

# An Application of Synchrotron-based X-ray Absorption Spectroscopy Study on Advanced Functional Materials

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The investigation of the local geometric and electronic structure of probing element in bulk samples is the most extensive field of application in X-ray Absorption Spectroscopy (XAS). XAS consists of two main regions which are X-ray Absorption Near Edge Structure (XANES) and Extended X-ray Absorption Fine Structure (EXAFS). The former region is used to explain the local geometry and oxidation states of selected element in a sample whilst the latter one is used to address the local structure around probing element in samples. In my work, the XAS beamline : SUT-NANOTEC-SLRI XAS beamline (BL 5.2) at the Synchrotron Light Research Institute, THAILAND, and applications of synchrotron-based XAS on advanced functional materials such as carbon-ferrite composite nanofibers and thermoelectric materials will be introduced in order to obtain the accuracy of their locally structural information which cause different properties in these materials.

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