Xspress 3 Factsheet

Xspress 3 is a readout system for Silicon Drift Diode detectors such as Vortex, SGX, Amptek, etc. converting analogue output into useable data for users.

Who would use Xspress 3?

- Xspress 3 systems are most often used by beamline scientists on mapping / microscopy beamlines at synchrotrons.
- Scientists interested in XAFS / EXAFS will also find Xspress 3 benificial.

Reasons to buy

1 HIGHER COUNT RATE

Since synchrotron beam time is very valuable, improving the efficiency of experiments is extremely important to beamline scientists

   a. Sam Webb at the SSRL(California) discovered that the rate at which mapping experiments are performed improved by a factor of 30 with Xspress 3.
   b. The APS in Chicago confirmed that Xspress 3 increased the count rate by an order of magnitude (>X10) .

2 RESOLUTION

At higher count rates Xspress 3 has proven to have superior resolution than other popular readout systems.

3 TIME SAVING

More samples can be tested in less time with Xspress 3. It also saves time with its flexible setup, easy software integration (EPICS, TANGO) and less use of attenuators.

4 SATURATION / ATTENUATORS

Attenuators are filters, often pieces of aluminium, that are placed in the path of the X-rays to reduce their flux. This is done to ensure that the input count rate of the detector is not too high for the readout system. Much of the cost of beamlines and synchrotrons is put into increasing this flux, so to then block it at the last stage is wasteful of flux and staff time. Xspress 3 can readout up to 30X more photons per second than competing systems, reducing or removing the need for attenuators. As well as improving statistics and experimental rates, this saves unnecessary time matching attenuator levels to the readout system.

5 SUPPORT

Each Xspress 3 is installed and commissioned by one of the Quantum Detectors' staff. The procedure ensures that software and hardware are fully set up and that the relevant users understand how to operate the system comprehensively.

For further information please refer to the technical data sheet.