

Class 03 Highlights
Continuum Mechanics
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On Monday we discussed stress, strain, elastic, and viscous responses. We talked about creep tests and relaxation tests that can allow for measurement of stress or strain relative to each other by either applying stress and measuring strain (such as the creep test) or vice versa (relaxation test).

We also talked about the viscoelastic model and discussed the maxwell and kelvin solids. The key aspects that we focused on were series or parallel combinations of viscous and elastic behaviors and how we might see different responses of stress and strain if they are in series or parallel.

For example, the maxwell solid (which is in series) we determined that as stress is applied, there will be an instantaneous increase in strain accommodated by the spring, followed by a linear increase in strain from the dashpot, and as stress is removed the strain from the spring is removed but there is still permanent strain from the dashpot.