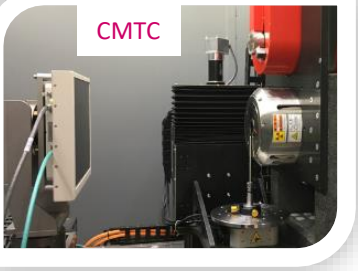
Technical & Scientific Facilities

Neutron and X-ray microtomography

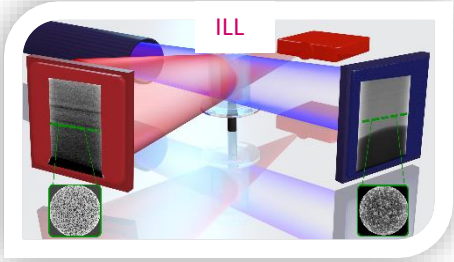
X-ray : plateforme.tomo@3sr-grenoble.fr
Neutron : contact@next-grenoble.fr

Description: *Access to the inner 3D structure of the analysed sampled based on neutron or X-ray interaction with matter*



Acceleration voltage: 40-140 kV
Spot size: <0.4 µm
Pixel size: 0.3 to 100 µm
Scanning time: 4h to < 1 min
Co –funding 35%

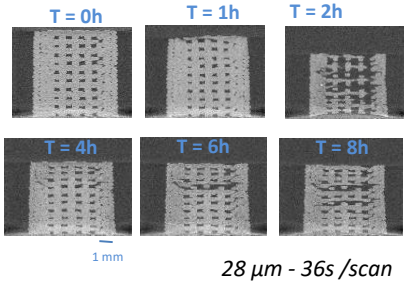
Acceleration voltage: 40-150 kV
Spot size: 5 µm
Pixel size: 7 to 100 µm
Scanning time: 4h to < 1 min
Full funding



Energy: 1-80 meV
Beam « sharpness »: 4 µm
Pixel size: 1 to 100 µm
Scanning time: 8h to < 1 min
Co-initiator

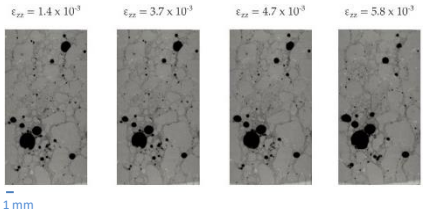
Physical measurement: Following thermo-hydro-hygro-chemo-bio **mechanical** processes

Drying: 3D cellulose printed parts



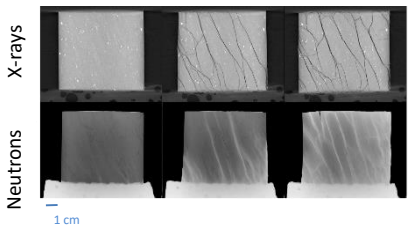
28 µm - 36s /scan

Triaxial compression of concrete



σ_3 = 15 MPa - 15 µm – 2h /scan

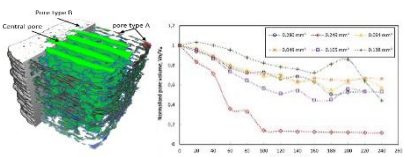
Water absorption into a claystone



70 µm – 5 min /scan

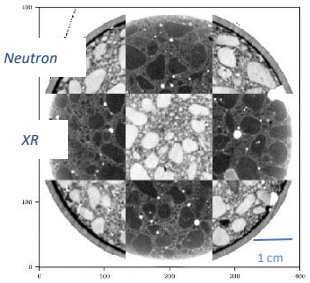
Image processing: Quantifying thermo-hydro-hygro-chemo-bio **mechanical** processes

Microstructural quantification

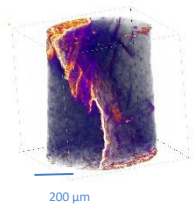


Automatic identification and tracking of pores

Mutimodal image registration*



Deviatoric strain field*



Digital Volume Correlation

**https://pypi.org/project/spam/*

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