

3D Calibration Test

Necessary Tools for Performing these Tests

The following tools are used to perform these tests:

- Very thin metal wires with a diameter of less than 0.5 mm

Prerequisites

Be sure that the Artis one is adjusted according to the appropriate IQAP specifications.

The most important parameters are

- Dose (dose rate - check "Indirect dose" in the Artis IQAP)
- FD calibration
- FD sense adjustment

After a dose/FD calibration/DEXI adjustment, a partial 3D recalibration must be performed (intensity).

Afterwards a 3D IQAP should be performed.

Geometric Definition / Fast Wire Test

Goal:

The fast wire test is used to check the image geometry for the 3D option.

If values are out of tolerance, perform a 3D calibration.

Description:

1. Register a new patient.
2. Move the system to the head end position.
3. Select zoom 0.
4. Place some long, thin wires with a diameter of less than 0.5 mm on the patient table parallel to the patient axis.

Use stainless steel or similar wires, do not use plastic wires.

5. Adjust the table height and the table position so that the wires are in the isocenter.
6. Select the 5sDR Head program.
7. Select the 3D Viewer tab card.
8. Acquire a 3D acquisition scene.

Evaluation in 3D Viewer.

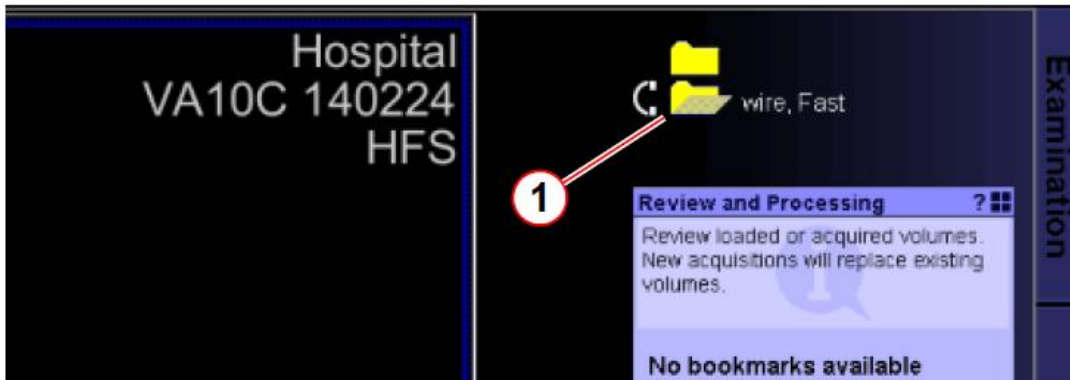
Check visually to determine whether the wire profiles are shown correctly.

The wire profiles should be round.

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1. Select the acquisition patient.

Fig. 29:



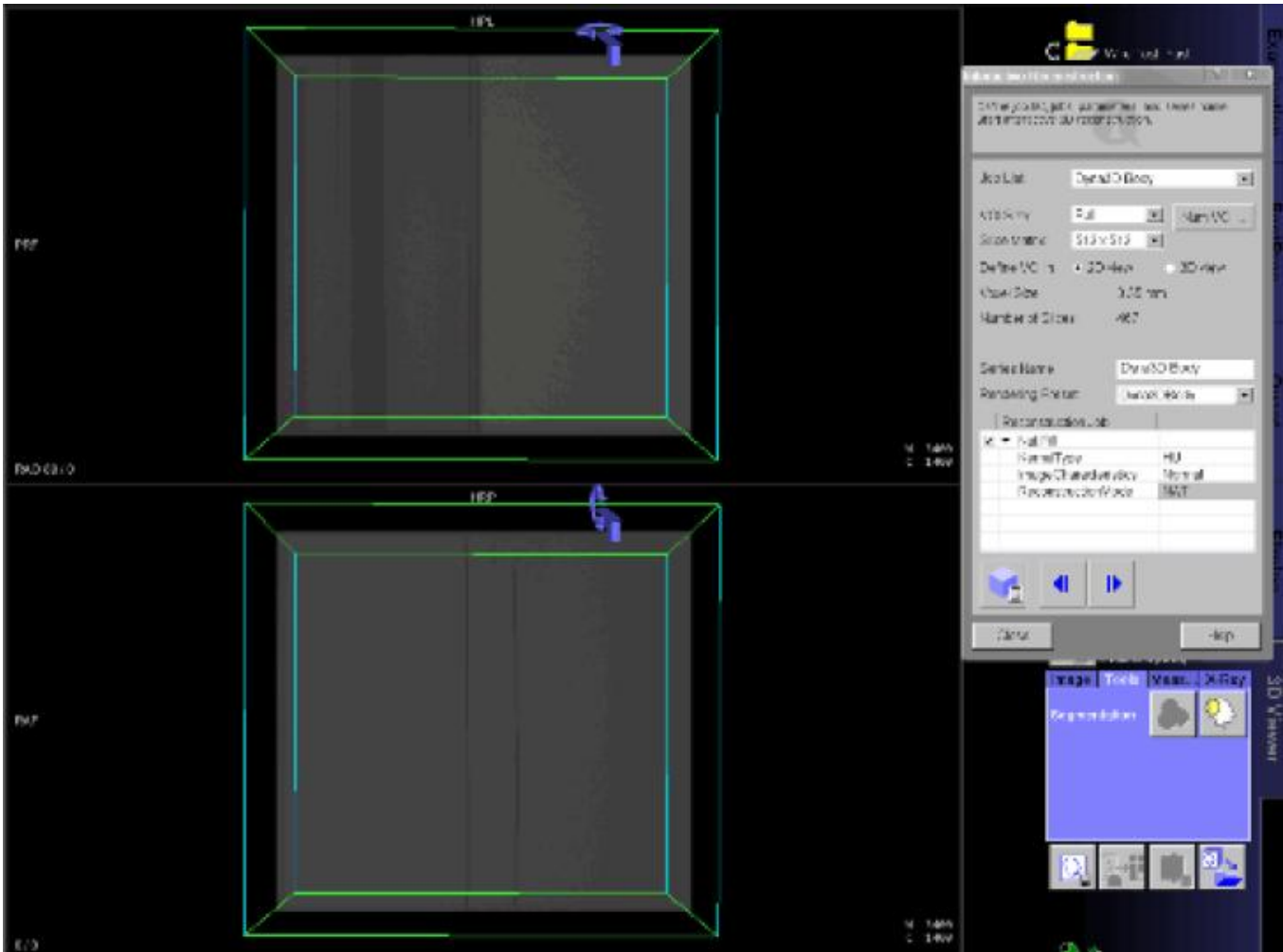
2. Reconstruction.

Fig. 30: 3D Viewer



3. Select "Interactive Reconstruction".

Fig. 31: Interactive Reconstruction



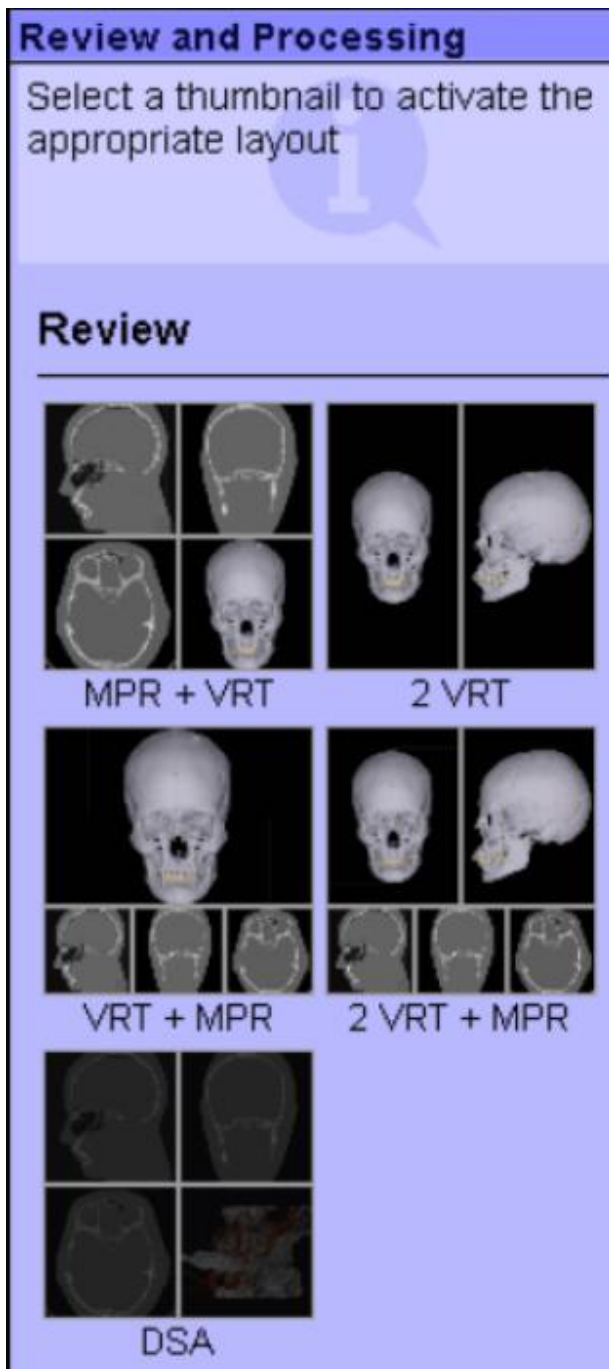
Set the following parameters:

- Job List - Dyna3D Head
- VOI size - Full
- Slice Matrix - 512x512
- Reconstruction Job, Nat Fill
- KernelType - HU
- Image Characteristics - Normal

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4. In the 3D Viewer tab card select the "Review and Processing" function.

Fig. 32: Review and Processing

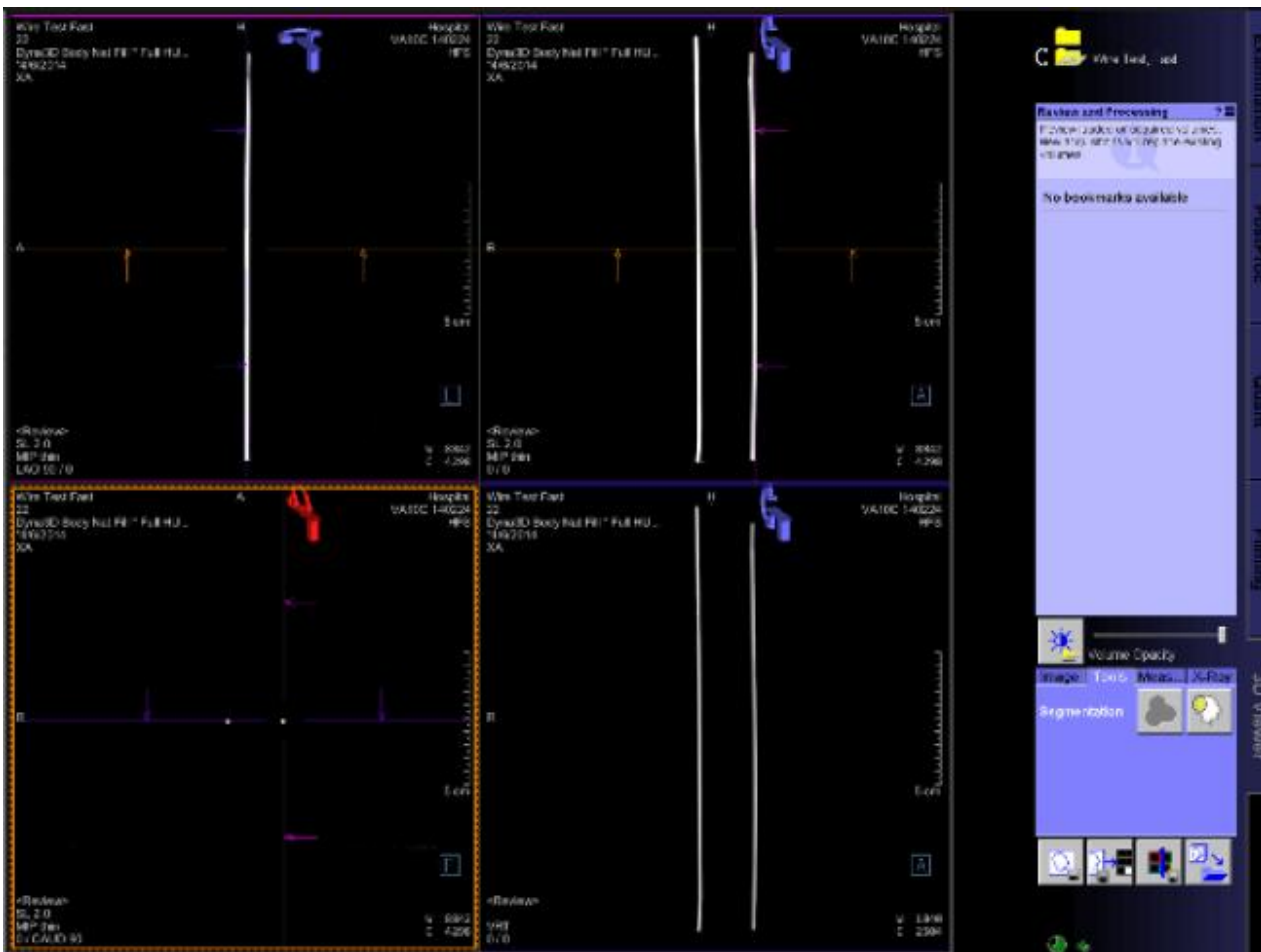


5. Select MPR+VRT.

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□ Windowing can be adjusted if needed. (MPR : W = 2000, C = -500 / VRT W = 2000, C = 1000)

Fig. 33: MPR+VRT



6. Move the reference line on the top window between foot and head ends of the wire phantom. Observe the lower left window, which shows the frontal view of the wire(s).

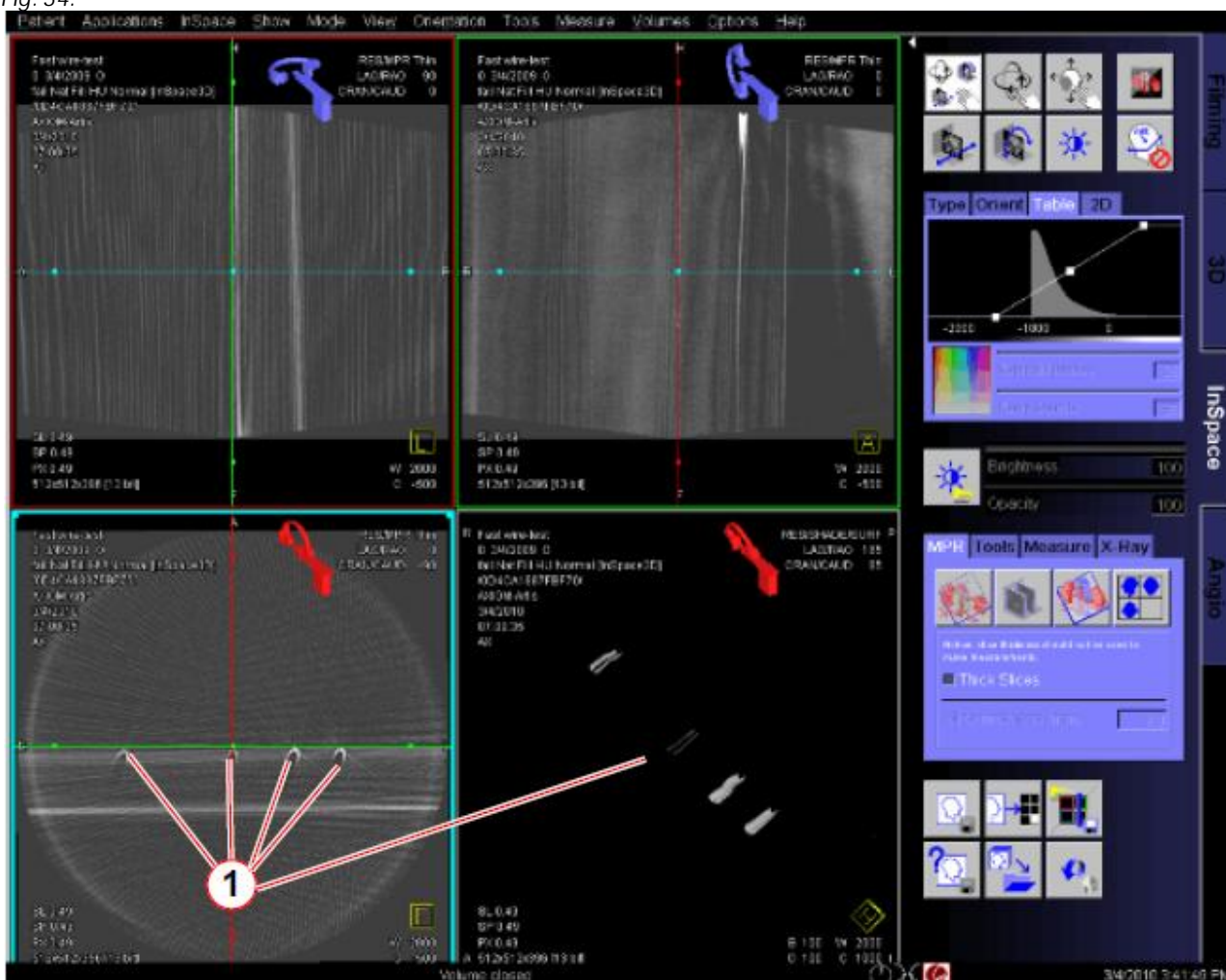
□ The wires should be round. Their profile must be well defined, with sharp edges.

If this is not the case, either the data set was not properly acquired (table tilt, table cradle, or table rotation not in 0 position, C-arm not properly pivoted into the 0 position, C-arm not properly moved to the 3D start position before acquisition), or the calibration of the system is no longer appropriate.

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If there is a problem, the images appear as follows :

Fig. 34:



□ If the shape is wrong then perform the geometry adjustment again.