QRM A PTW COMPANY

QRM-MicroCT-MD

Micro-CT Multi Disk

The MicroCT Multi Disk Phantom is designed to test cone beam artifacts from Micro-CT scanners caused by reconstruction algorithms.

The Micro-CT Multi Disk Phantom is THE test object for demonstrating artifacts occurred by all kind of approximate reconstruction algorithms.

The Micro-CT-Multi Disk Phantom consists of eight high-density circular disks equally spaced at 3 mm apart parallel to the axis of rotation. These disks are separated by low-density disks showing up as darker material.
The phantom is completed on either side by 10 mm of PMMA.

Specifications

Phantom size:
- diameter ..... 20 mm
- length ..... 48.5 mm

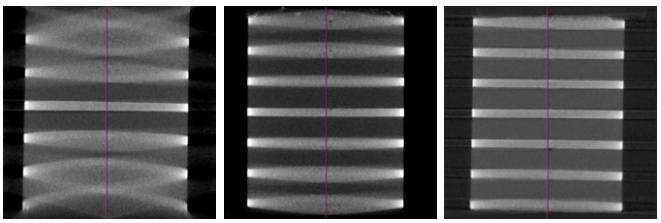
Phantom weight ..... 19 g

High-density disk:
- diameter ..... 20 mm
- thickness/mm ..... 1 +0.1 /+ 0.05
- density ..... 1.38 g/cm^3

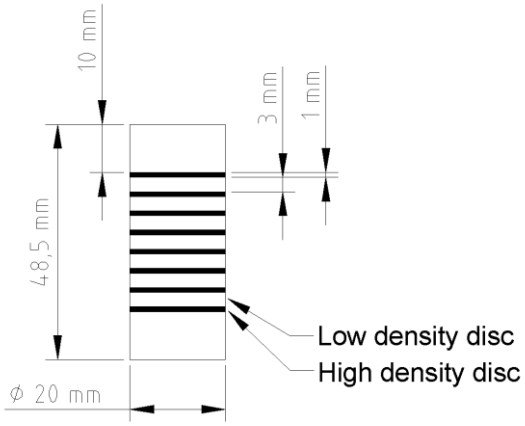
Low-density disk:
- diameter ..... 20 mm
- thickness/mm ..... 3 0/+ 0.05
- density ..... 1.18 g/cm^3

Flanging outer zylinders:
- material ..... pmma
- thickness ..... 10 mm

Micro-CT Multi Disk (after Defrise)



Reconstructions at 30, 11 and 5 degree



Dimensions of the phantom

References:

Feldkamp L. A., Davis L.C., Kress, J. W.:
Practical cone-beam algorithm, J. Opt. Soc. Am. A6 (1984) 612-619

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