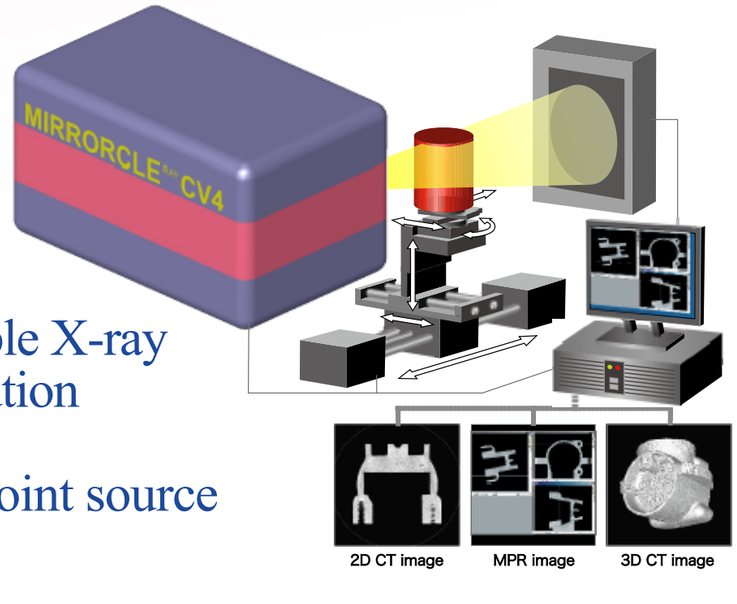
Photon Production Laboratory

High spec , High energy
X-ray CT system
MIRRORCLE RAY CT



2D CT image　　MPR image　　3D CT image

Highly penetratable X-ray
High space resolution
Phase contrast
by 5μm point source

Advanced features of our X-ray imaging System

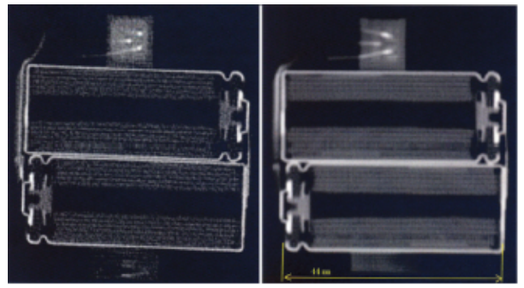
1. The emitter size is defined by the ball target that is 10 μm, thus the focus point is 5 μm in FWHM. We see a beautiful phase contrast image.
2. The emitter shape is defiend by the ball targe, thus the distribution is a half sinusoidal, but not Gausian, which lead to sharp cutting edge image.
3. The X-ray energy is polychromtaic, thus we can select the X-ray energy by setting the threshold of PILATUS. By selecting the energy we are able to find out the atomic number of the sample elements.
4. Our system can be equipped with phase shift gratings for talbot interferometer imaging.
5. By changing the target material we can select suitable monochromatic X-ray due to fluorescence.
6. When the block collimator is used we can setup fan beam CT. In this case we achive sub-micron resolution by 1 μm width wire target.

CT system specification

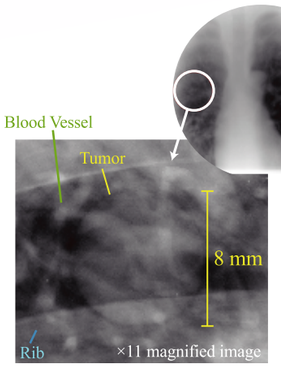
Cone beam CT		Fan beam CT	
Foucus point size	FWHM 5 μm	Focus point	FWHM 1μm horizontally
2D Detector	Flat pannel(1024x1024)　Pixel size 100x100 μm^2 CCD camera　Pixel size 20x20 μm^2	W Collimatore	gap: 50 μm minimum
Magnification	50 times for small sample less than 10cm 10 times for sample size larger than 30cm		

Image gallery

【Comparison with Linac 】

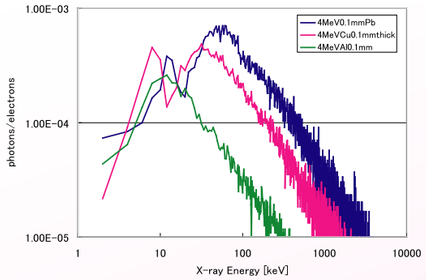


Li ion battery Imaged by MIRRORCLE CV4　　Imaged by 6MeV Linac



Phase contrast images of a chest phantom

CT image of Turbine blade



X-ray spectrum

We have lineup for Non--destructive testing (MIC-RT series, MIRRORCLE RAY-RTseriese)

Analysis Service　We welcome your request of CT analysis service.

Photon Production Laboratory

Photon Production Laboratory, Ltd.
http://www.photon-production.co.jp/
http://www.ppl-xray.com(in English)

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