

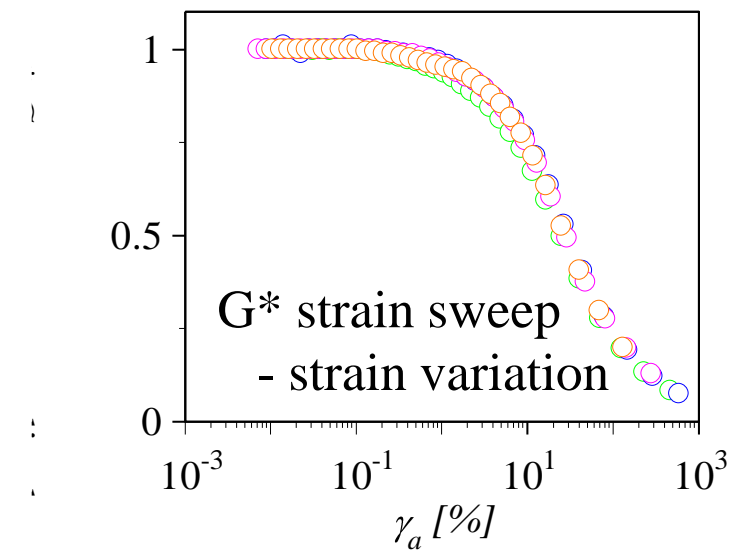
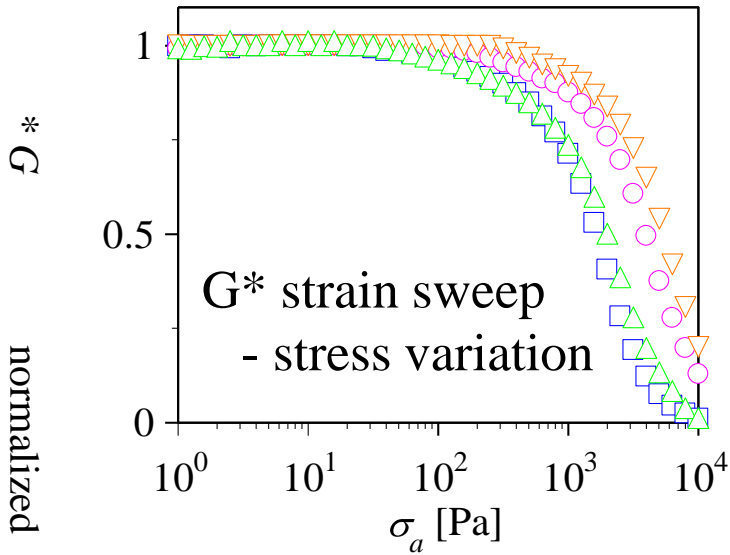


# Yield Strain Instead of Yield Stress



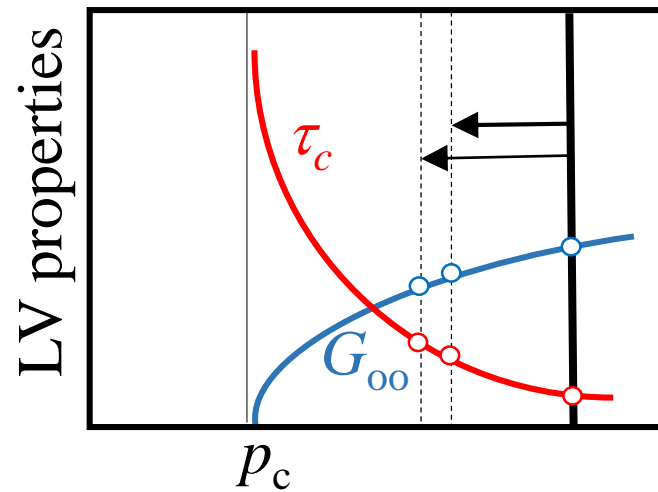
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It was found that yielding of soft solids occurs when exceeding a critical strain at whatever stress is required to exceed that strain. A single “yield strain” value brings shearing data together while “yield stress” values vary over a wide range. **There is no single “yield stress”**.

A clay/polybutadiene nanocomposite serves as model soft solid, which is a physical gel. Yielding induces reverse gelation:



The internal connectivity  $p$  reduces and causes the characteristic **material times to increase and the characteristic modulus to decrease**.