X-Ray Inspection with Contemporaneous
and Proximal Transmission and Backscatter Imaging

Abstract

An X-ray imaging inspection system for bags and packages. Transmission imaging is performed using a fan beam and a segmented detector, while scatter imaging is performed with a scanned pencil beam, with both beams active simultaneously. Cross-talk between the beams is mitigated by a combination of shielding, scatter detector design, positioning and orientation, and image processing Image processing subtracts the measured radiation scattered from the transmission beam into the scatter detectors, reducing cross-talk.

Figure 3.