Rigaku Virtual Workshop Series

X-ray Computed Tomography

Click here to register for workshop

QUICK REFERENCE

High-resolution CT Data Collection

INSTRUMENT PROFILE

Rigaku nano3DX is a 3D X-ray microscope with selectable radiations and a high-power X-ray source. The combination enables fast, high-contrast, and high-resolution X-ray imaging.

SPECIFICATIONS

- 1200 W ultra-bright micro-focus X-ray source
- Variety of optical lenses (1.25X - 20X)
- High-resolution (max. 325 nm voxel size)
- High-speed (max. 30 seconds/scan)

X-RAY ENERGY

Low-energy X-rays improve contrast when the sample is small and/or low-density. When using characteristic radiation, you can choose suitable anode material from Cr 5.4 keV, Cu 8 keV, or Mo 17 keV.

FOV AND RESOLUTION

The FOV (field of view) should be close to the sample size ideally. The voxel resolution is roughly FOV/3000 ~ FOV/1000. The FOV and resolution can be adjusted by changing lenses when using parallel beam geometry.

SAMPLE MOUNT

It is crucial that the sample does not move during a scan for high-resolution CT data collection. Secure the sample using UV resin, etc., and monitor it for a while before starting a scan.

SCAN TIME

CT scan time can be a min to hours. Longer scan time improves the signal to noise ratio. Binning can help shorten the scan time.

Rigaku

For series info click here

imaging@rigaku.com