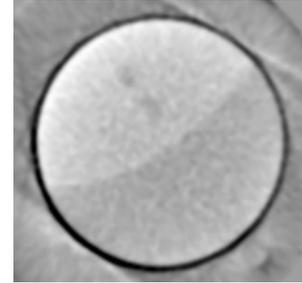


INEEL Digital Radiography and Computed Tomography (DRCT) Laboratory

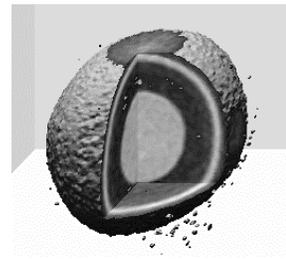
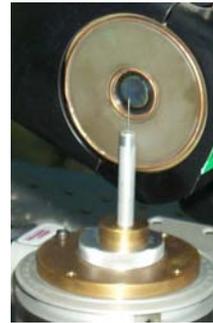
The INEEL Digital Radiography and Computed Tomography (DRCT) Laboratory performs research in x-ray imaging for the Department of Energy (DOE). In addition, the DRCT laboratory provides support and system development for many other DOE, DOD and industrial applications. Many accomplishments of the laboratory have arisen through collaborations with universities and industry.

Capabilities

- Digital and real time radiography
- Computed tomography
 - 2-D multiple slice
 - 3-D Spiral and cone-beam
- Energy range from 30kVp to 4MeV
- Object dimensions from 1mm to 1.5m (dia.)
- Spatial Resolution
 - 20-100 microns for objects up to 2cm
 - 0.5-2.0 mm for objects up to 1.5m
- High Dynamic range and contrast
- 2-D and 3-D image processing and display



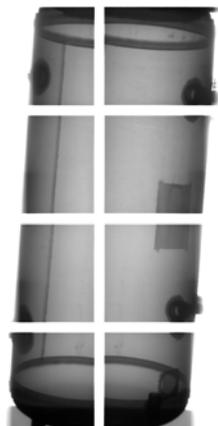
High Energy: 4MeV Linear Accelerator used to scan molten tin showing temperature/density variations.



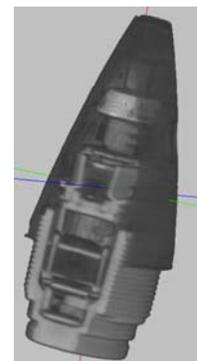
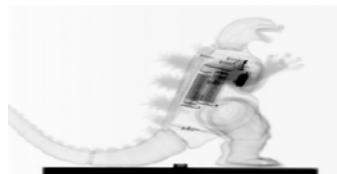
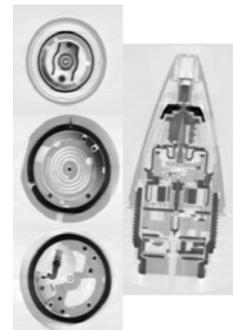
High resolution: Microfocus x-ray source and 2-D area detector provide 3-D Cone beam tomography which produces detailed image of multi-layer submillimeter particle.



Near real time tomography: 2-D Flat panel detector used to acquire cone beam tomographic data of contaminant flow in soils. X-ray image is a 2-D slice from the 3-D volume data.



Mosaic: 2-D Flat panel detector used to acquire multiple projections of large object (tank) to create full field of view.



Images of carry-on items (above).
3-D representations of a fuze (right).