

UMF Equipment - X-Ray Photoelectron Spectrometer System

Thermo Fisher Nexsa

X-Ray Photoelectron Spectroscopy (XPS) is one of the most widely used surface analysis techniques to provide information about material surface or film structures. Sample is irradiated with an incident X-rays under ultra-high vacuum, leading to the emission of inner shell electrons. These emitted electrons possess binding energies specified to the elements they originated and their chemical states. Consequently, XPS allows quantitative analysis of surface composition, different oxidation states and chemical environments.

Nexsa XPS system is a highly automated and integrated machine offering multiple advanced analytical techniques such as X-ray photoelectron spectroscopy (XPS), Ultraviolet photoelectron spectroscopy (UPS), Reflection electron energy loss spectroscopy (REELS), Raman and Ion scattering spectroscopy (ISS). The system allows users to conduct flexible and high-throughput material analysis, enabling and strengthening research in energy materials, electronic devices and advanced nano-materials.

- Features:
- Monochromatic and focused 12kV Aluminum K α X-ray
 - Spot adjustable from 10 μ m to 400 μ m in 5 μ m step
 - Load-lock with automated transfer for rapid sample loading
 - High-energy flood gun allows insulator analysis and REELS
 - Ion source for charge compensation
 - Depth profiling
 - SnapMap allow raster scan and mapping out surface chemical and pinpoint area of interest
 - Tilt module for angle resolved XPS (ARXPS) measurement
 - Vacuum transfer module for air-sensitive samples
 - Three-camera optical system allows finding and aligning area of interest quickly
 - Application Areas: batteries, bio-surfaces, catalysts, ceramics, glass coatings, graphene, metals & oxides, nano-materials, OLEDs, polymers, semiconductors, solar cells, thin films etc.

Please refer to Supplier information page for further details of the system:

<https://www.thermofisher.com/order/catalog/product/IQLAADGACKFAQUMBJN>

For any inquiry, please contact Dr. Hardy Lui (Tel: 2766 7791; Email: hardy.lui@polyu.edu.hk).

