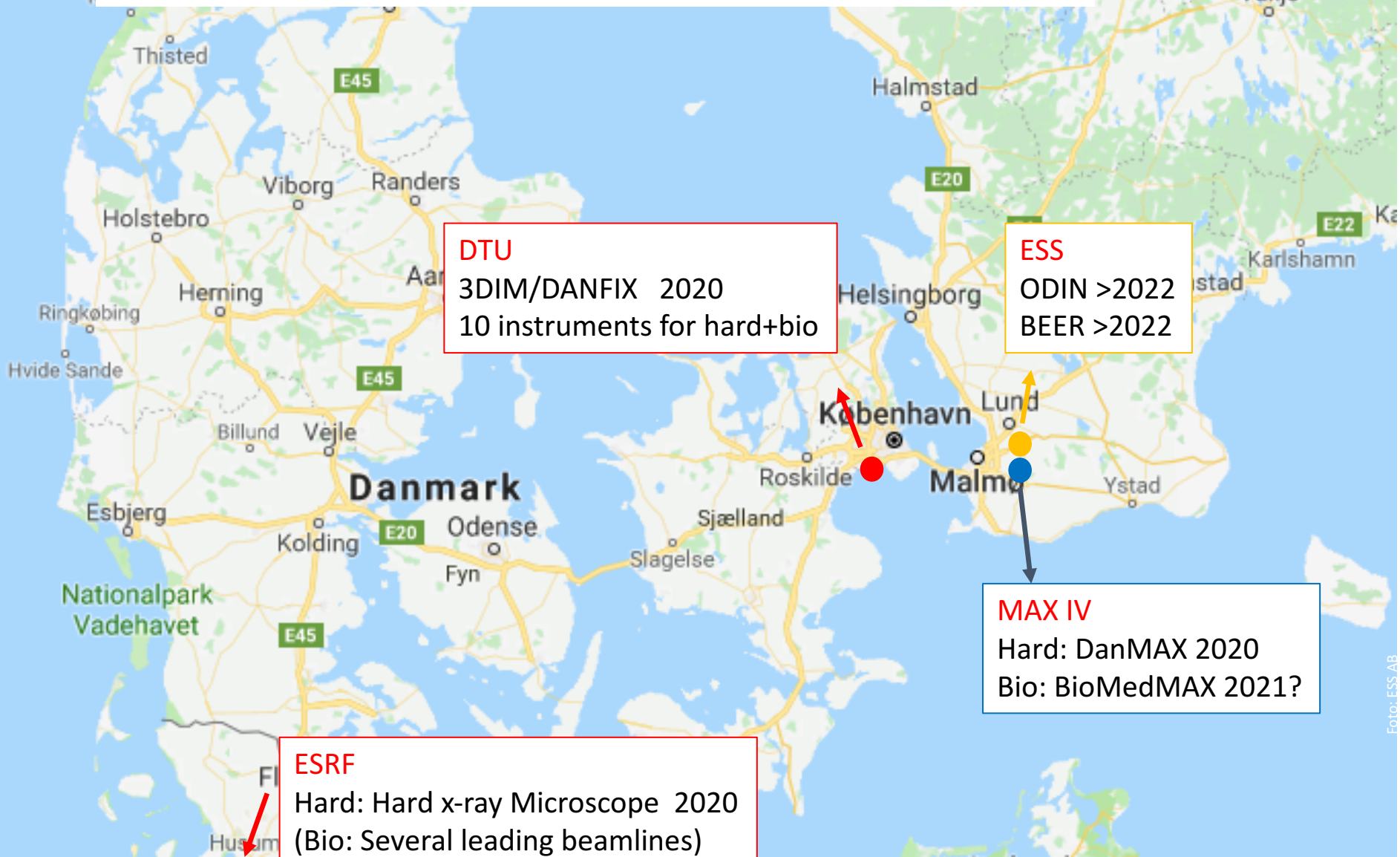
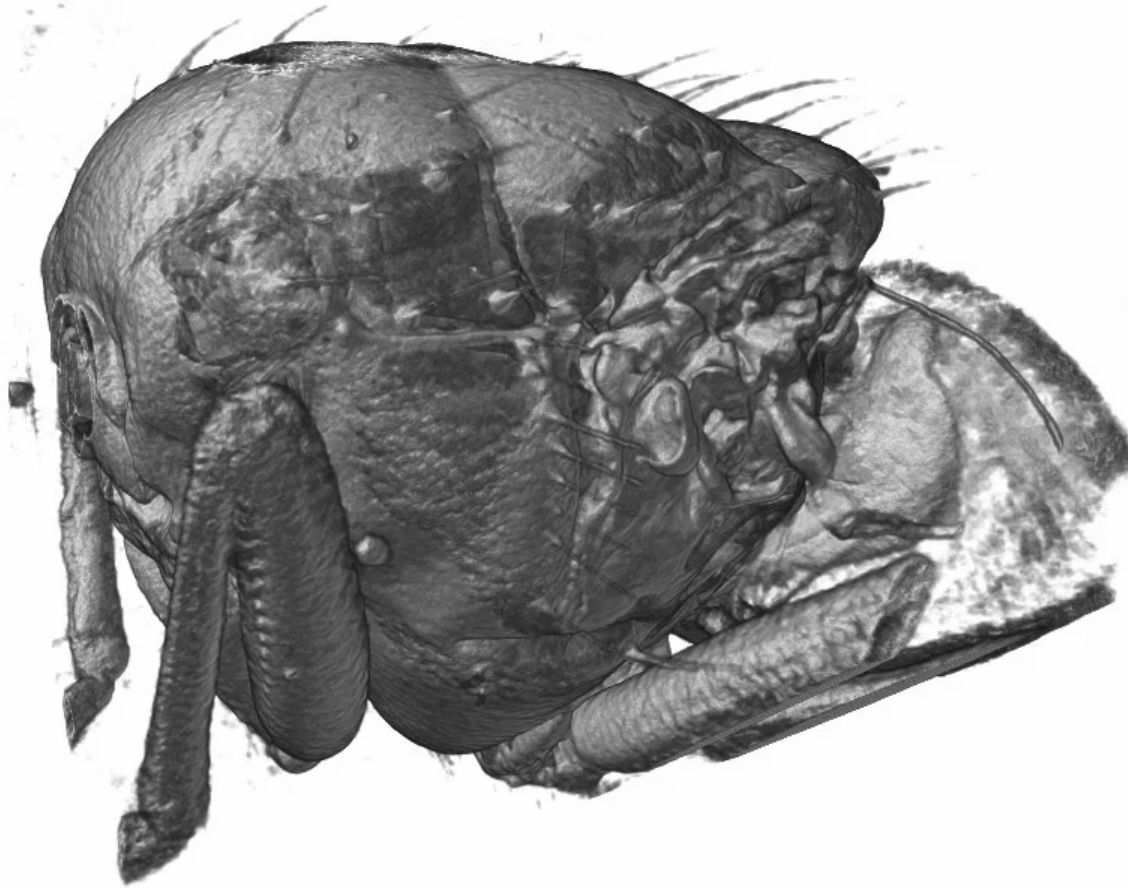


# 3D neutron and x-ray imaging center:

Competence center with infrastructures, industry portal, education and innovation. Science Hub.



# Ultrafast imaging at synchrotrons



New rings

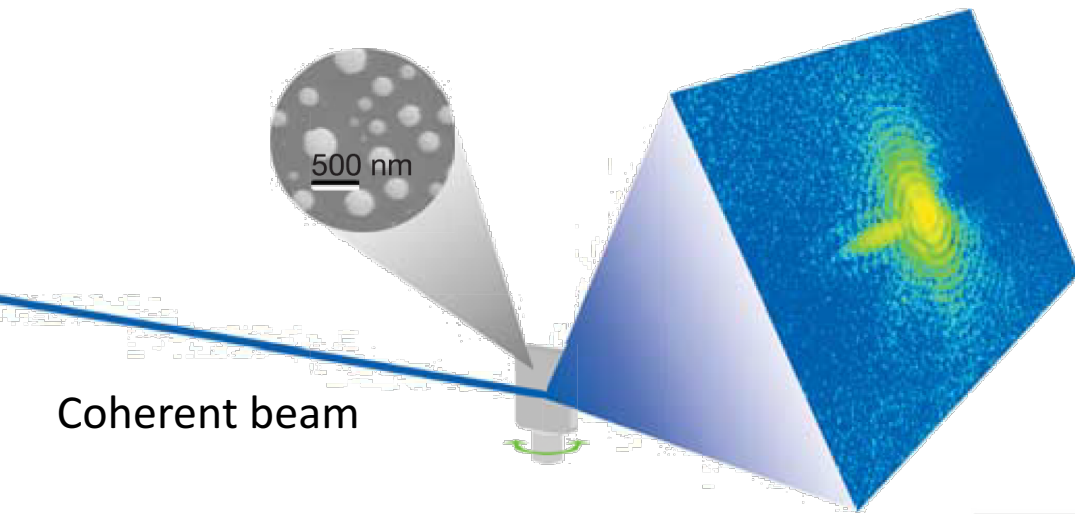


3D mapping in sub-mili seconds

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Work done at TOMCAT, PSI, CH

# CDI: >10 nm resolution for small particles and cells

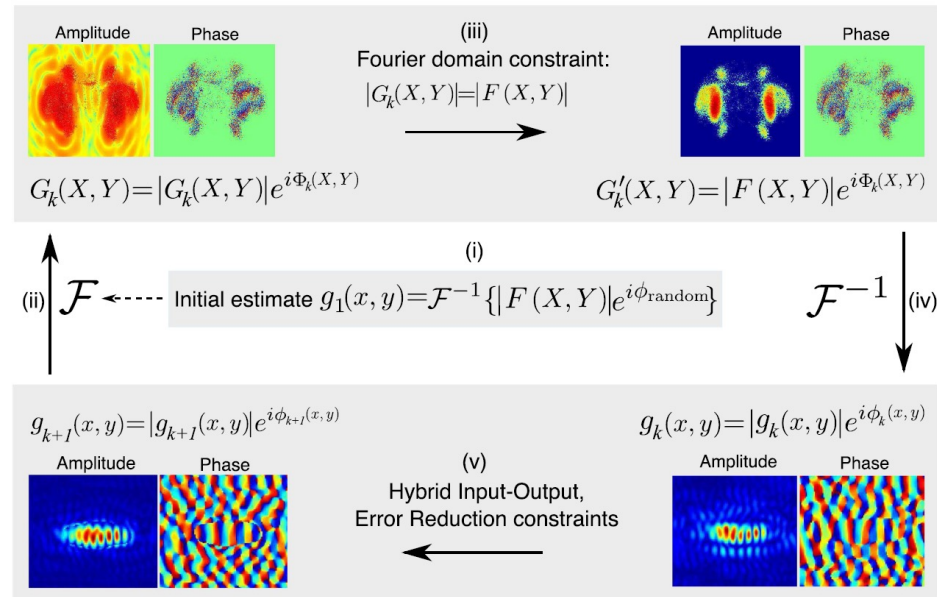


Diffraction pattern +  
Size of particle

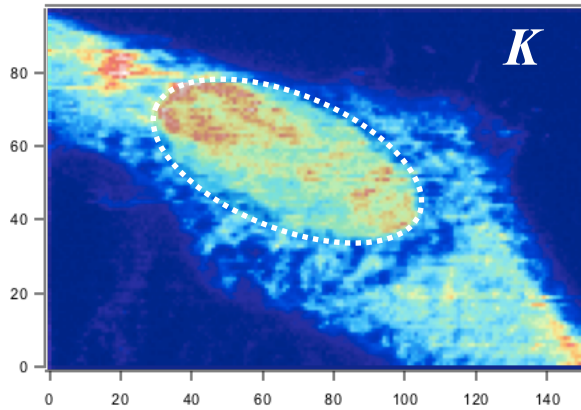


Iterative algorithms

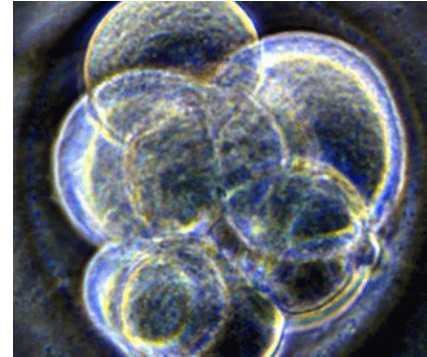
3D map



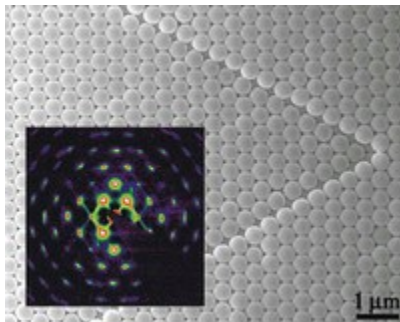
# X-rays going nano



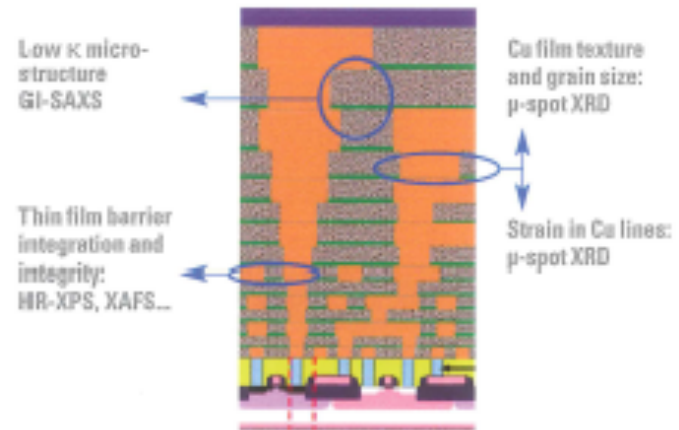
*Parkinson in neurons*



*Embryos*



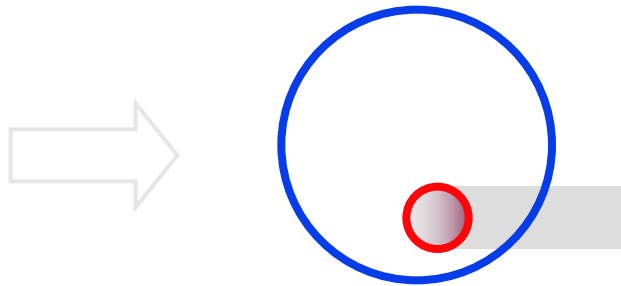
*Colloidal photonic crystal*



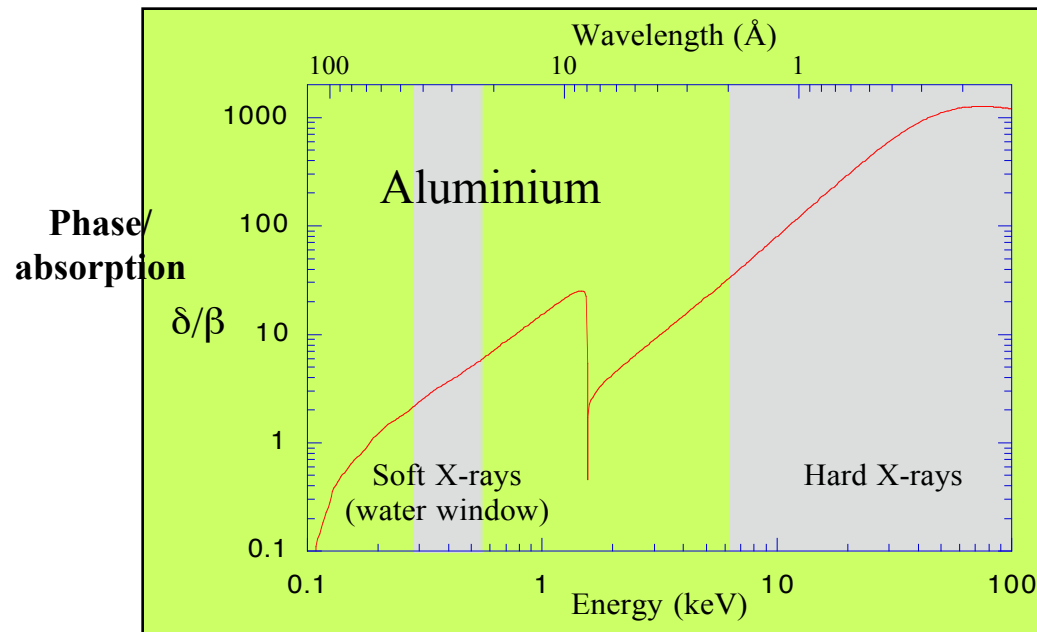
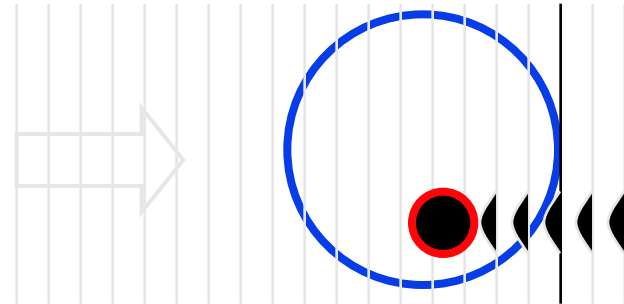
*Micro-electronics*

# Phase Contrast Tomography

Absorption



Phase

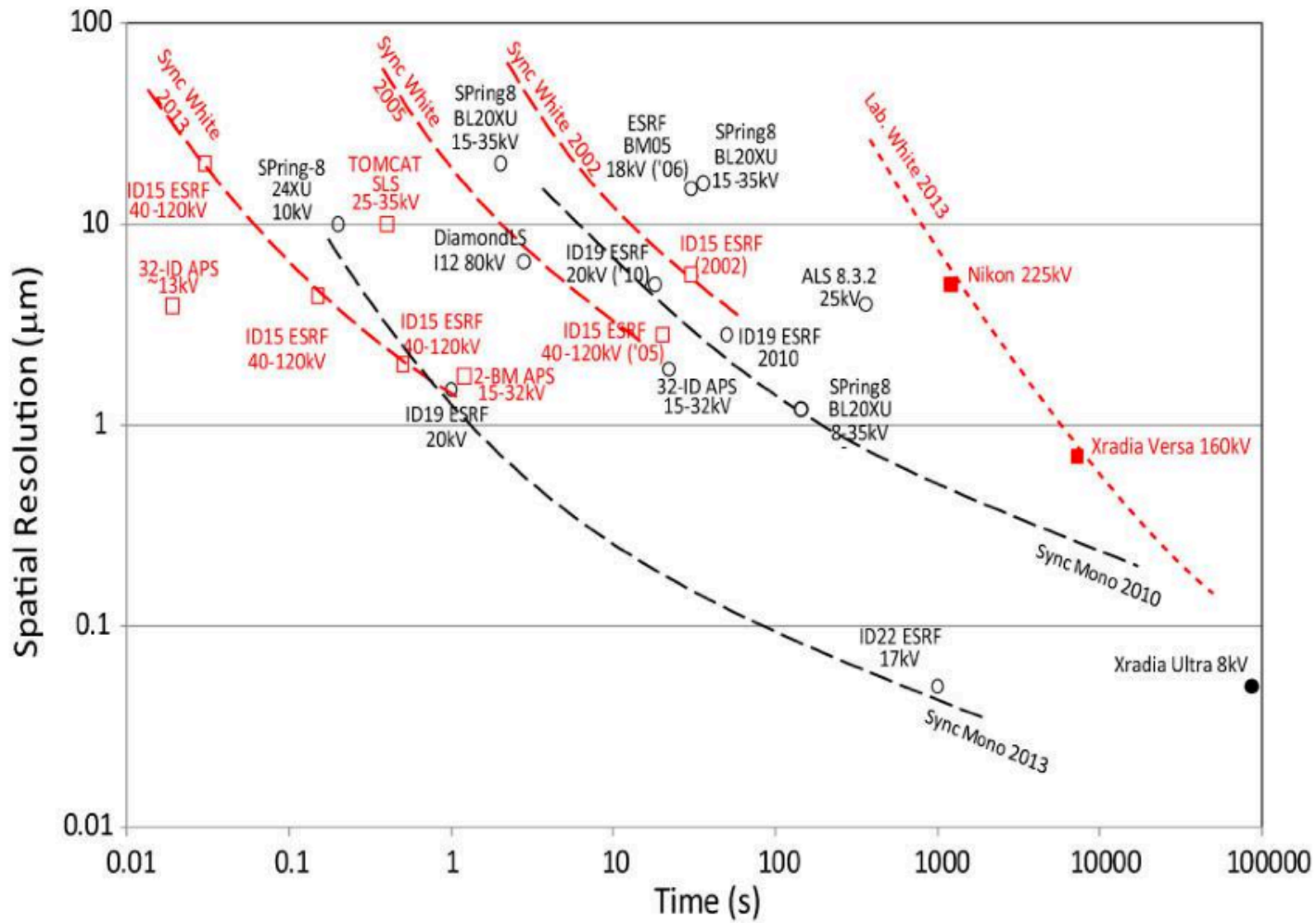


Smallest detectable hole at 25 keV  
in a 4 mm thick sample:

Absorption: 20  $\mu\text{m}$

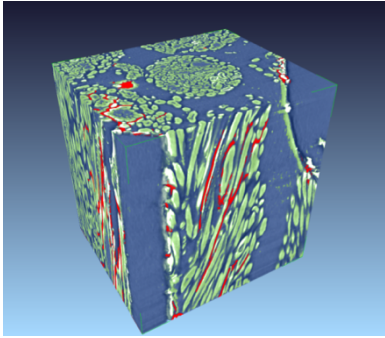
Phase: 0.05  $\mu\text{m}$

# Absorption contrast tomography performance



Now: 50 nm routinely reached

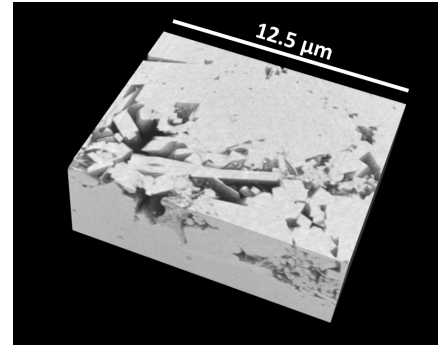
# DANFIX user community



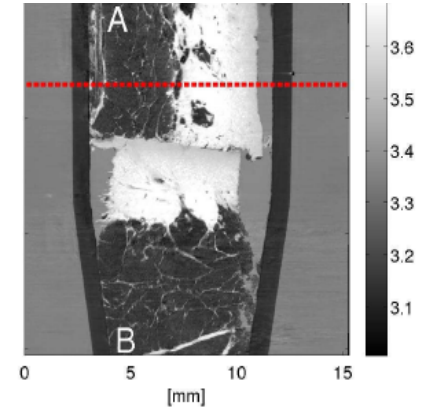
Polymer composites



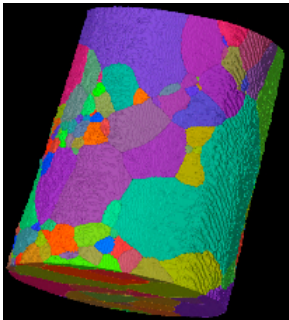
Energy technologies



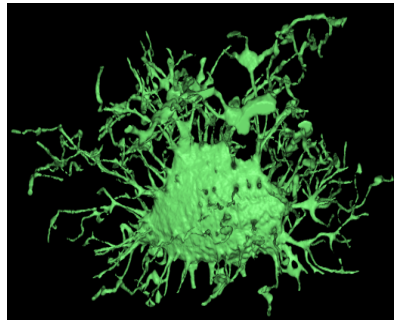
Geoscience



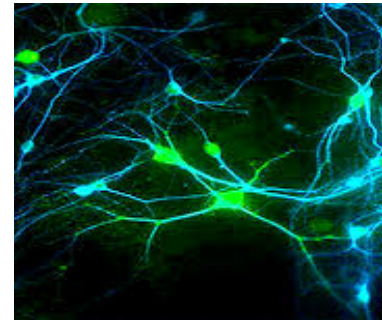
Food



Metals



Bio-inspired materials



Neuroscience



Natural Heritage  
Cultural Heritage

# Multiscale 3D visualisation

