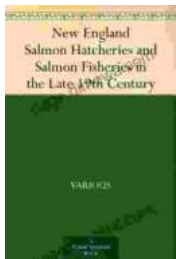




Principles of EDX	EDX is based on the principle of X-ray emission. When an electron beam interacts with a sample, it can cause the atoms in the sample to emit X-rays. The energy of the X-rays is characteristic of the element that emitted them. By measuring the energy of the X-rays, we can determine the elemental composition of the sample.	The EDX detector is typically positioned at a right angle to the electron beam. When an X-ray is emitted from the sample, it travels through a window in the detector and strikes a semiconductor detector. The detector converts the X-ray energy into an electrical signal. The electrical signal is then processed and converted into a spectrum of X-ray energies.	The X-ray spectrum is a graph that shows the number of X-rays detected at each energy level. The peaks in the spectrum correspond to the different elements present in the sample. The height of each peak is proportional to the concentration of the corresponding element.	Instrumentation	The EDX system consists of the following components: <ul style="list-style-type: none"><li>- Electron beam source</li><li>- Sample stage</li><li>- EDX detector</li><li>- Preamplifier</li><li>- Multichannel analyzer</li><li>- Computer</li></ul>	The electron Data Analysis beam source is typically a tungsten filament or a field emission gun. The sample stage is used to hold the sample in place. The EDX detector is positioned at a right angle to the electron beam. The preamplifier amplifies the electrical signal from the detector. The multichannel analyzer converts the amplified signal into a digital spectrum. The computer is used to process and display the spectrum.
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