

Solid state energy resolved detectors for XAFS measurements: limits and issues for present and future applications.

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X-rays absorption fine structure spectroscopy (XAFS) is one of the most common and consolidated analysis tools exploiting synchrotron radiation. Hard X-rays XAFS is employed to study the active phases of catalysis and follow their transformations in real life conditions; XAFS may be used to understand the structure of dopants or nano structures in thin films, the coordination of metal center in enzymes, diluted fuel cell catalysts or battery materials. Determining the speciation of pollutants in soils or plants is another common application.

Every and each of these domains has specific requirement for the detector, the sample environment and the X-rays beam conditioning. I will discuss of these points using the experience of seven years of operation of the SAMBA beam line dedicated to XAFS and quick XAFS over the 4-43keV range.