

Geowissenschaftliches Kolloquium

Earthquakes...in the laboratory

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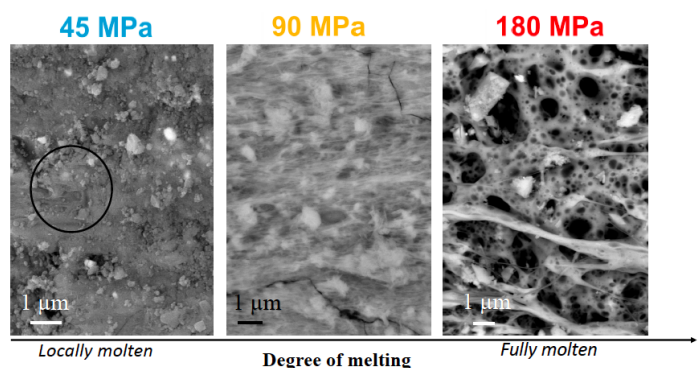
CNRS, École normale supérieure de Paris

Earthquakes are spectacular examples of uncontrollable catastrophes in such way that the opportunity to study them under controlled conditions in the laboratory is unique. We propose a simple idea : to reproduce earthquakes, on real rocks, at *in situ* conditions, in the laboratory. In other words to experimentally constrain the thermodynamic conditions driving dynamic shear crack propagation in rocks, while recording the relevant parameters essential to quantify fully, the energy budget at play during an earthquake. Put together, our studies demonstrate that dynamic rupture propagation is self-similar, and thus, laboratory earthquakes are not mere earthquake analogs, but real - yet tiny - earthquakes.



Prof. Alexandre Schubnel is a senior researcher at the CNRS/ Laboratoire de Geologie de l'École Normale Supérieure and his research interests centre around experimental fracture mechanics. Specific research areas include: shallow and deep earthquake mechanics, high velocity friction, brittle/ductile transition, strain localization and transformation induced faulting.

Microstructural evidences of melting



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