During the last two decades, remarkable and often spectacular progress has been made in the methodological and instrumental aspects of x-ray absorption and emission spectroscopy. This progress includes considerable technological improvements in the design and production of detectors especially with the development and expansion of large-scale synchrotron reactors All this has resulted in improved analytical performance and new applications, as well as in the perspective of a dramatic enhancement in the potential of x-ray based analysis techniques for the near future. This comprehensive two-volume treatise features articles that explain the phenomena and describe examples of X-ray absorption and emission applications in several fields, including chemistry, biochemistry, catalysis, amorphous and liquid systems, synchrotron radiation, and surface phenomena. Contributors explain the underlying theory, how to set up X-ray absorption experiments, and how to analyze the details of the resulting spectra.

X-Ray Absorption and X-ray Emission Spectroscopy: Theory and Applications:

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