

# Comparison of characteristics and performance between the new detection system based on Silicon Drift Detectors of XAFS beamline of Elettra and SESAME

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The collaboration between INFN-Trieste, TIFPA, FBK, the Politecnico di Milano and Elettra-Sincrotrone Trieste over the past few years has led to the design, production and deployment of two state-of-the-art instruments that now equip the XRF/XAFS beamline of the SESAME synchrotron and the XAFS beamline of Elettra.

Both these instruments are 64-channels modular detection systems based on monolithic array of Silicon Drift Detectors (SDD). Detection systems have large total collection area, capable of operating with low dead time and high count rate. They present excellent performance already at room temperature: an energy resolution at the Mn 5.9 keV  $K\alpha$  line below 170 eV FWHM. These instruments are similar but have their own unique and different characteristics due to the construction experience and the particular requirements of the beamline scientists who collaborated in the development of the detector systems, such as the new collimation system installed on the Elettra's instrument. In addition, they are optimised and seamlessly integrated with the beamlines for which they were designed.

## Summary

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