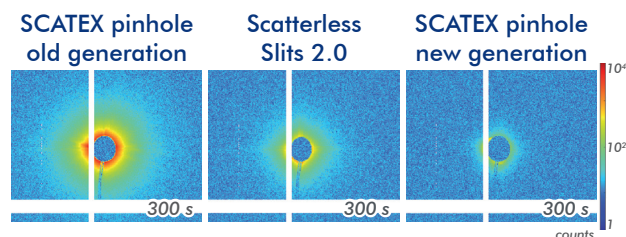
SCATEX Features and Benefits

- Made of high-quality single crystals of germanium or tantalum
- Available sizes for Ge 100 - 2000 μm and Ta 20 - 1000 μm
- Successfully tested for a broad range of energies
- Virtually scatterfree as residual parasitic scattering is below the detection limit of most instruments
- No need for additional cleaning apertures and large beam stops
- Circular beam profiles with high integral photon flux
- No residual slit scattering
- Significant improvement in data quality
- Resolution and photon flux enhancement
- Easier and faster pinhole alignment
- More compact experimental set-up possible

Available on loan! Try out our SCATEX pinholes and convince yourself!

SCATEX-Ge Pinholes

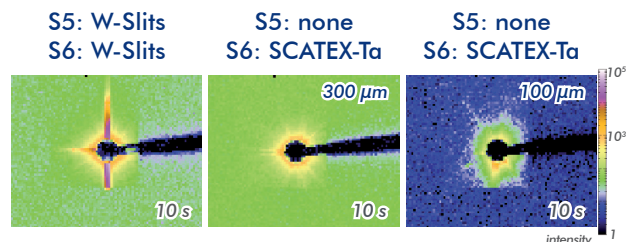
Experiments at the PTB beamline (BESSY II) show that the new SCATEX pinholes cause up to 4 times less parasitic aperture scattering than Scatterless Slits 2.0 and up to 19 times less than old generation SCATEX pinholes. Additionally, SCATEX pinholes exhibit a faster aperture scattering decay below the background at considerably smaller q-values.



Parasitic aperture scattering at 8 keV with the test apertures being the beam defining element. No scatter guard inserted. The downstream photon flux was the same for all compared apertures. (C. Gollwitzer, BESSY II, PTB four-crystal monochromator beamline; photon flux $\sim 10^{10}$ ph/s)

SCATEX-Ta Pinholes

Experiments at the P03 beamline (PETRA III) show that a single SCATEX-Ta pinhole can replace both beam defining slit S5 and anti-scatter slit S6. The SCATEX-Ta pinholes were placed close to the sample at the position of the scatter guard (S6). The analysis of the data reveals that SCATEX-Ta pinholes cause one order of magnitude less parasitic aperture scattering than conventional tungsten slit systems.



Parasitic scattering of various apertures at position S5 and S6 at 13 keV. Standard beam setup: S5 - beam defining aperture position, S6 - scatter guard position. (C. Krywka, PETRA III, DESY, Nanofocus Endstation P03 beamline; photon flux 10^{11} - 10^{12} ph/s)

PHOTON III

CPAD Detector for Demanding X-ray Diffraction and Scattering Applications

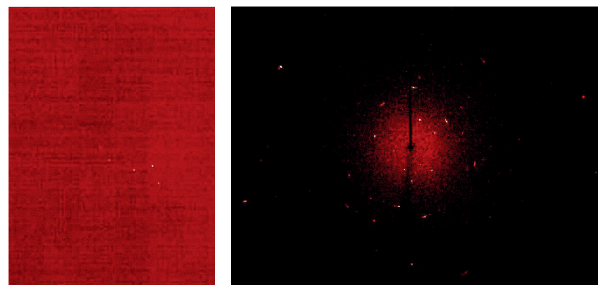


Incoatec offers the Bruker PHOTON III detector with CPAD technology as a stand-alone unit at very attractive conditions. As with every product we offer, Incoatec takes care of the customers' needs.

The active area of the PHOTON III is outstanding with a size of 200 x 140 mm². The inner characteristics are certainly no less exciting. One of the highlights is the mixed-mode detection. Mixed-mode seamlessly combines photon counting and integration simultaneously to offer both highest sensitivity and the best linearity for the best possible data quality.

PHOTON III Features and Benefits

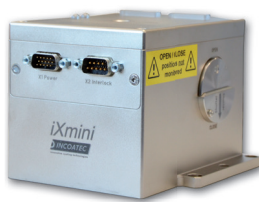
- CPAD technology (Charge Integrating Pixel Array Detector)
- Large area for efficient data collections
- One monolithic sensor without gaps
- Simultaneous photon counting and integrating (mixed-mode detection)
- No charge sharing noise
- No count rate saturation and perfect linearity within the dynamic range
- Excellent price-performance ratio



Comparison of the PHOTON II and the PHOTON III detector at the same contrast level highlighting the larger active area and the significantly lower background of the PHOTON III

iXmini

Portable Miniature X-ray Source for Detector Calibration



Incoatec offers the iXmini as a portable miniature X-ray source for detector calibration. It comprises an X-ray tube with an Fe anode ($K\alpha = 6.4$ keV).

The iXmini can be used for performing reliable flood field corrections, making calibrants based on radioactive isotopes obsolete in your lab. Or it can simply be applied for the regular checks of your radiation detection systems.

iXmini Features and Benefits

- Non-radioactive calibrant
- No special storage or handling permit as for radioactive sources required
- Simple and safe operation
- Operation in vacuum possible
- Small footprint with a size of 120 x 105 x 90 mm³
- Integrated HV generator and safety controller
- Two independent safety lines for integration in an interlock system
- Maximum power of 100 mW with operating parameters 4-10 kV and 2-10 μ A

