Workflow idea 5

Surface roughness of 3D interior regions

Workflow Idea 5:
Surface roughness of 3D interior regions

Materials

Goal: Perform internal surface roughness measurement of a 3D dataset generated by a Versa X-ray microscopy (similar to computed tomography technique).

In order to obtain 3D printed parts with desired properties and biocompatibility, it is important to have a method to measure surface roughness on the interior of the part.

Recommended workflow:

- Develop algorithm to report interior surface roughness of 3D structures.

Expected difficulty level: ??

Expected challenge(s):??

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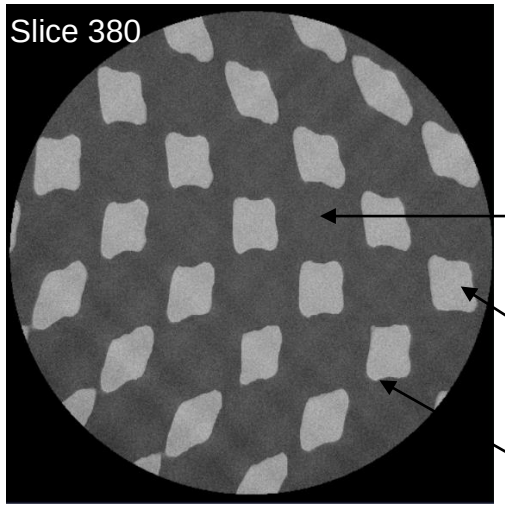
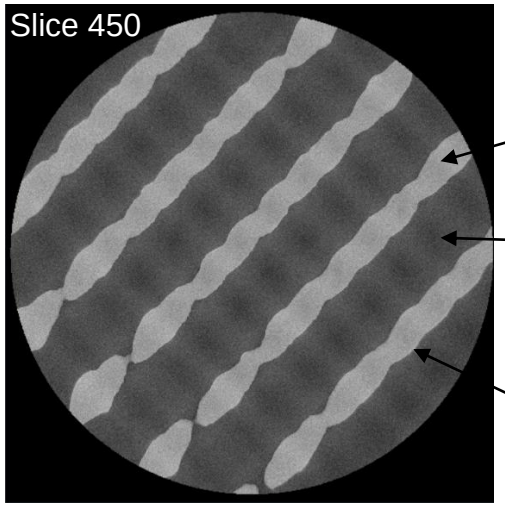


Bright – heavy (solid) material
Dark - Air



Dataset / image information:

File name(s): WF05_RMI_Ceramic_RMI_Ceramic_4x__recon.czi

File Information	
Name	WF05_RMI_Ceramic_RMI_Ceramic_4x__recon
File Type	Carl Zeiss Image (*.czi)
File Path	E:\APEER_contest_datasets\from_Alisa_Stratulat\WF05_RMI_Ceramic_RMI_Ceramic_4x__recon.czi
File Size	15.1 GB
Created	3/13/2019 11:06:43 AM
Modified	3/13/2019 11:10:52 AM
User	
Compression Method	Uncompressed
Compression Quality	100
Image Dimensions	
Z-Stack	2007 Slices (3.91 mm)
Scaling (per Pixel)	1.95 µm x 1.95 µm x 1.95 µm
Image Size (Pixels)	1988 x 2032
Image Size (Scaled)	3.87 mm x 3.96 mm
Bit Depth	16 Bit

Note: The image is in .czi format. Please read the last page of this document for instructions on how to read czi files.