

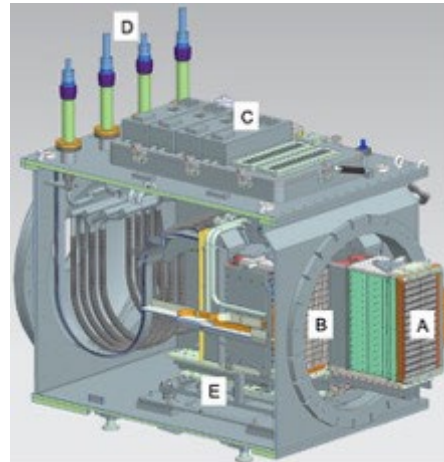
X-ray imager developments at DESY-Hamburg

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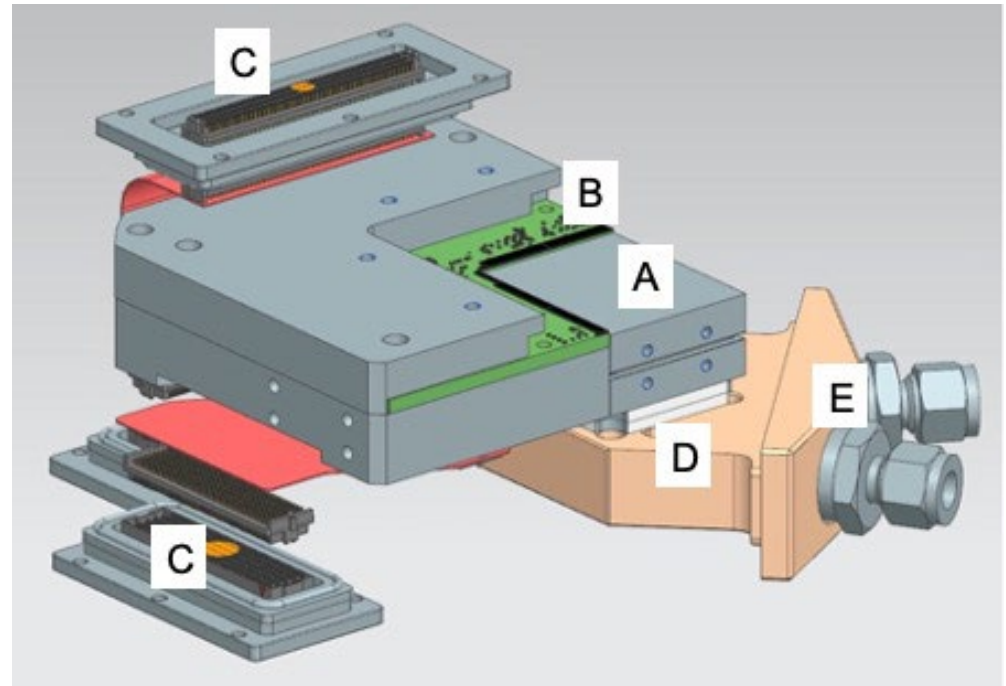
AGIPD (for Eu.XFEL)

- SPB/SFX and MID systems upgraded to AGIPD1.2 ASICs (gain bit separation fix)
- “Mini-half”; second gen prototype
- 4M AGIPD for SFX and 1M AGIPD for HiBEF



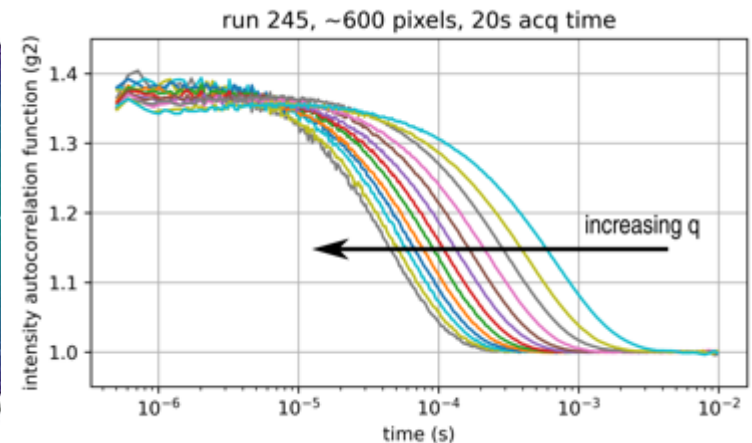
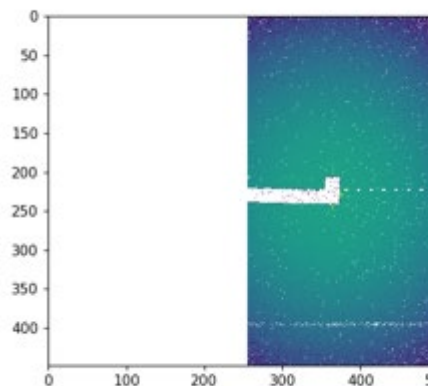
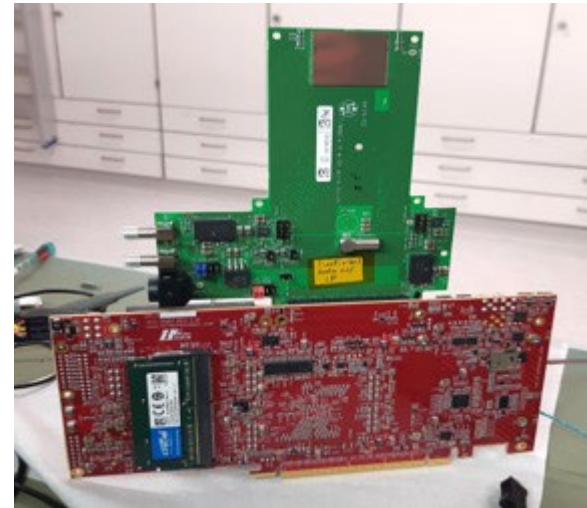
PERCIVAL (P2M), BI-CMOS for low energies

- > Second version of sensor out of fab. Fixes two major shortcomings (“bath tub” and cross talk)
- > Testing FSI starts this month; BSI to follow.
- > BSI processing at fab Tower.
- > QE to be tested.
- > More compact system designed, based on peltier cooling (iso cryotygers)
- > Operational 2025 (?)

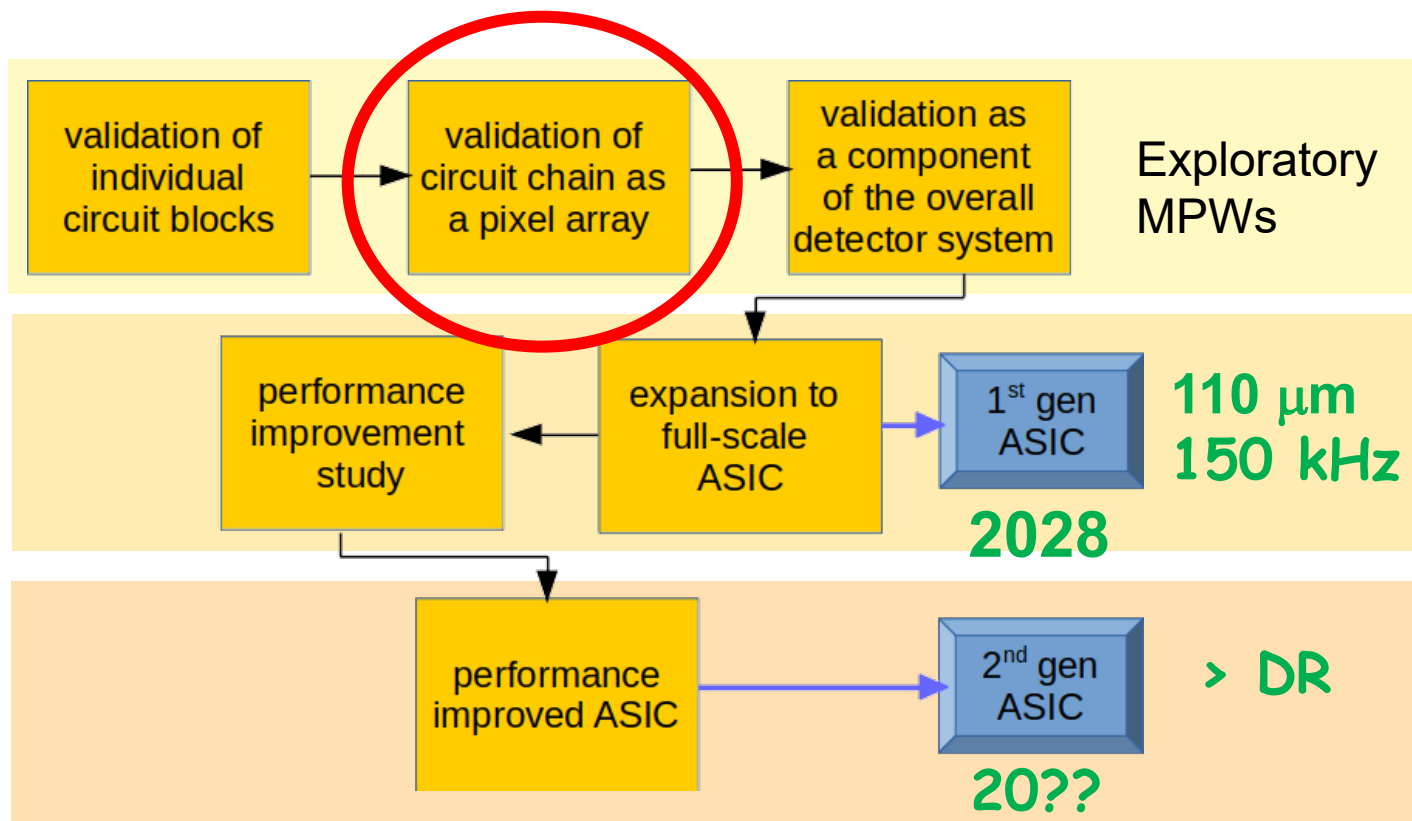


TEMPUS (TimePix 4 based)

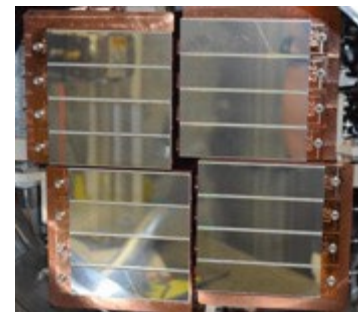
- Single chip prototype used at DESY and ESRF
- Great interest from beamline scientists
- Not yet running at full speed
- Event-driven mode relatively new in SR community
- XPCS @ ID10(ESRF)



- > 150 kHz integrating imager for PETRA IV
- > See talk by Alessandro Marras
- > Uses TimePix-4 GWT data link



PETRA IV

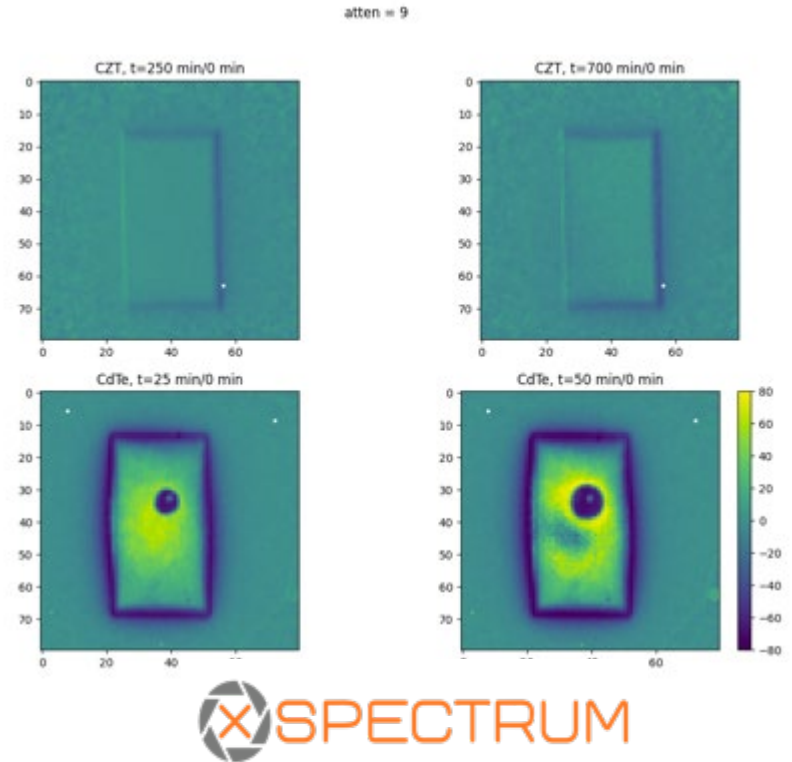


> 2029



Technologies

- High-Z sensors; with X-Spectrum for counting and STFC for integrating systems (CdZnTe)
- LGADs within LEAPS



- TSV with TimePix4
- Data handling

