

Lecture: Energy dispersive X-ray Detectors for Spectroscopy Applications

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Duration: 45'

Abstract: We will review the basic physics underlying the operation of semiconductor detectors and the realization of practical devices intended for X-ray spectroscopy. The crucial role of the preamplifier electronic noise and pulse processing will be discussed, which illustrates the limitation on counting rates. Examples of recent silicon and germanium detectors designs will be described and the challenges associated with modern multielement array detectors.