Pyritized in situ trilobite eggs from the Ordovician of New York (Lorraine Group): Implications for trilobite reproductive biology

Hegna et al.

Calibration report from CT scan, giving parameters of calibration and final voxel size. Scan was made using a North Star Imaging micro-CT scanner housed at Vanderbilt University, with 130 KV (300mA) x-ray source, and 8” x 10” Cesium Scintillator detector array.

Computation date: 9/12/2016 2:37:06 PM
Tracking: 3 points used, over 60 views
Calibration tool: Spacing [5]mm ([0.197] inches)
Detector pixel pitch: 0.127x0.127 mm (0.005x0.005 inches)
Image modification: H-flip | Rotate(90 degree) | Crop #pixels left=20 top=20 right=20 bottom=20

Xray-source / Detector distance: 545.497 mm (21.476 inches)
Rotation axis / Detector distance: 492.591 mm (19.393 inches)
Rotation axis / Xray-source distance: 52.906 mm (2.083 inches)

Magnification: x10.31
Optimum voxel size: 12.3 microns (0.0004849 inches)
Geometric unsharpness: x9.3

5 micron focal spot will be 46.55 micron wide (0.37 pixels)

Rotation: Found Counter-Clockwise (CCW) rotation direction
Rotation axis: -0.000937941882817673 -0.999999560132416 0
Rotation axis angle: 179.946 degree

Image center: (123.037, 99.474) mm / (4.844, 3.916) inches

Calibration images folder: Calibration
Starting image used: calib*.tif; 60 images, 6 degree step
SI XXX – Calibration report from CT scan, giving scanning parameters, as well as details for the calibration and final voxel size. Scan was made using a North Star Imaging micro-CT scanner housed at Vanderbilt University, with 130 KV (300mA) x-ray source, and 8" x 10" Cesium Scintillator detector array.

Scan parameters:
Xray source: Hamamatsu L9181-02
  voltage: 130 kV
  current: 58 µA
  focal spot size: 20 microns
  focal spot mode: Medium
Detector: Varian [C:\IMAGERs\424S03-2005]
  pixel pitch: 127 x 127 microns
  mode: 01_1x10.5pFVG1
  gain:
  binning:
  framerate: 3.75 fps (266.667 ms integration time)
  flip: horizontal
  rotation: 90 degree
  crop: (l,t,r,b)=(20,20,20,20) pixels
  defect map: 1502 defective pixels (0.0509304470486111%) (saved)
  offset map: 0.0435, dev 0.00435, 60 fravg, 3.7 fps
  gain map 0: 0.714, dev 0.0616, 60 fravg, 3.7 fps
  gain map 1: 0.418, dev 0.0361, 60 fravg, 3.7 fps
  gain map 2: 0.144, dev 0.0124, 60 fravg, 3.7 fps

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Rotation axis: -0.00093794188281763 -0.99999560132416 0
Rotation axis angle: 179.946 degree

Image center: (123.037, 99.474) mm / (4.844, 3.916) inches