

Truncation artefacts in PET/CT

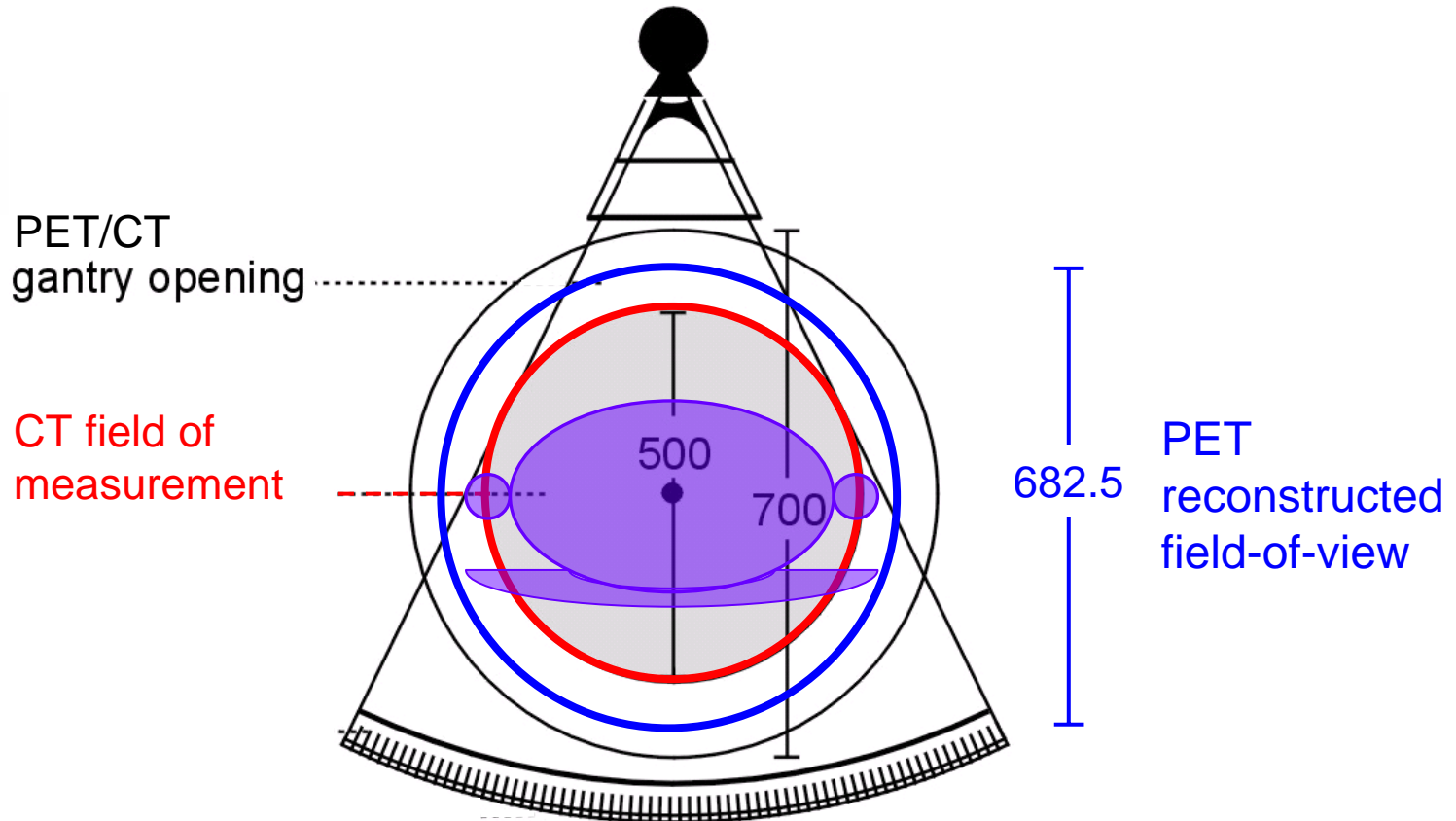
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**Eighth CT Users Group Meeting
Queen's Medical Centre
Nottingham
16th November 2006**

- CTI HiREZ scanner (aka Siemens Biograph 6),
- Conventional spiral CT scanner SOMATOM Emotion 6 (with air cooling).

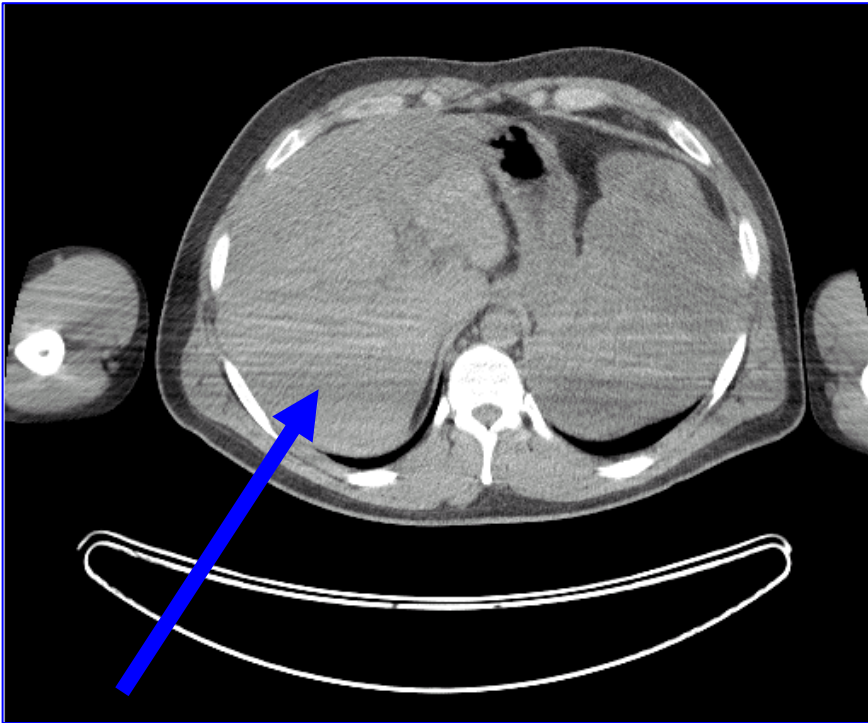
Scanner geometry



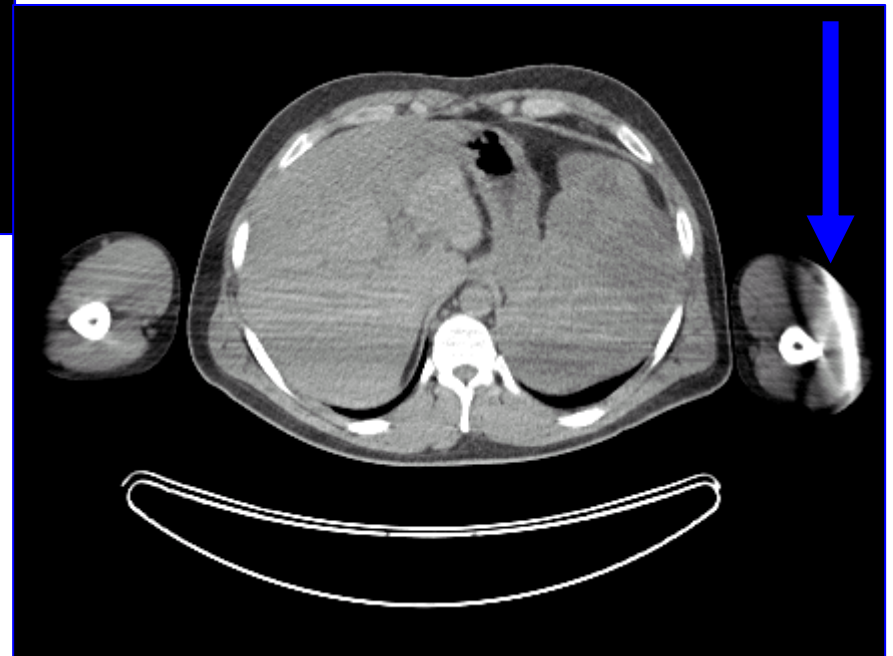
- Ohnesorge, B. *et al.* (2000) Efficient correction for CT image artifacts caused by objects extending outside the scan field of view. [Med. Phys. 27, 39 - 46.](#)
- Hsieh, J. *et al.* (2004) A novel reconstruction algorithm to extend the CT scan field-of-view. [Med. Phys. 31, 2385 - 2391.](#)

CT image artifacts

Standard CT image
reconstruction (500 mm)



CT image reconstruction using
an extended FOV (700 mm)



- Streak artifacts?
- Quantitation outside the field of measurement?

Phantom experiment with varying tube current

Effective mAs (=mAs/pitch)			
80	40	20	10
mAs (mA×rotation)			
120	60	30	15
mA (tube current)			
200	100	50	25
