Advances in XPS Chemical Imaging and Depth Profiling

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Optimized scanning x-ray microprobe technology has been shown to provide superior sensitivity with minimal data artifacts for micro-area XPS. To improve the chemical state sensitivity, computation methods have been developed to provide a 10X improvement in count rate for chemical state spectroscopy with reduced x-ray damage. Utilizing the unscanned analyzer mode of operation, a user selectable number of data channels are now available for optimized chemical state imaging and chemical state depth profiling.

Examples of these new computational methods will be presented for XPS chemical state imaging of patterned semiconductor and polymer samples as well as organic XPS depth profiling.