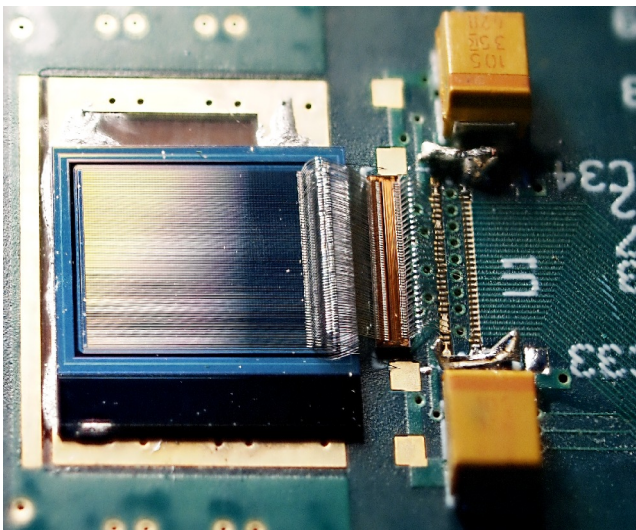
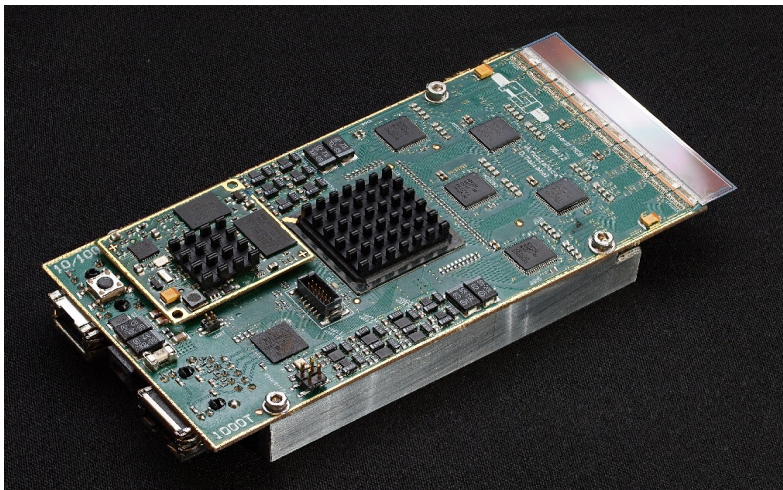


Wir schaffen Wissen - heute für morgen

Paul Scherrer Institut

Aldo Mozzanica

A Charge integrating silicon microstrip detector for XFEL and Synchrotron applications.

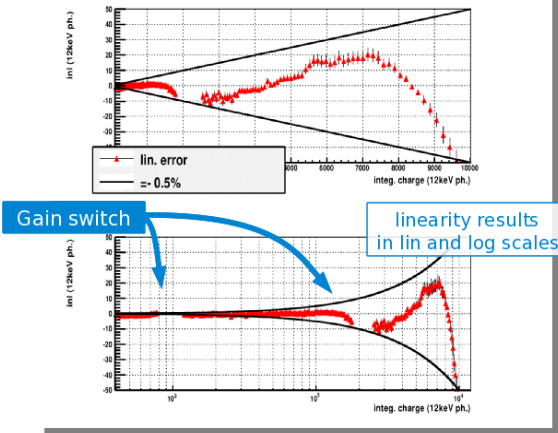
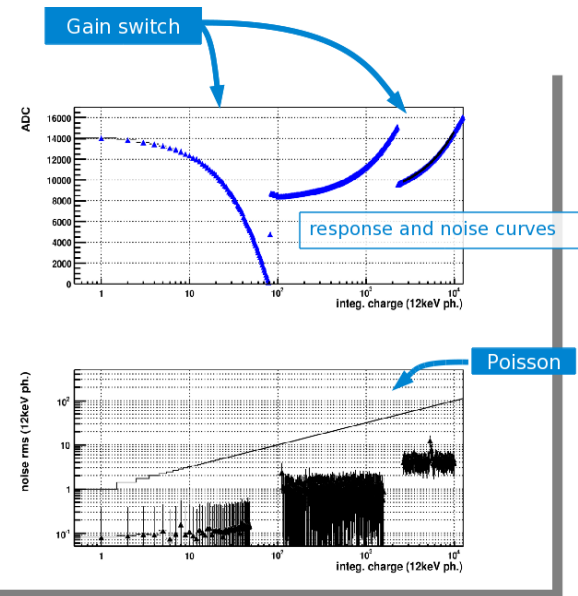
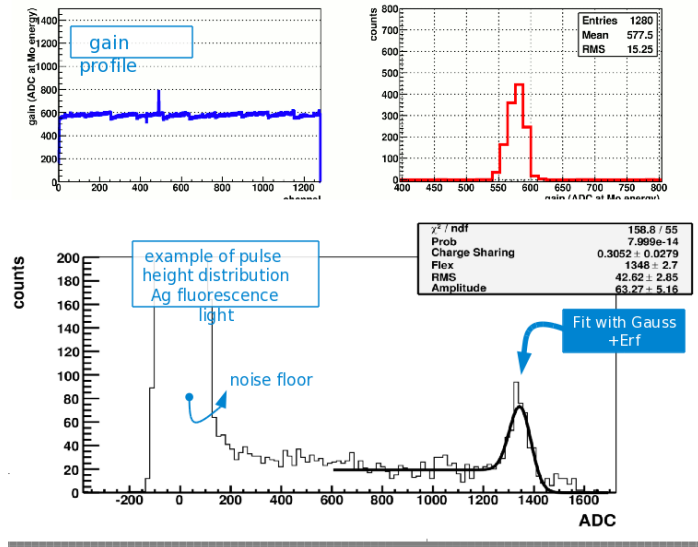


	Specifications
module size	6.7x13 cm
sensitive area	64x10mm
sensor thickness	320-500 μm
pitch	50 μm
dynamic range	10^4 12keV photons
min Energy	<3.5 keV
linearity	better than 0.5%
point spread function	O(pitch)
min int. time	80ns
dead time	<50ns
cooling	air (fan)
readout time = 1 / frame rate	>50kHz continuous 1MHz burst
XFEL ready	YES

Characterization results

GOTTHARD systems have been tested with X-Ray fluorescence light and at Synchrotron sources.

- Noise ~200 e.n.c. (r.m.s.) for High Gain mode
- Noise ~300 e.n.c. for the 1st gain of gain switching mode
- Noise at low gains ~10 times smaller than Poisson fluctuations
- Saturation at 10^4 photons
- Gain variation better than 1.5%
- Linearity within 0.5%



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