

# Surface-sensitive analytical techniques and their importance in optimizing fuel cell materials.

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## Abstract

A variety of surface-sensitive analytical techniques will be reviewed that provide elemental and physical structure of materials as well as composition information of the outer most atomic layer of solid surfaces. This presentation will feature a survey that defines the operating principles and characteristics of high resolution, surface, analytical techniques including; XAS, XPS, XRD, SEM, EDS, WDS, AES, ICP-MS and SIMS. The understanding of these methods is important to guide decisions about the appropriate analytical techniques to use in fuel cell analyses. The objective of this work is to provide background information on the science, mathematics, operating principles, precision, accuracy, resolution and error associated with each of these analytical techniques.