Type: not specified

Energy-resolved X-ray imaging and contrast enhancements in CZT detectors for contaminant detection.

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Recently, in the framework of the AVATAR X project (funded by the Italian Ministry for University and Research), we developed energy-resolved photon counting (ERPC) X-ray scanners based on CZT detectors for contaminant detection in food industry. In this work, we will present the results from the analysis of energyresolved X-ray images from CZT linear array detectors. The key steps of image processing and energyresolved analysis in contrast-to-noise ratio (CNR) enhancements will be discussed. The benefits of a new energy-resolved X-ray imaging approach, termed window-based energy selecting, in the detection of low and high density contaminants are also shown.

Summary

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