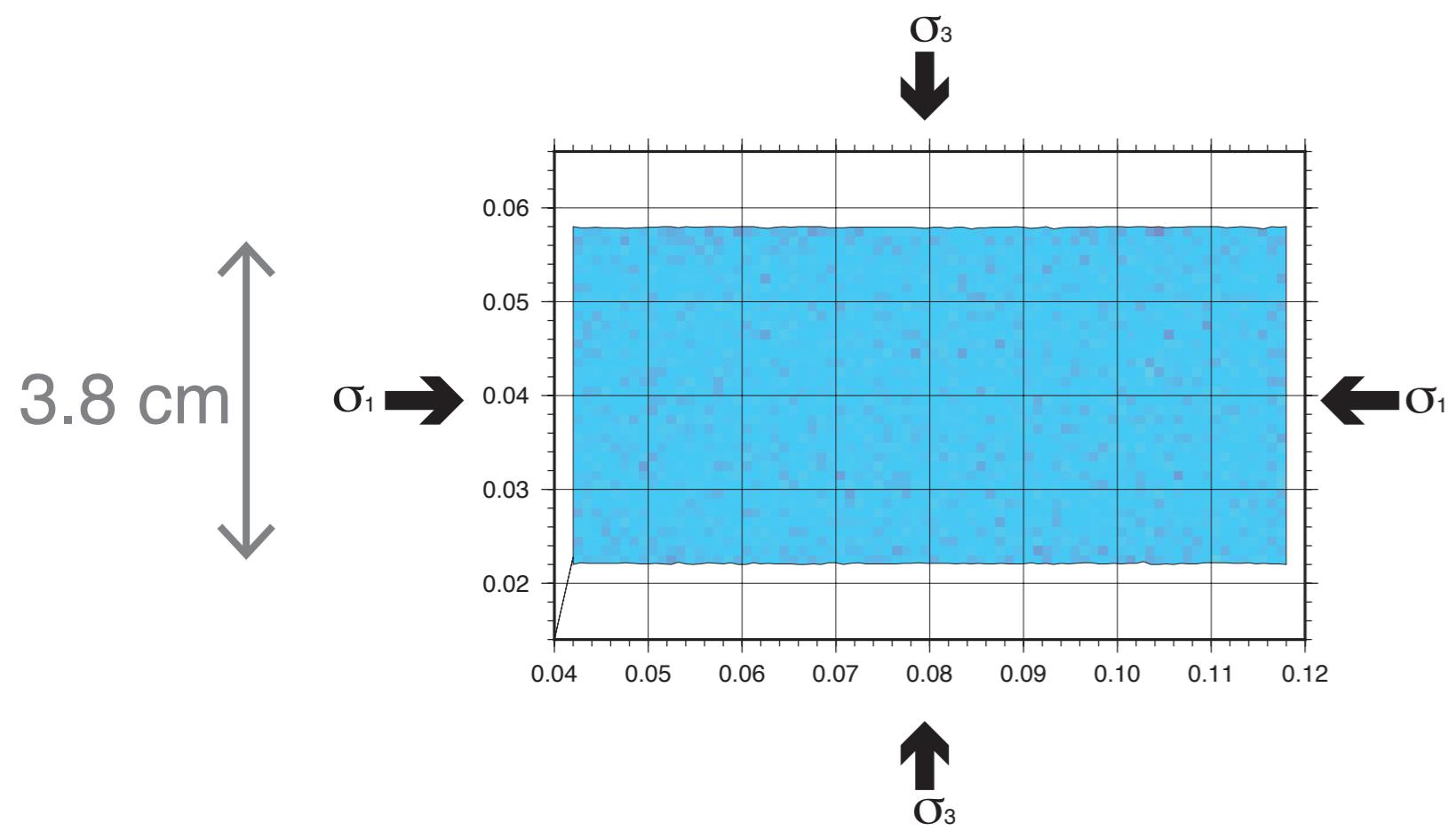


7.75 cm

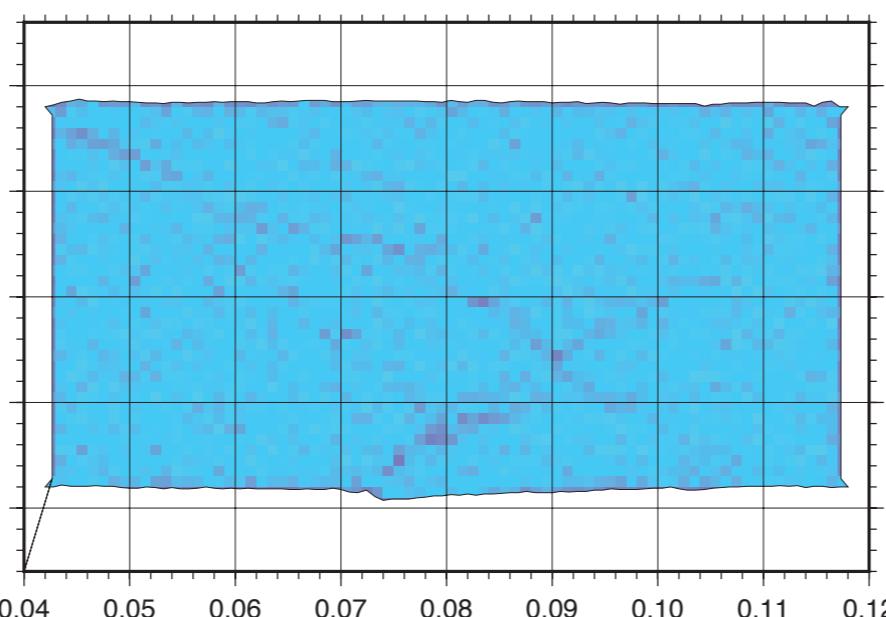
Confining Pressure = 15 MPa

a. Berea Sandstone

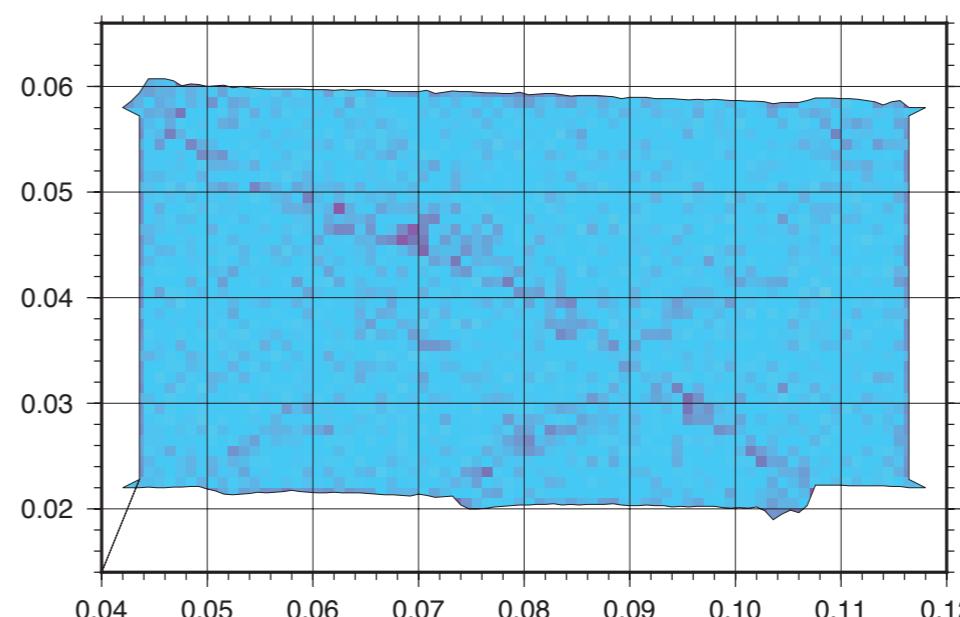
Strain:0.0206



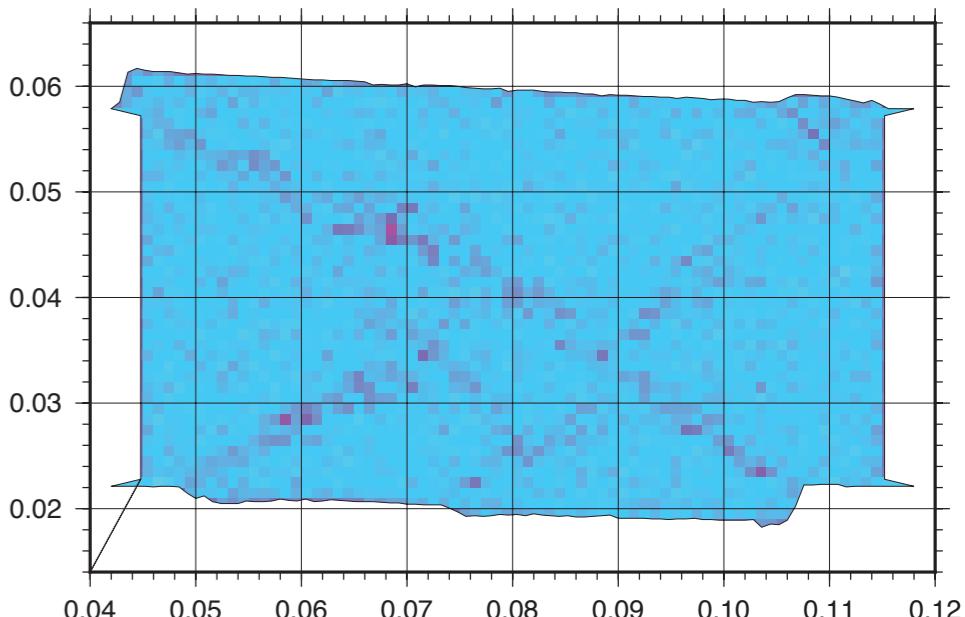
Strain:0.0371



Strain:0.0618

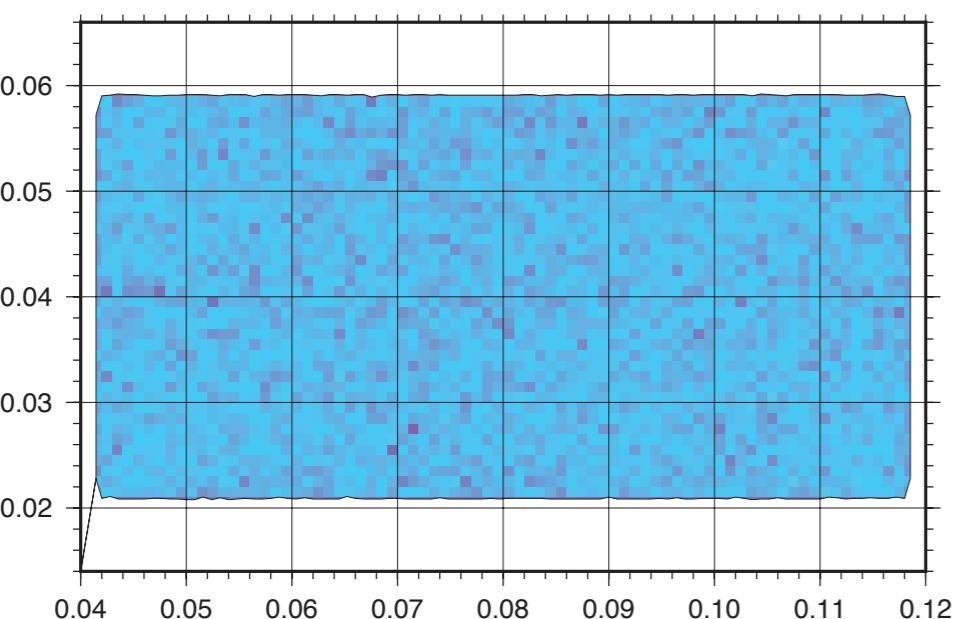


Strain:0.0927

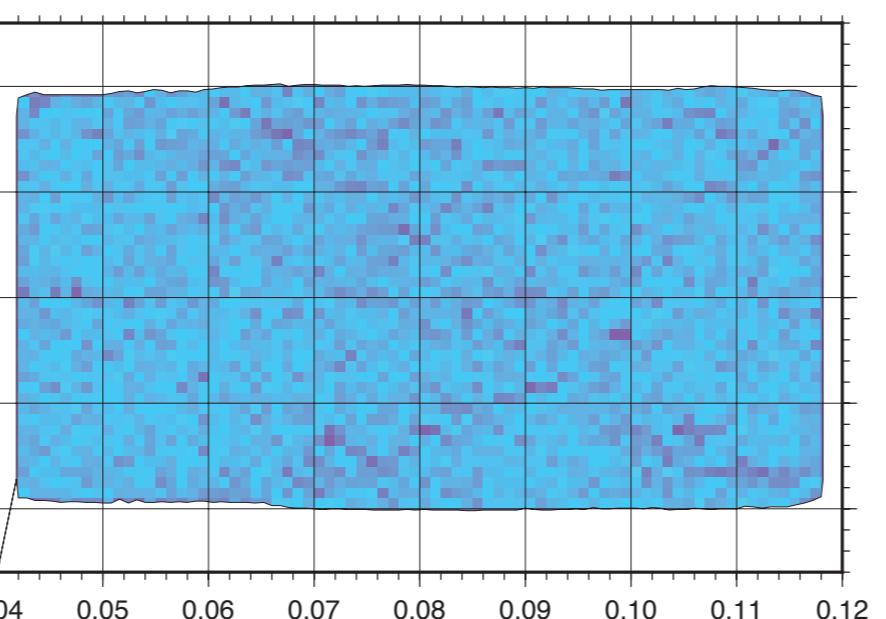


b. Lac du Bonnet Granite

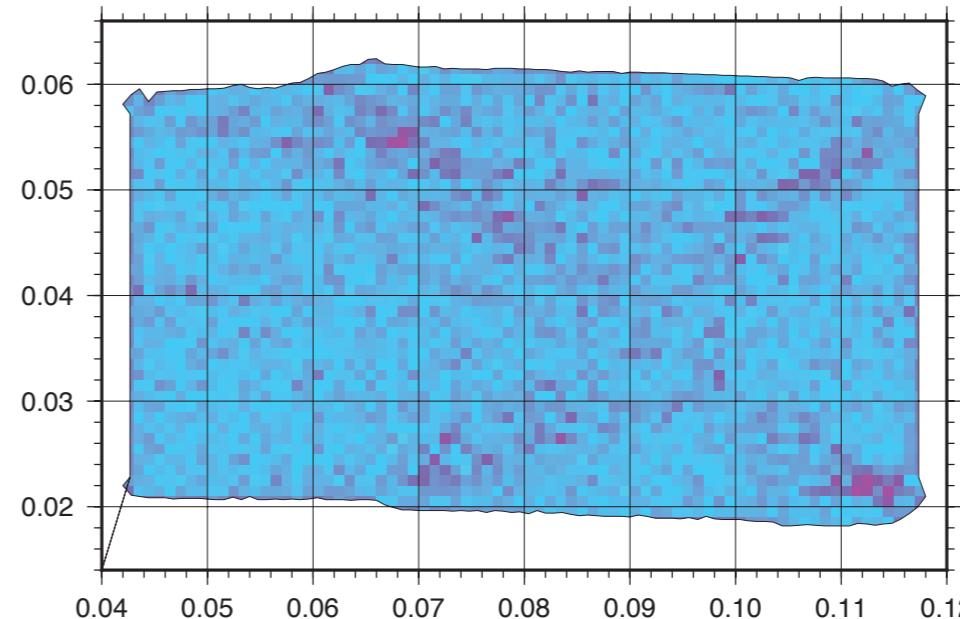
Strain:0.0061



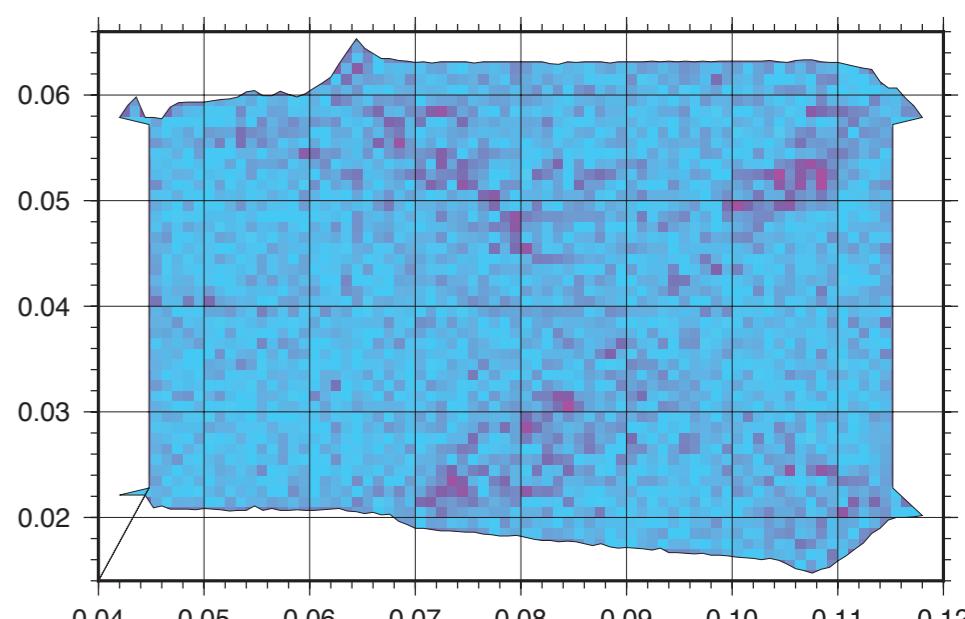
Strain:0.0144

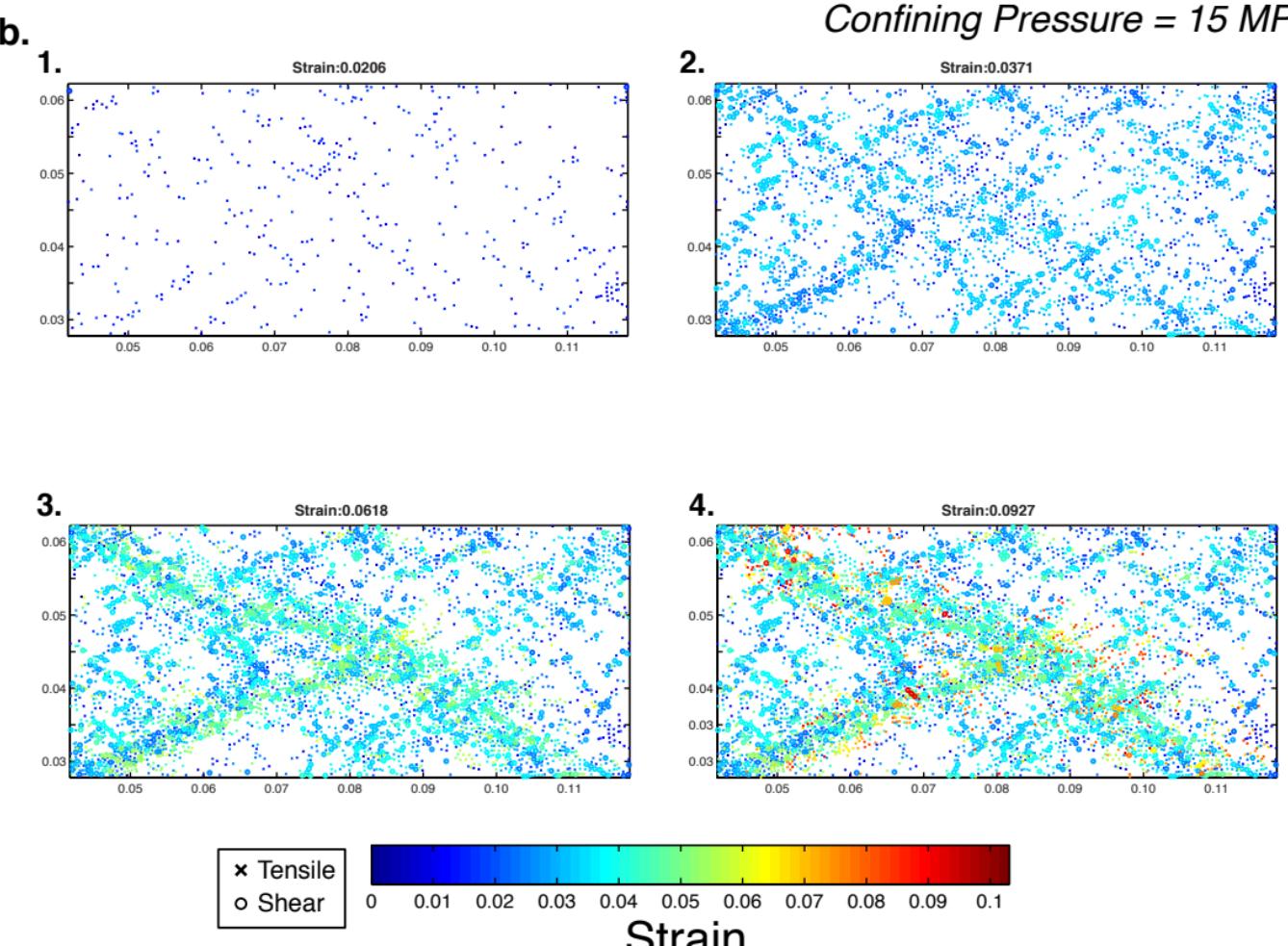
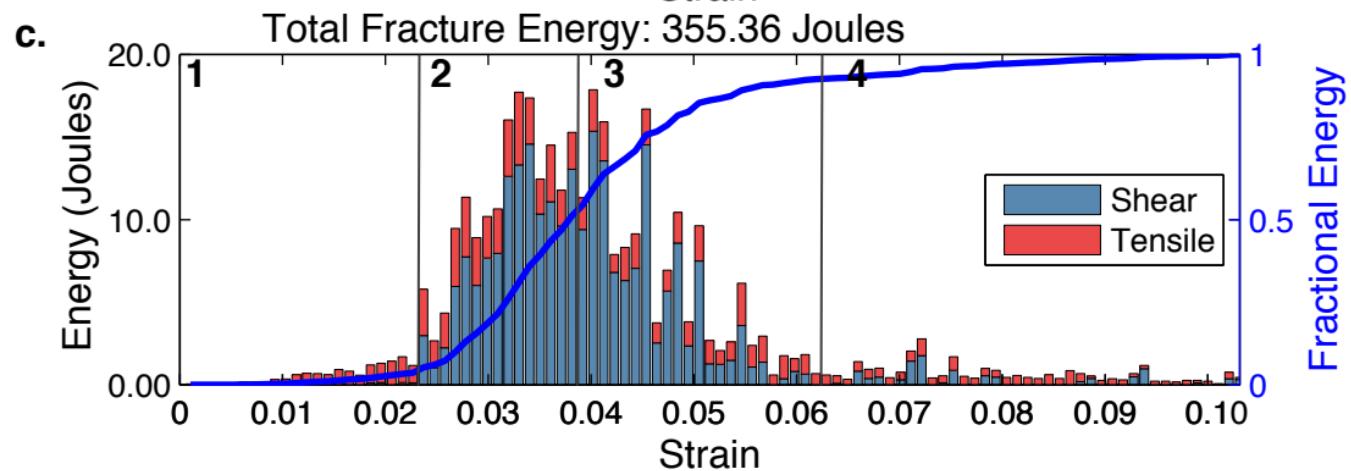
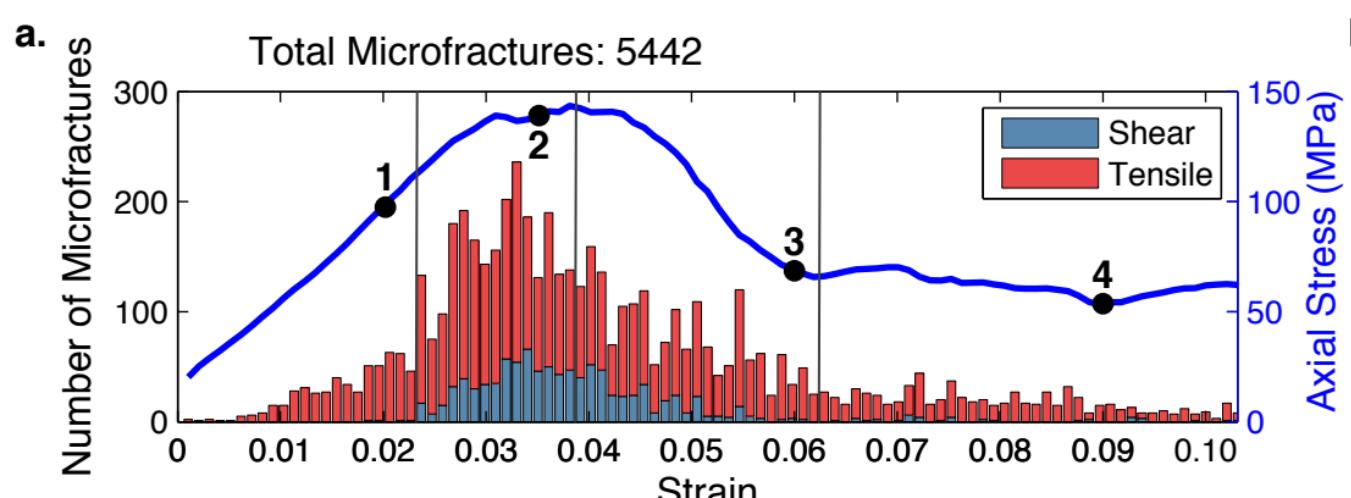


Strain:0.0371

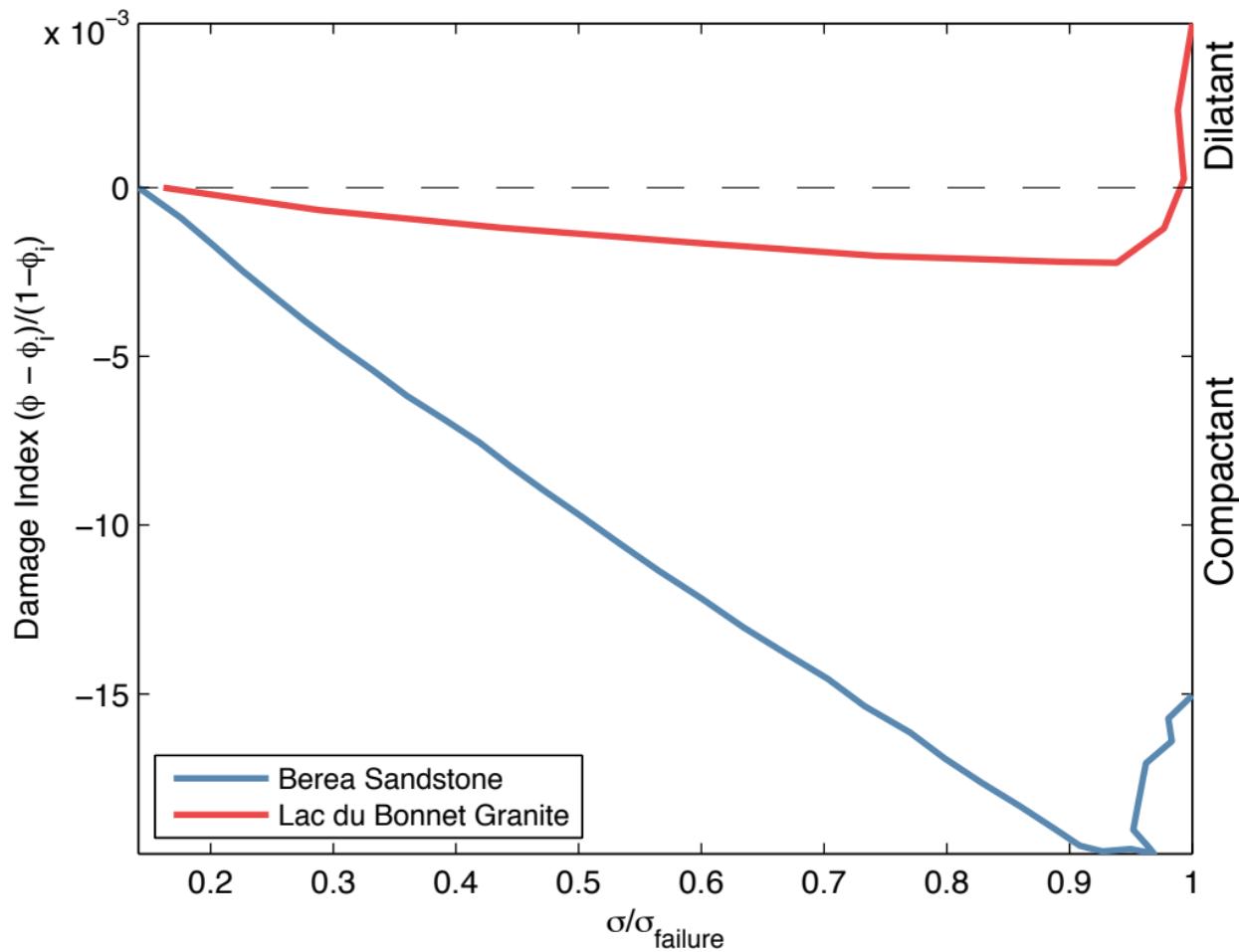


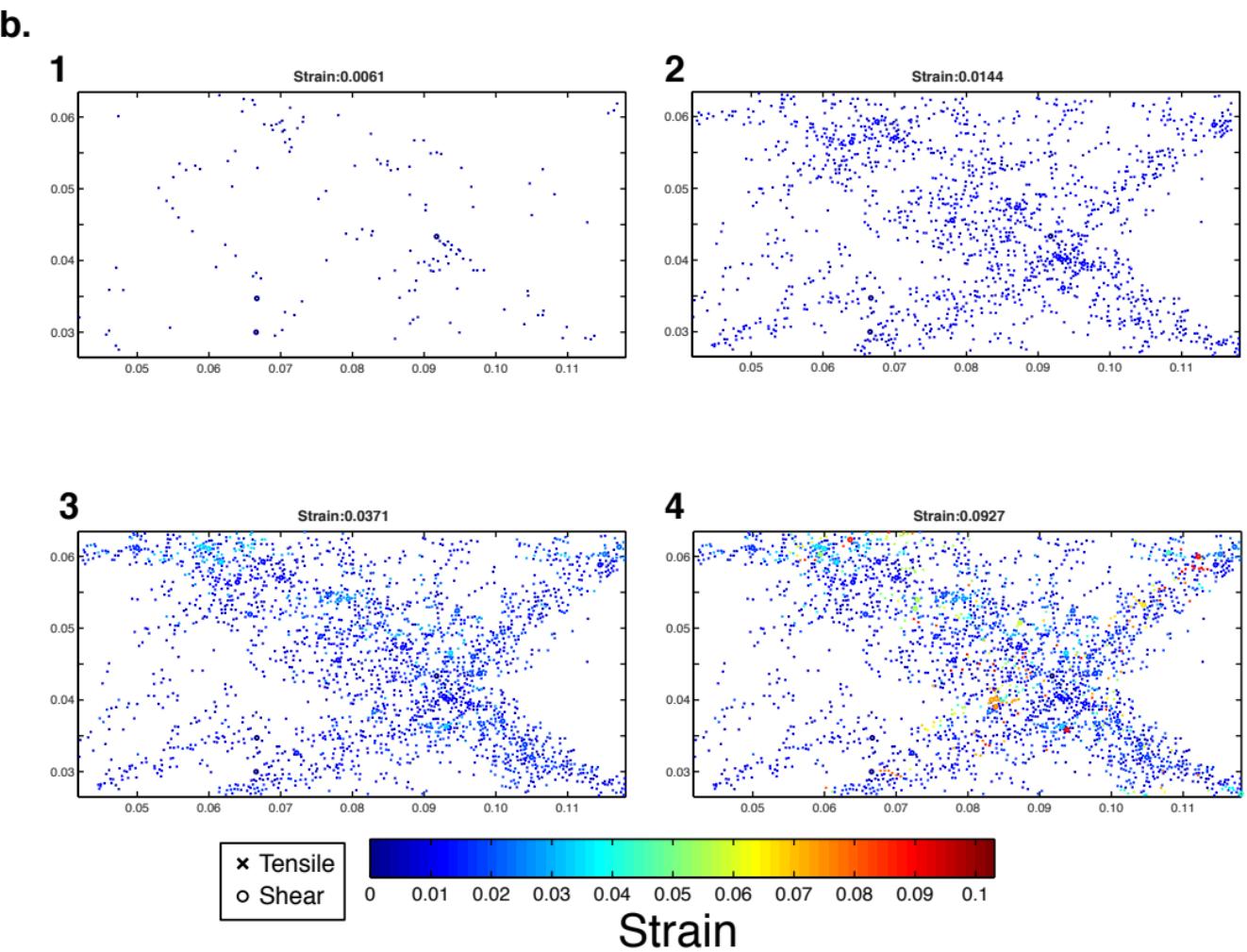
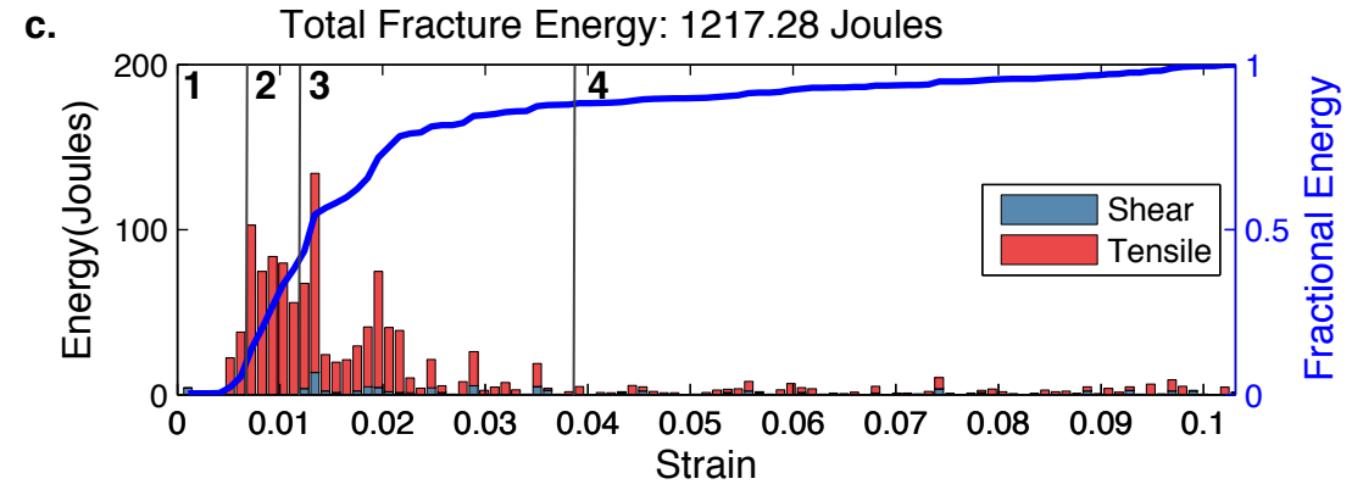
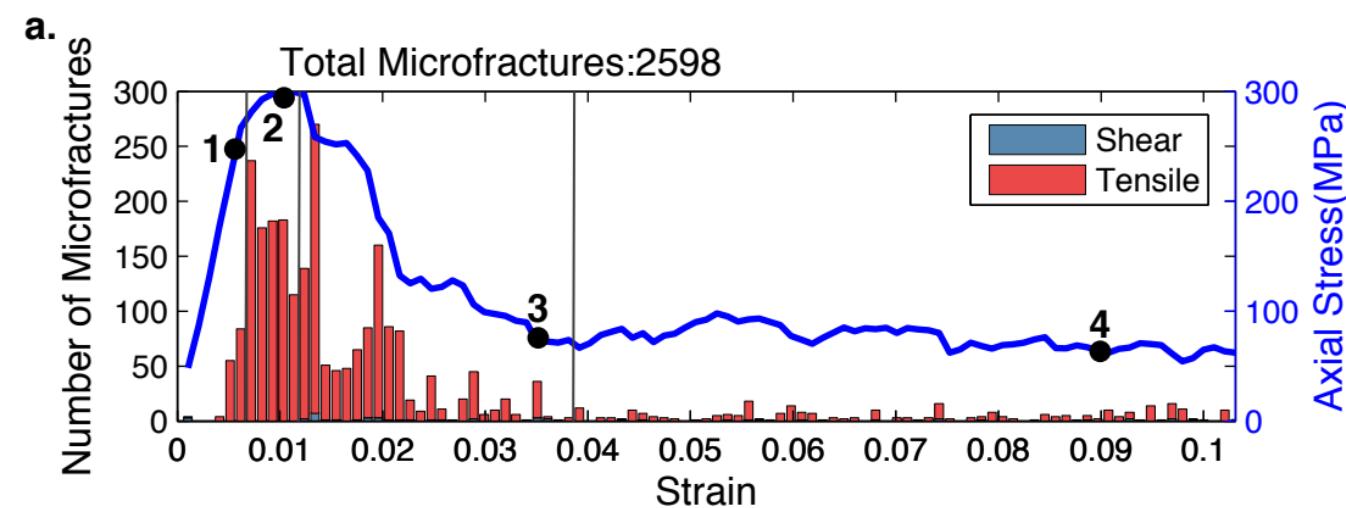
Strain:0.0927

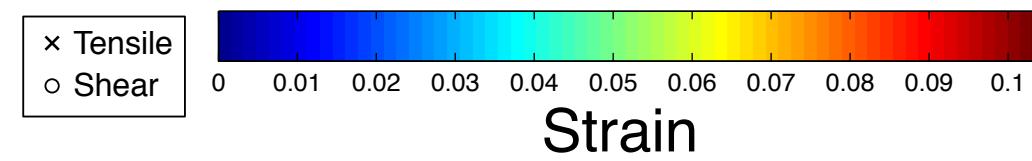
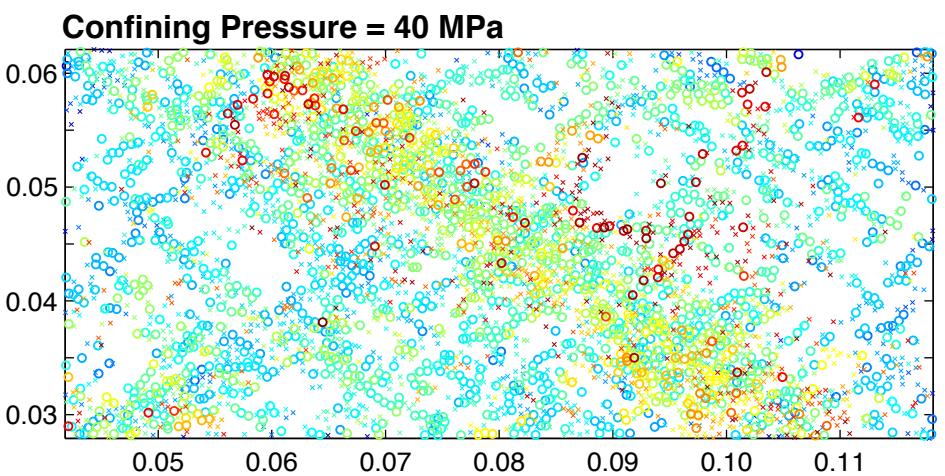
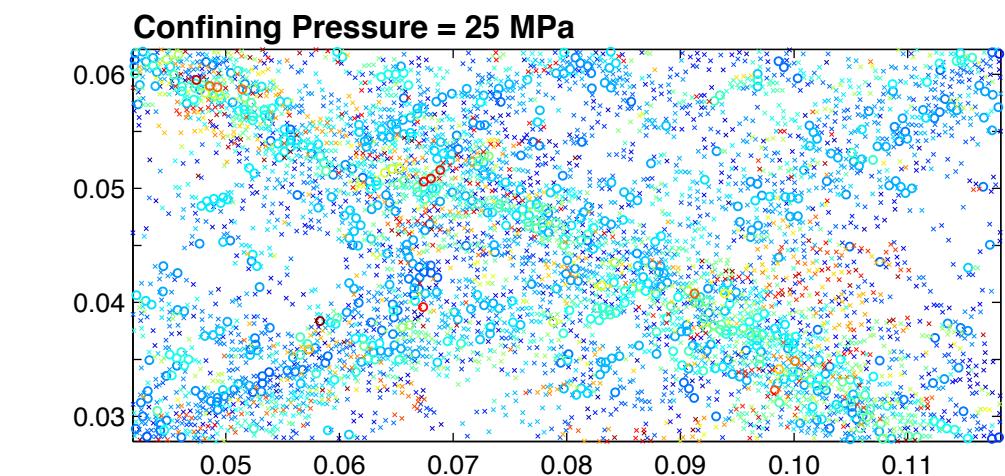
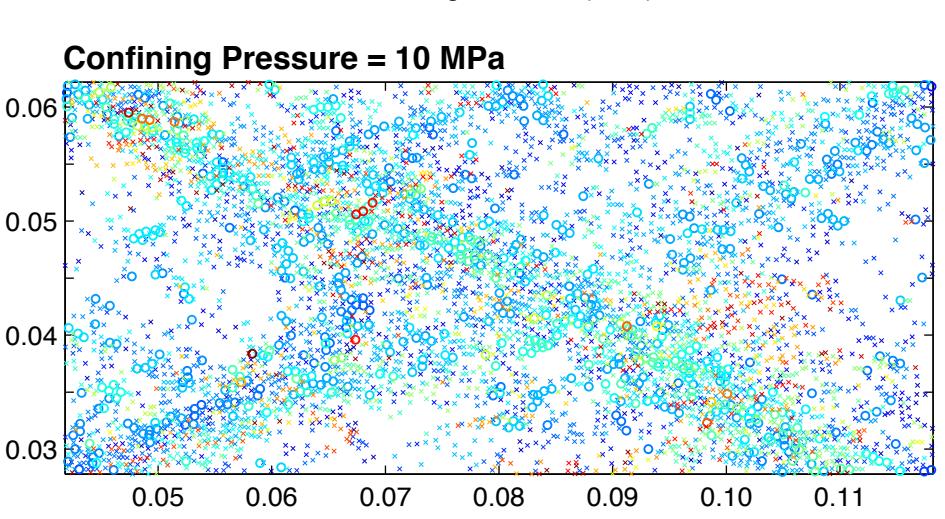
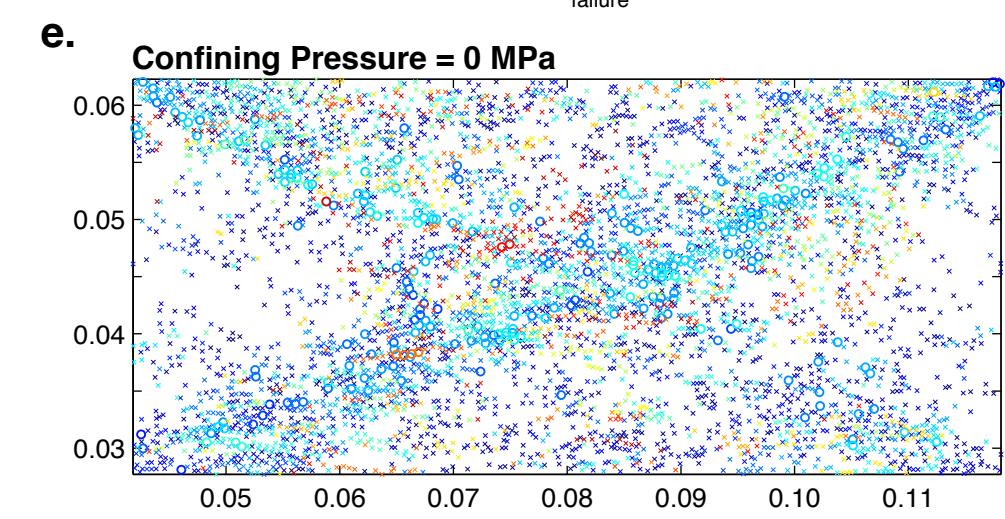
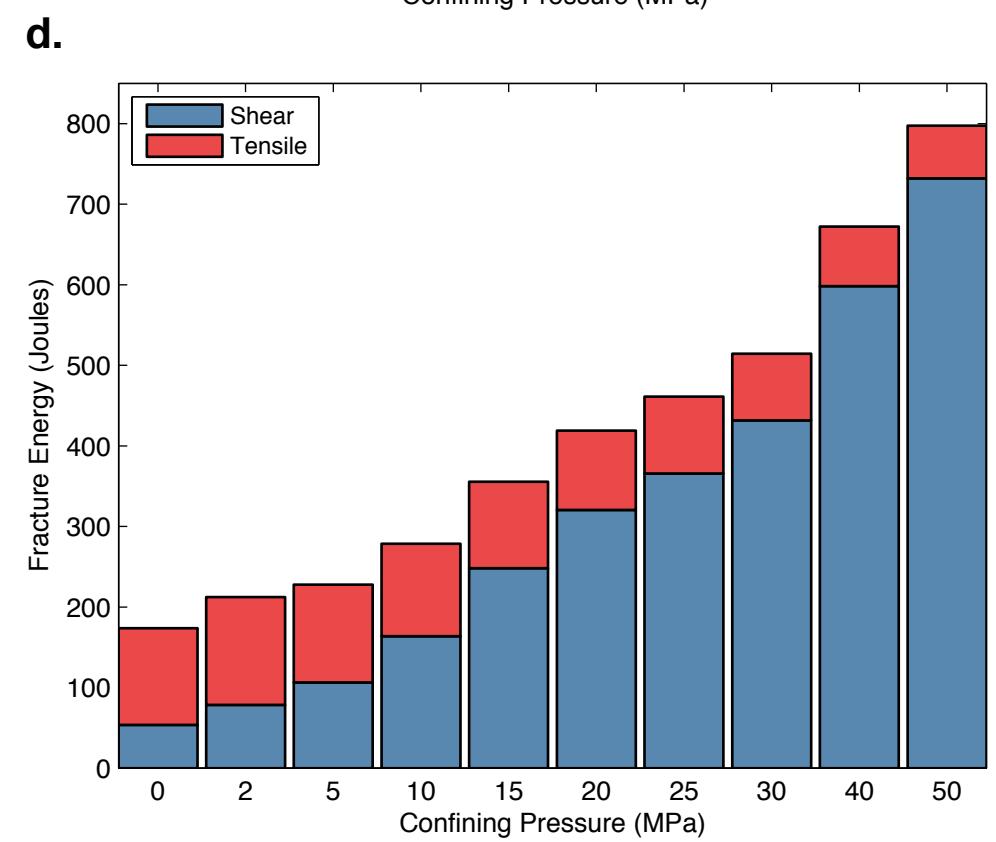
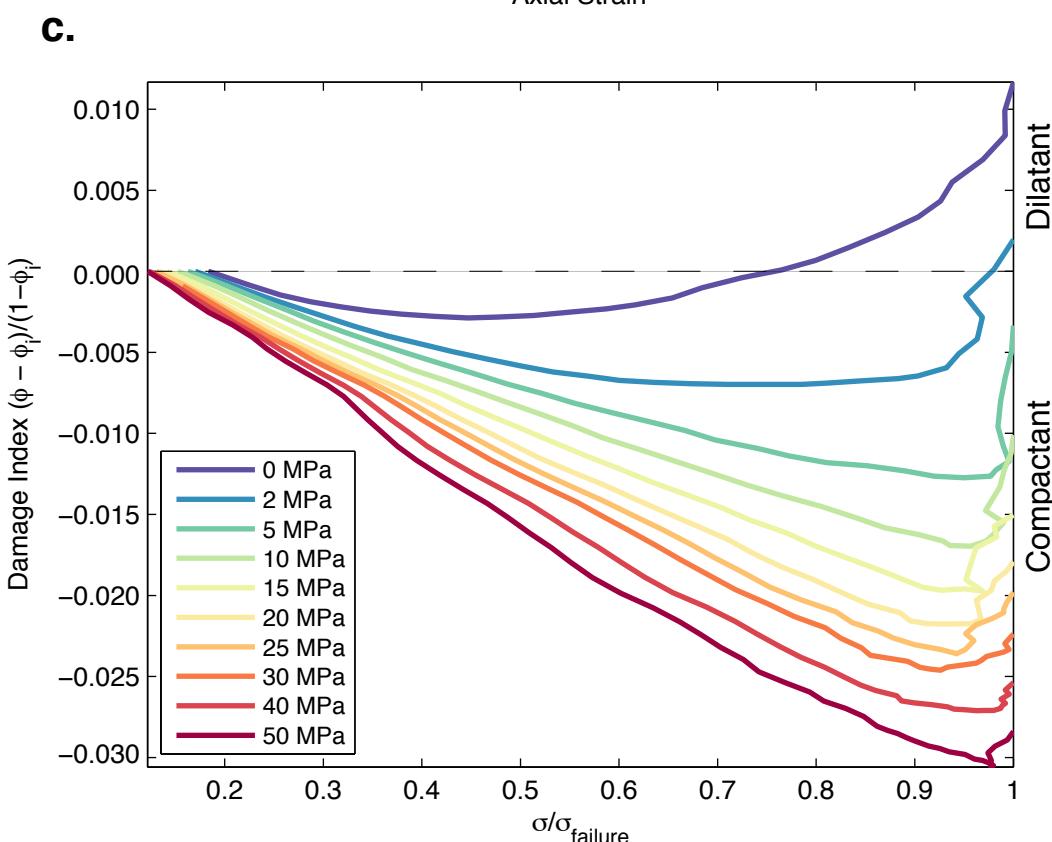
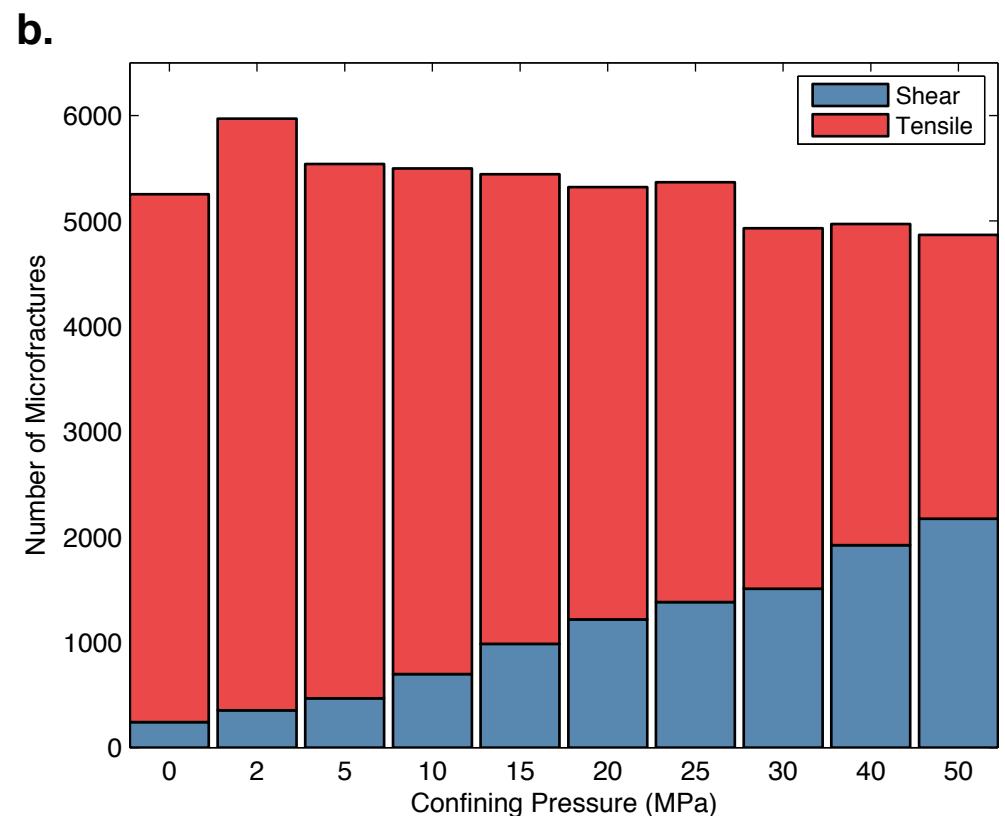
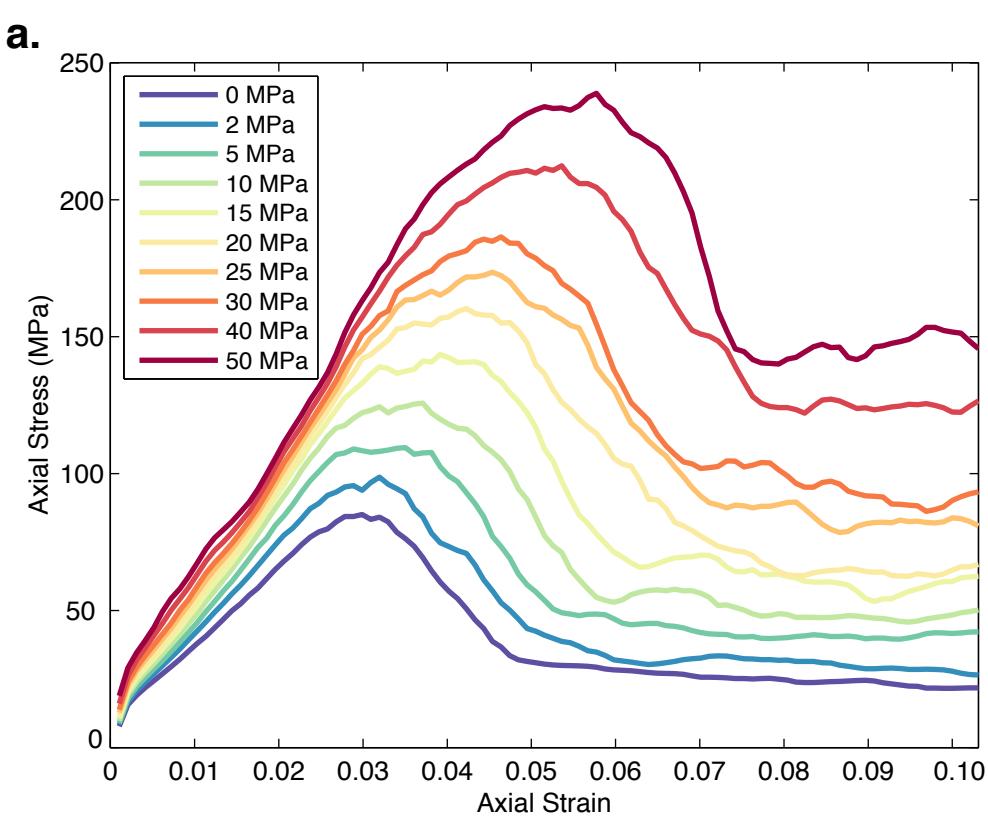


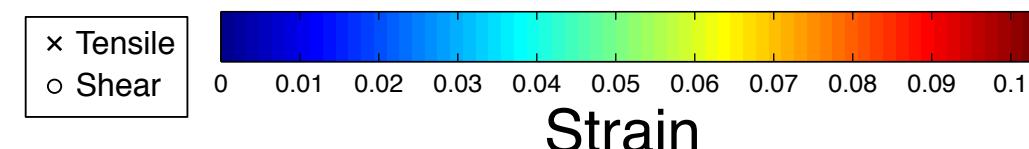
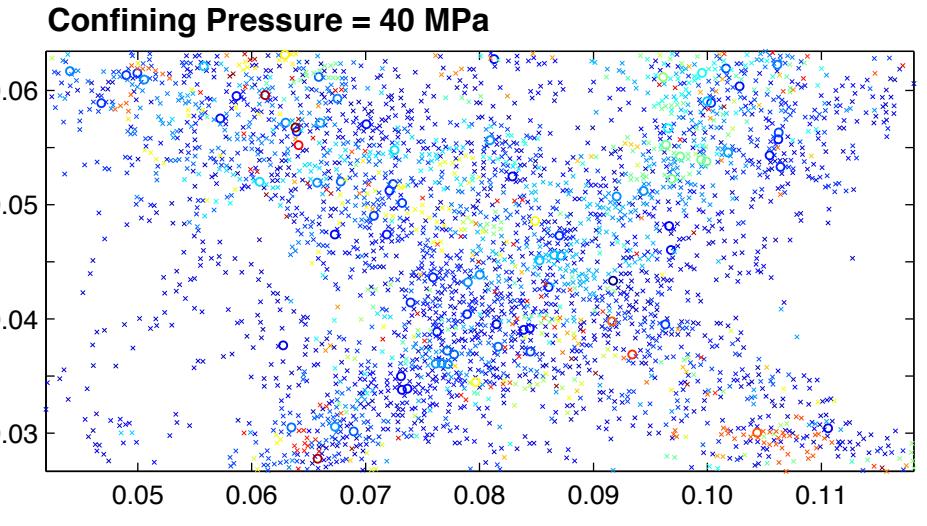
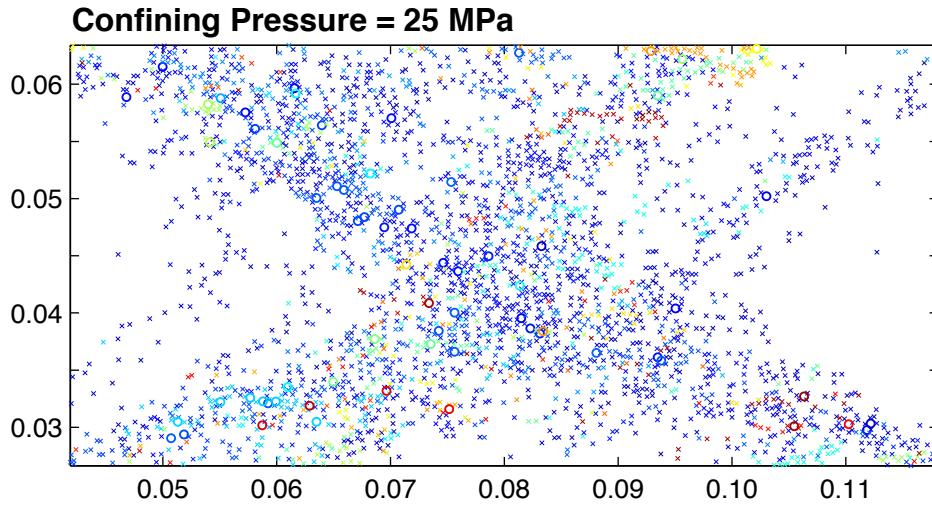
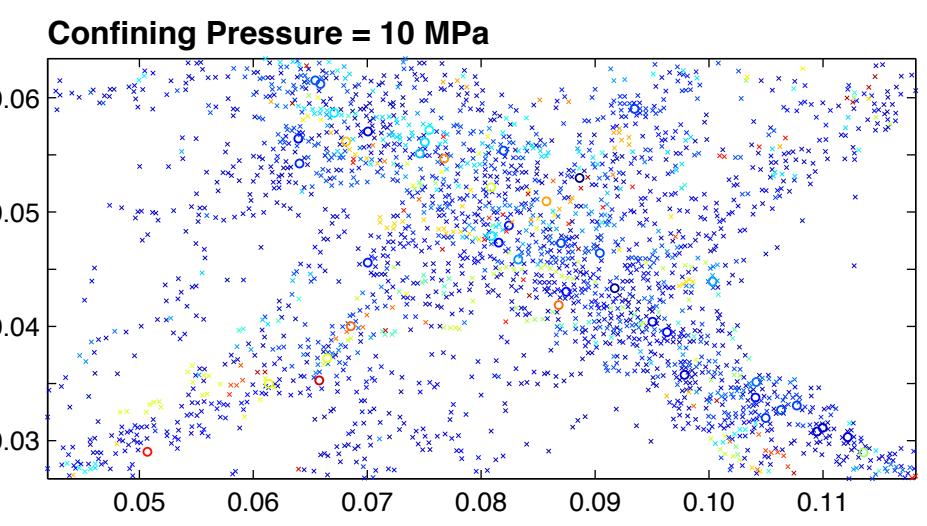
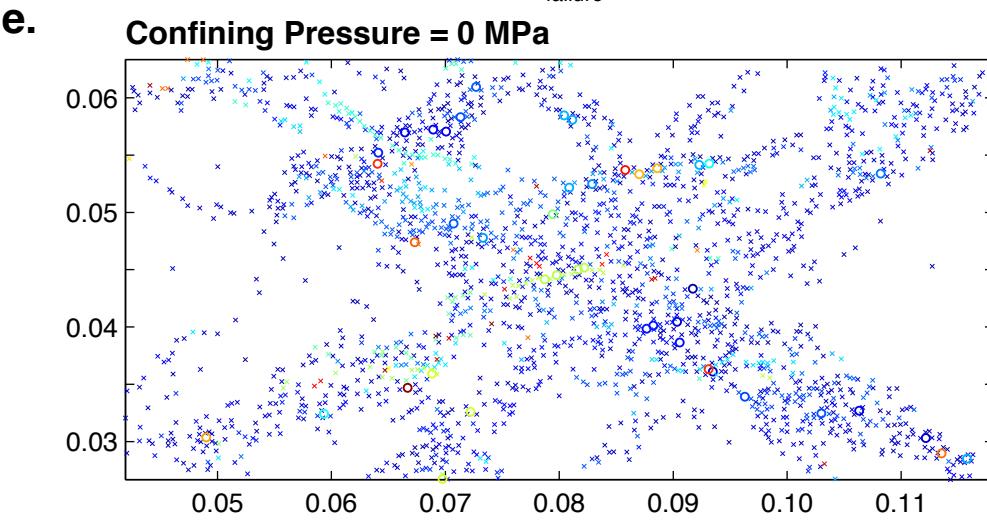
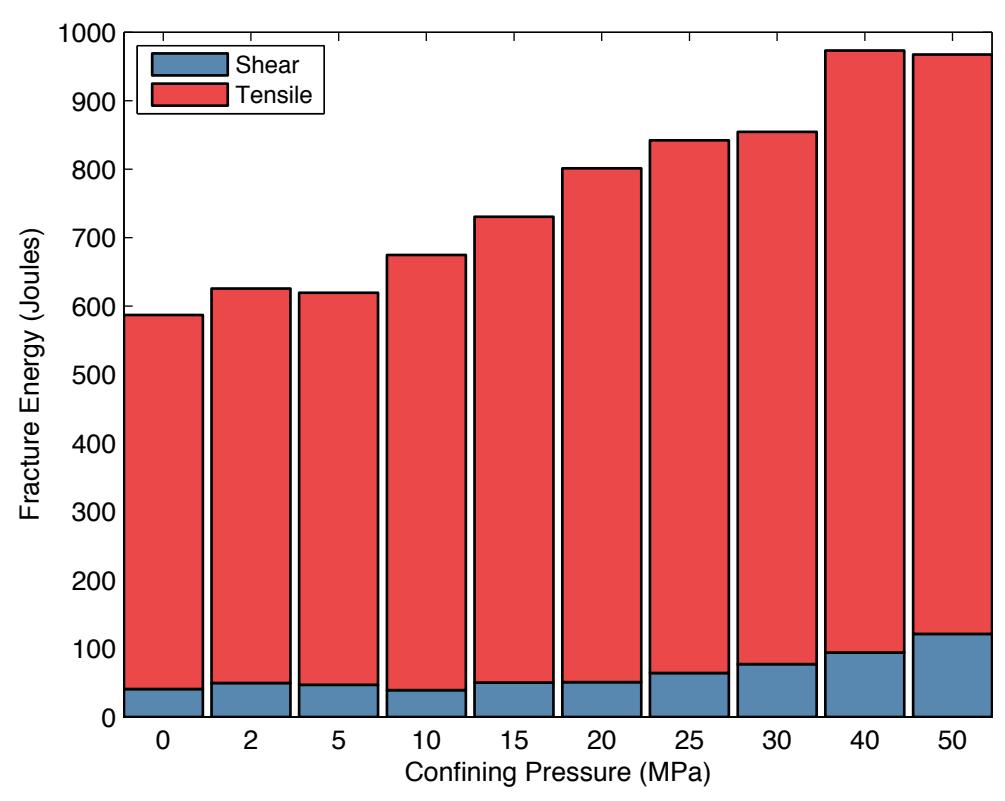
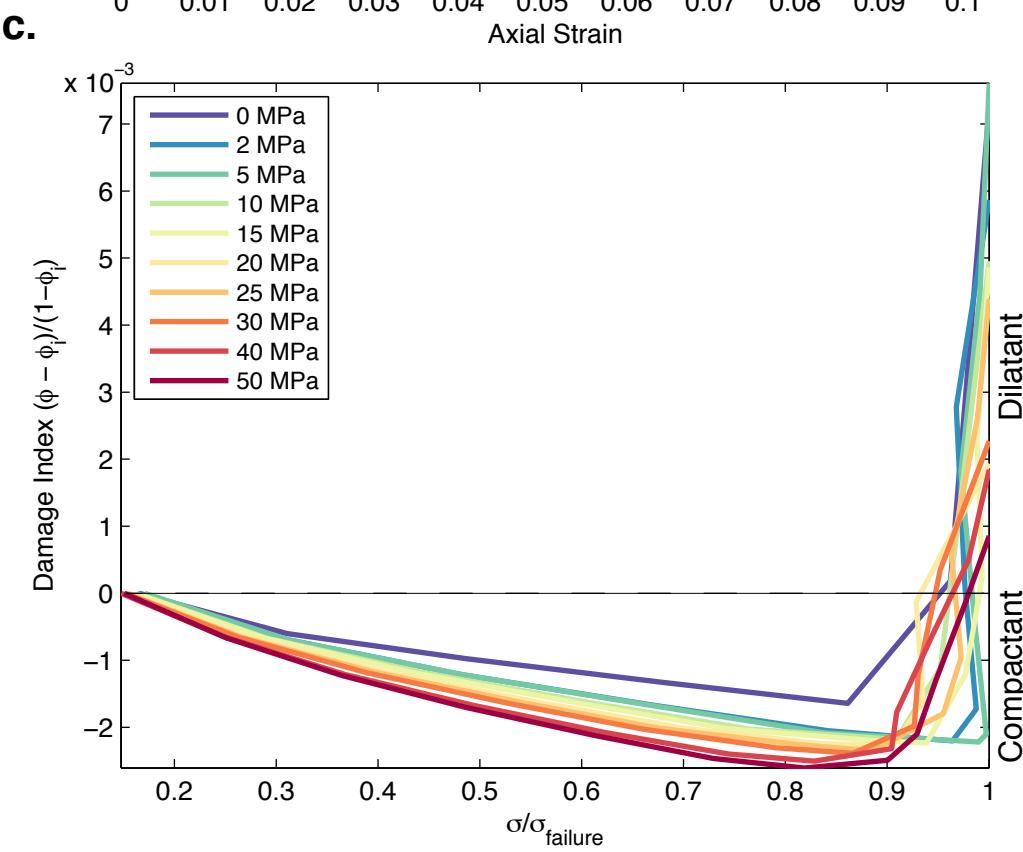
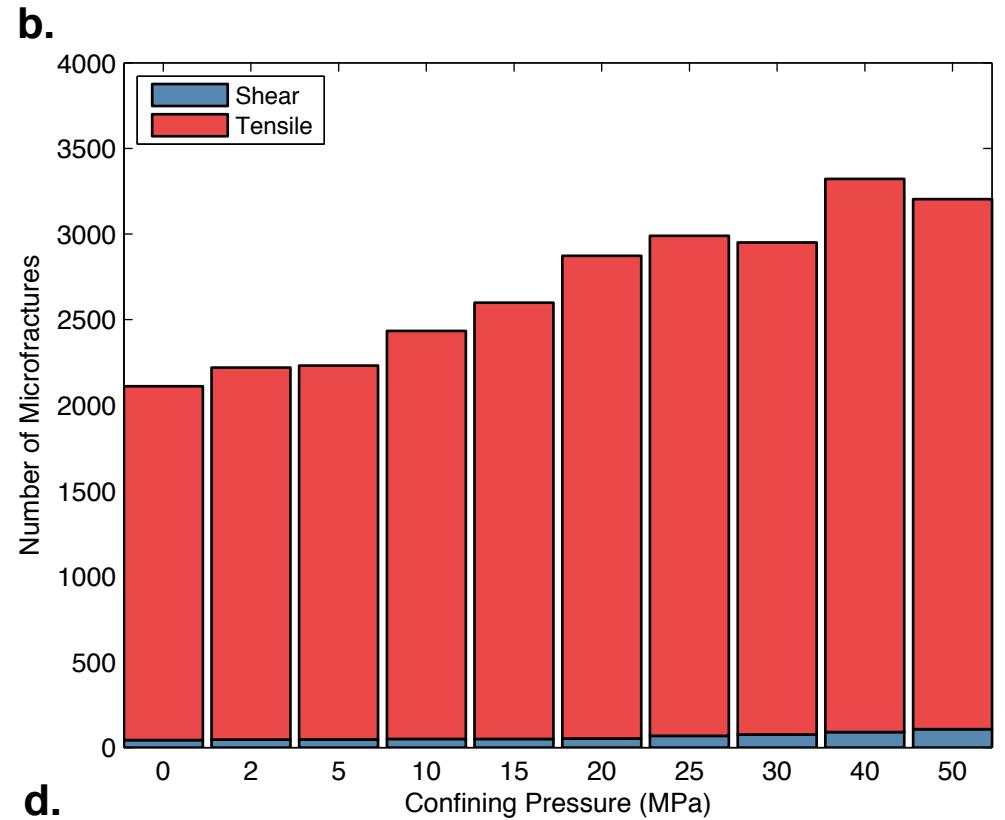
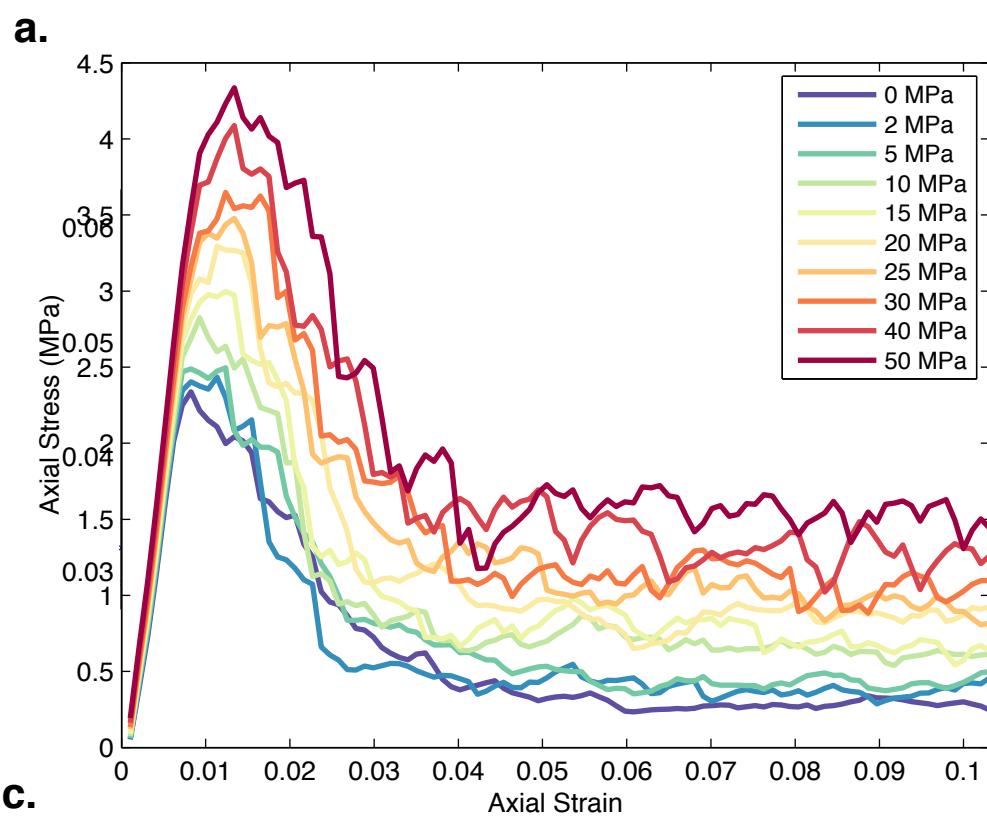


Confining Pressure = 15 MPa









— Tensile
● Shear

Stage 1: Initialization

Stage 2: Nucleation

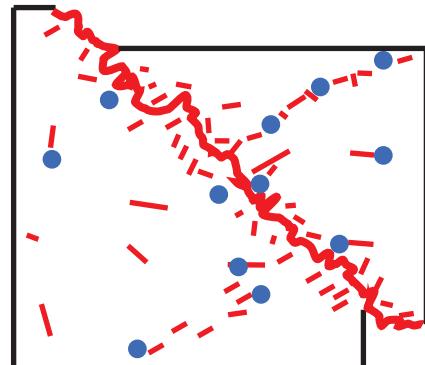
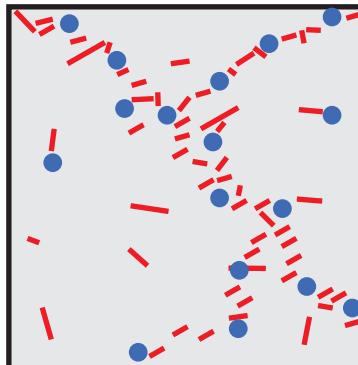
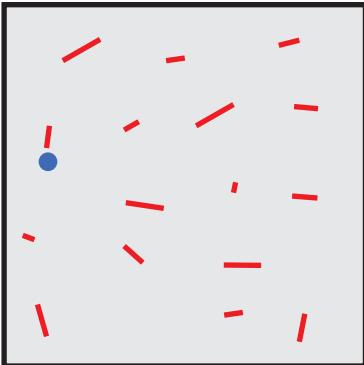
Stage 3: Rupture

a.

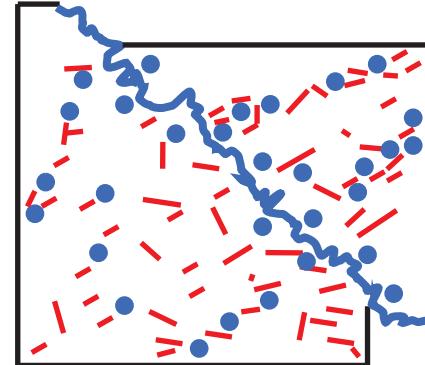
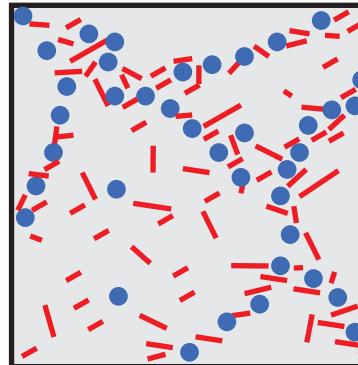
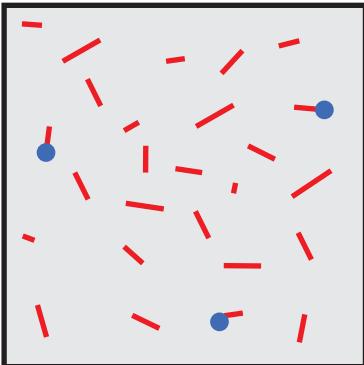
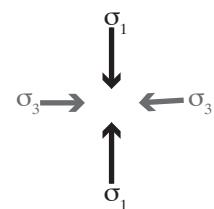
Berea Sandstone

Low Confining Pressure

Transition to shear micro-mechanics with increasing Confining Pressure



High Confining Pressure



Localization of compactant and dilatant damage

Damage Index > 0
Dilatant Fracture Zone

Localization of compactant and dilatant damage

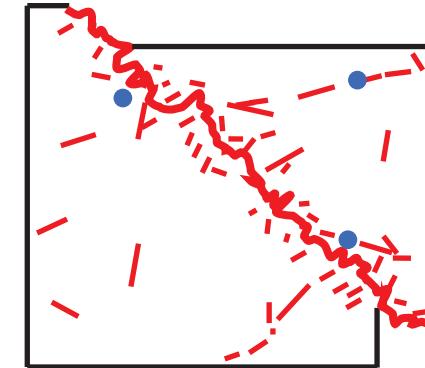
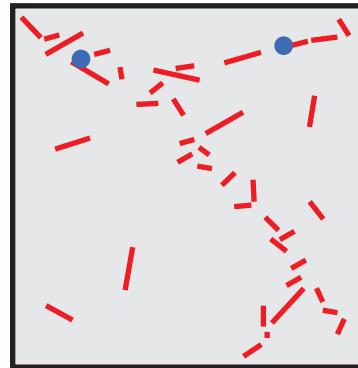
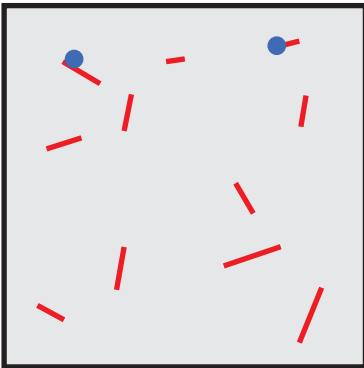
Damage Index < 0
Compactant Fracture Zone

b.

Lac du Bonnet Granite

Low Confining Pressure

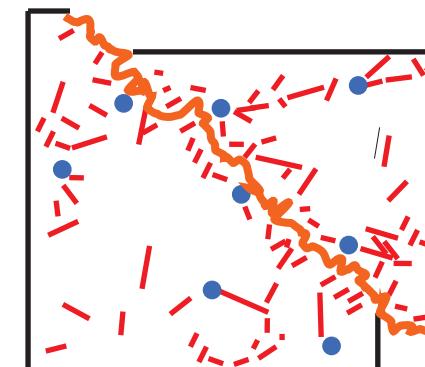
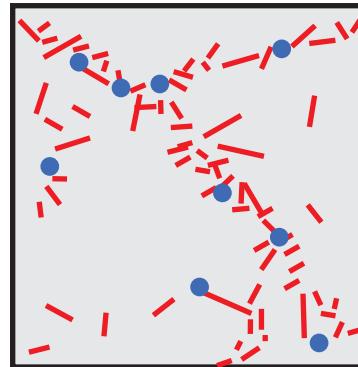
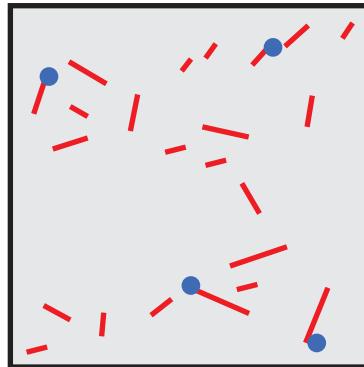
Increase in tensile microracking with increasing Confining Pressure



Localization of dilatant damage

Damage Index > 0
Dilatant Fracture Zone

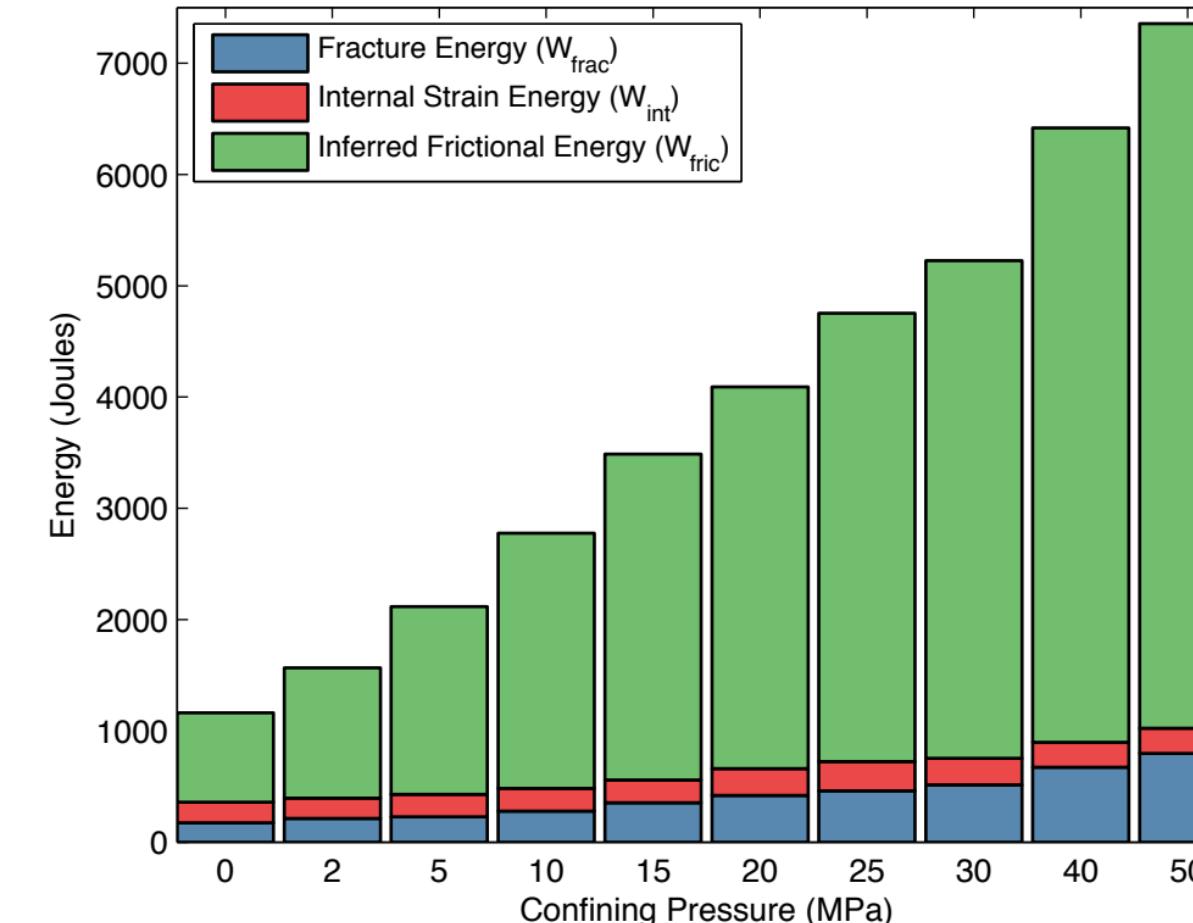
High Confining Pressure



Localization of dilatant damage

Damage Index > 0, but declining
Dilatant Fracture Zone

a. Berea Sandstone



b. Lac du Bonnet Granite

