



Nano- and micro-scale imaging of rocks with X-ray ptychography

A primer for a new ultramicroscope method, Schrank et al. 2026

Our PICO presentation will illustrate:

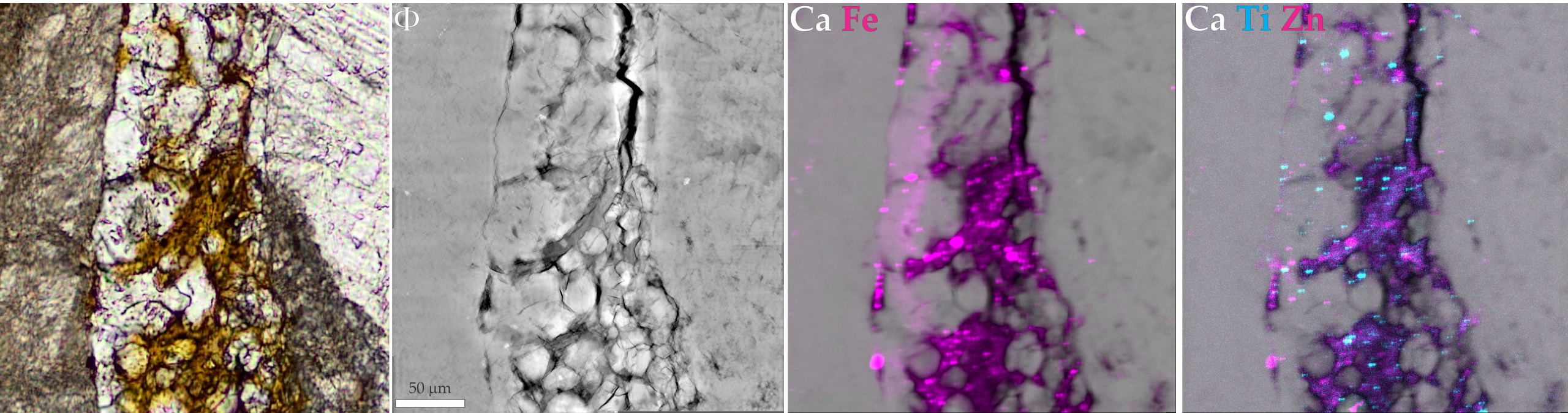
- What is ptychography?
 - Why use it?
- How to do an experiment
- How to interpret the data
- What you can do with it – **application examples**

X-ray ptychography: what does it do and why use it?

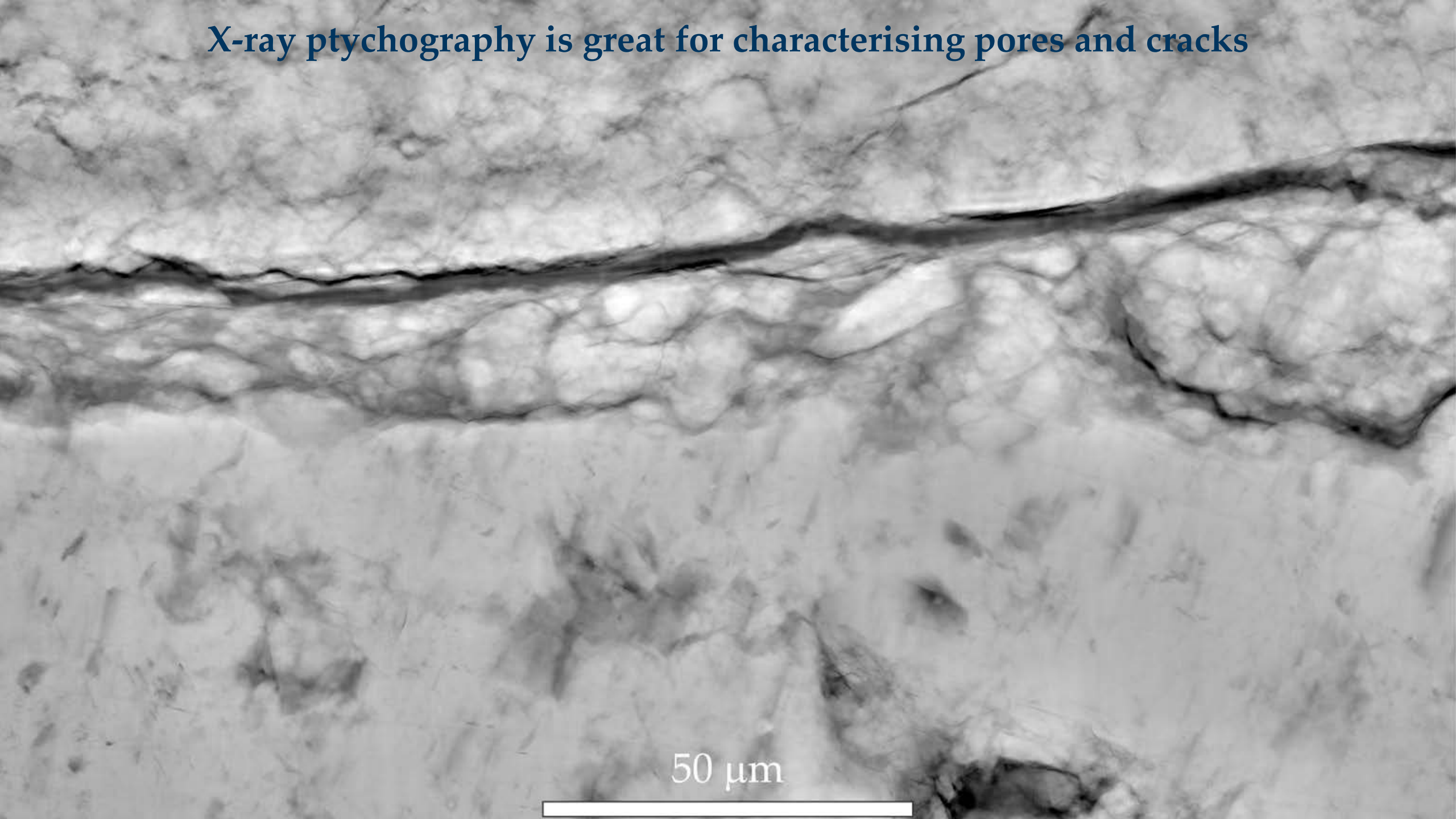
- Maps differences in electron density in transmission with nanometer resolution
 - Simultaneous recording of high-sensitivity elemental maps (XFM)
 - Also easily paired with micro-XRD

Benefit:

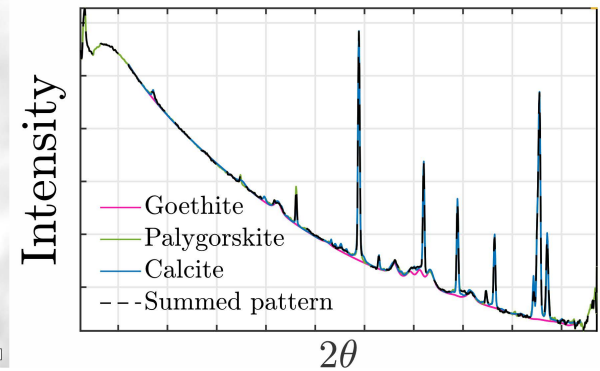
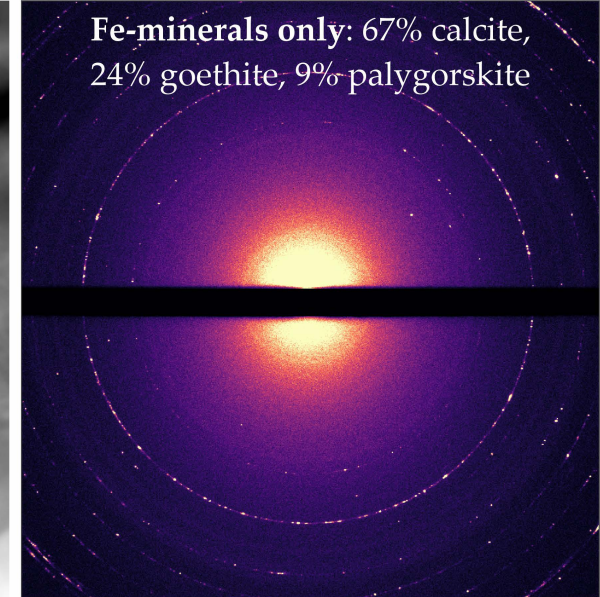
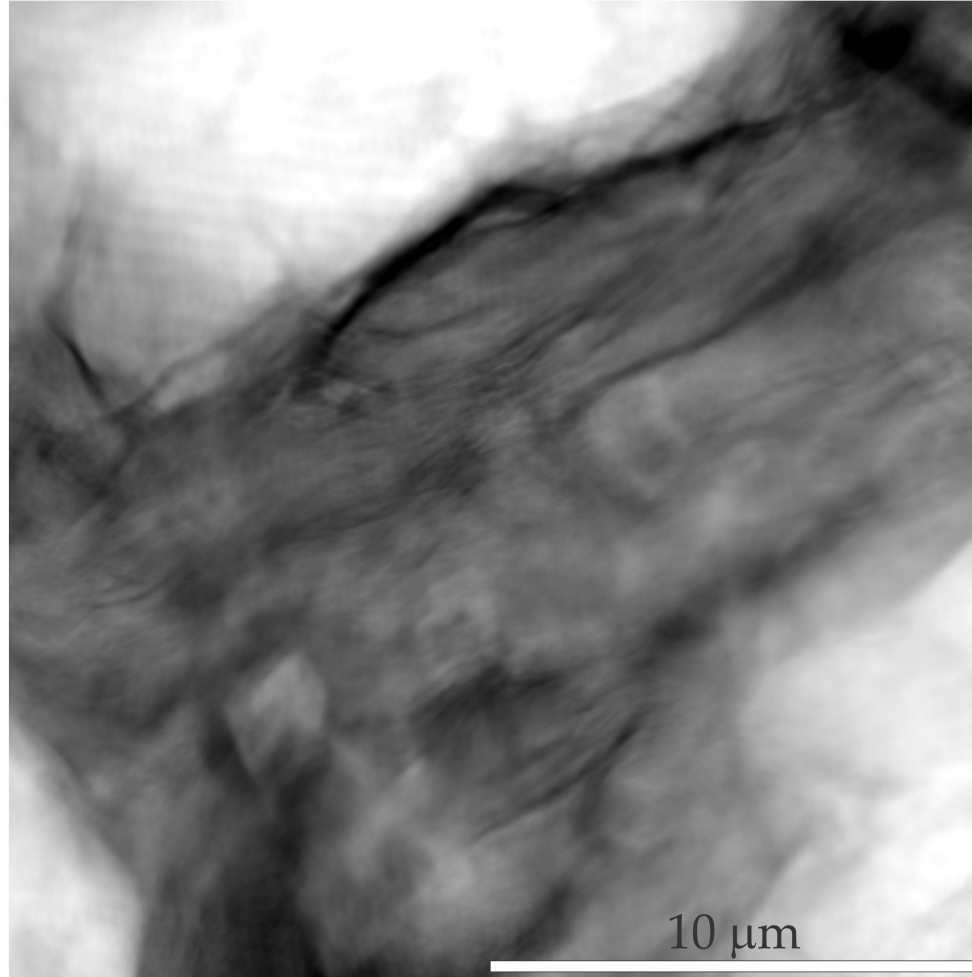
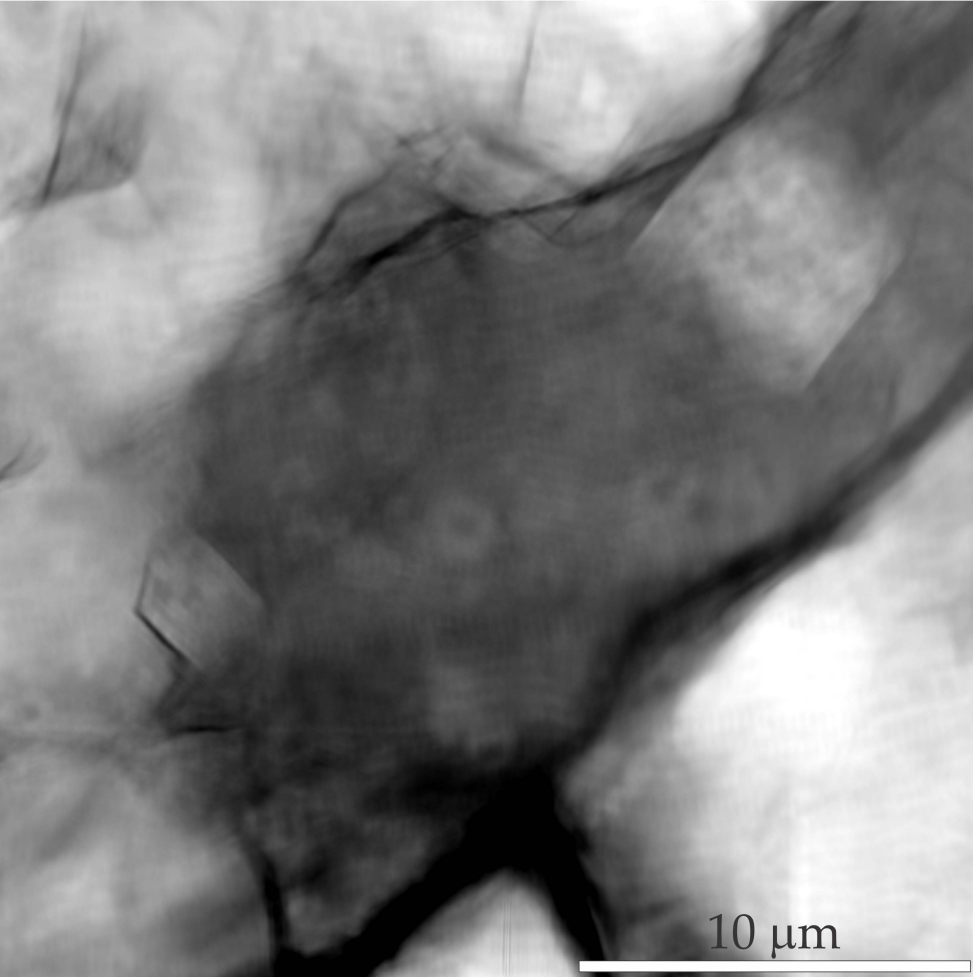
Microstructural, microchemical, and mineralogical data from atom to centimeter scale on thin/thick sections!



X-ray ptychography is great for characterising pores and cracks

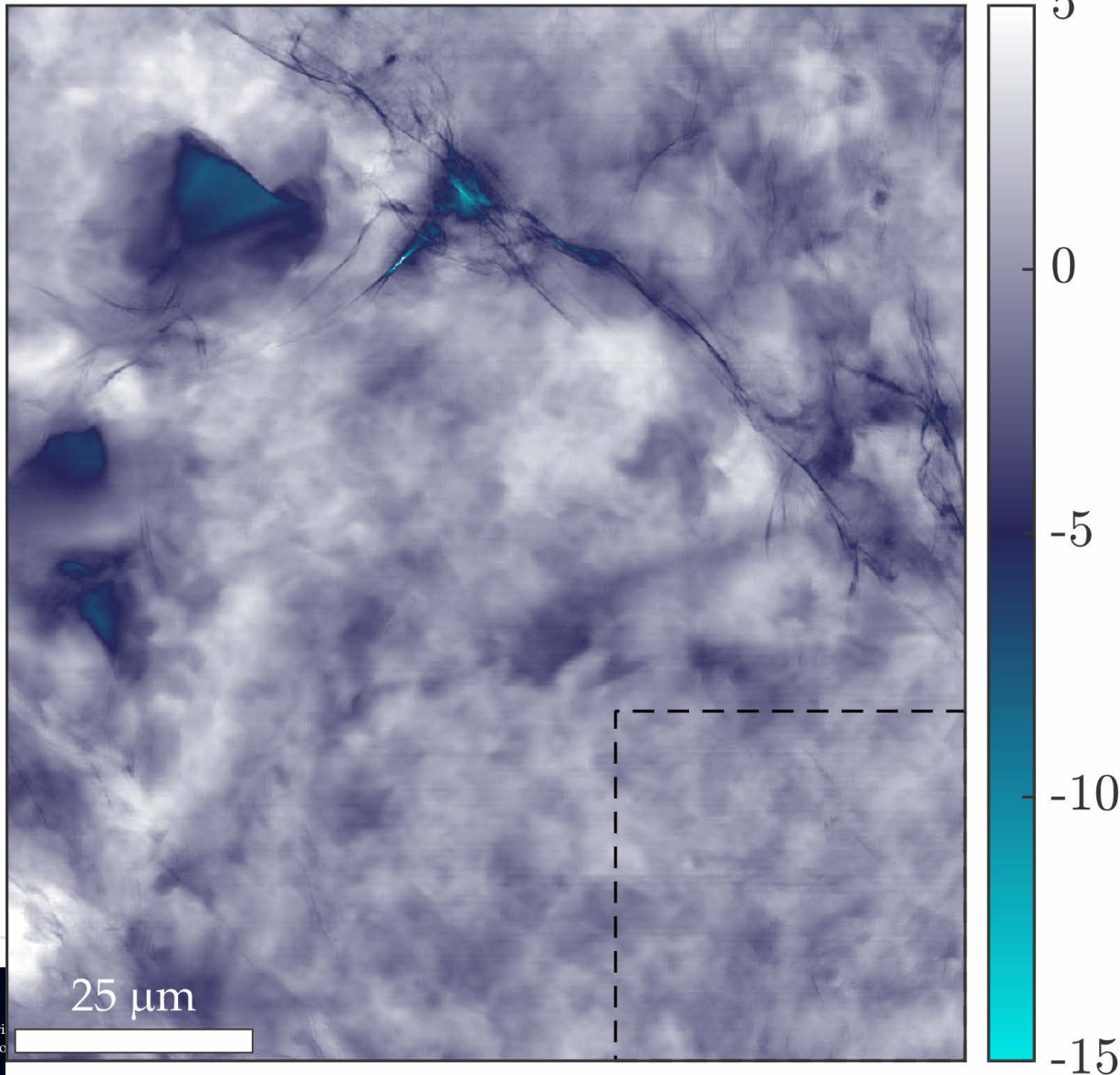


X-ray ptychography is great for characterising buried accessory minerals



X-ray ptychography is great for characterising sample surface roughness

Thickness variation H_p (μm)



SEM image

