

Movie 1: Expansion and collapse of the nanobubbles at the fracture position for distance $d = 30 \mu\text{m}$. The upper part corresponds to the fluid, showing the fraction of air; the bottom part is the solid, showing the radial stress component σ_{xx} .

Movie 2: Expansion and collapse of the nanobubbles at the fracture position for distance $d = 40 \mu\text{m}$. The upper part corresponds to the fluid, showing the fraction of air; the bottom part is the solid, showing the radial stress component σ_{xx} .

Movie 3: Expansion and collapse of the nanobubbles at the fracture position for distance $d = 50 \mu\text{m}$. The upper part corresponds to the fluid, showing the fraction of air; the bottom part is the solid, showing the radial stress component σ_{xx} .

Movie 4: Expansion and collapse of the nanobubbles at the fracture position for distance $d = 75 \mu\text{m}$. The upper part corresponds to the fluid, showing the fraction of air and the pressure; the bottom part is the solid, showing the radial stress component σ_{xx} .

Movie 5: Expansion and collapse of the nanobubbles at the fracture position for distance $d = 125 \mu\text{m}$. The upper part corresponds to the fluid, showing the fraction of air and the pressure; the bottom part is the solid, showing the radial stress component σ_{xx} .

Movie 6: Expansion and collapse of the nanobubbles at the fracture position for distance $d = 175 \mu\text{m}$. The upper part corresponds to the fluid, showing the fraction of air and the pressure; the bottom part is the solid, showing the radial stress component σ_{xx} .

Movie 7: Expansion and collapse of the nanobubbles at the fracture position for distance $d = 235 \mu\text{m}$. The upper part corresponds to the fluid, showing the fraction of air and the pressure;; the bottom part is the solid, showing the radial stress component σ_{xx} .