

Multi-Material Phantom Scanning & Spectral Decomposition

Leader: Dr. Giuseppe V. Toia, MD MS & Kelsey Schluter BS RT(R)(CT)

Learning objectives:

1. Generate material-specific images (e.g., iodine, calcium, water) through spectral decomposition techniques
2. Review pre-acquired photon-counting CT datasets of a multi-material phantom with energy-resolved information
3. Evaluate the accuracy and image quality of material differentiation achieved with photon-counting CT

Discussion question 1: How do we gather spectral information using dual-energy CT?

Discussion question 2: How does dual-energy CT differ from photon-counting detector CT?

Discussion question 3: What kinds of images can we make using the spectral information? How do we use these images clinically?

Discussion question 4: What are some important pitfalls to be aware of when using the spectral-derived images?