Progress Report

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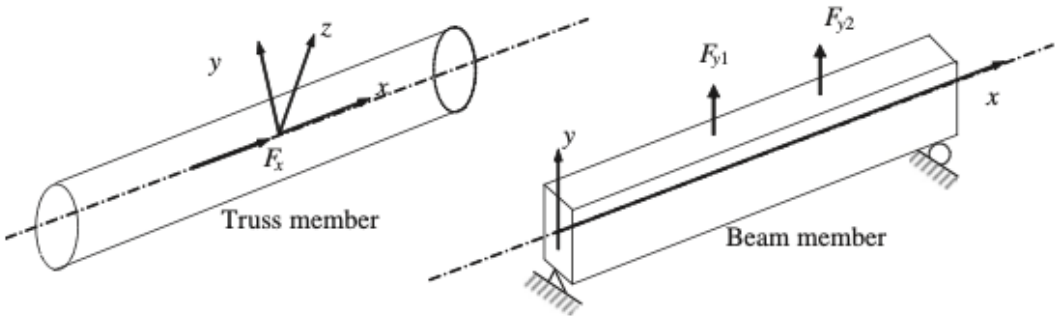
What to Solve

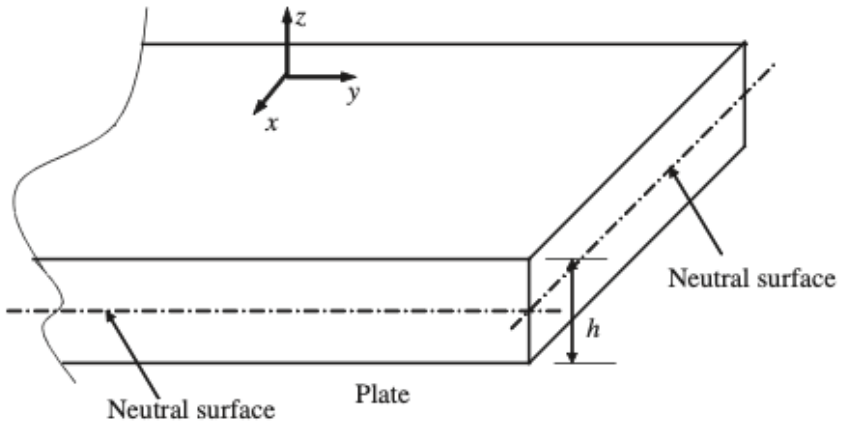
We seek to solve dynamic equilibrium equations. The formulation from Liu and Quek assumes among other things:

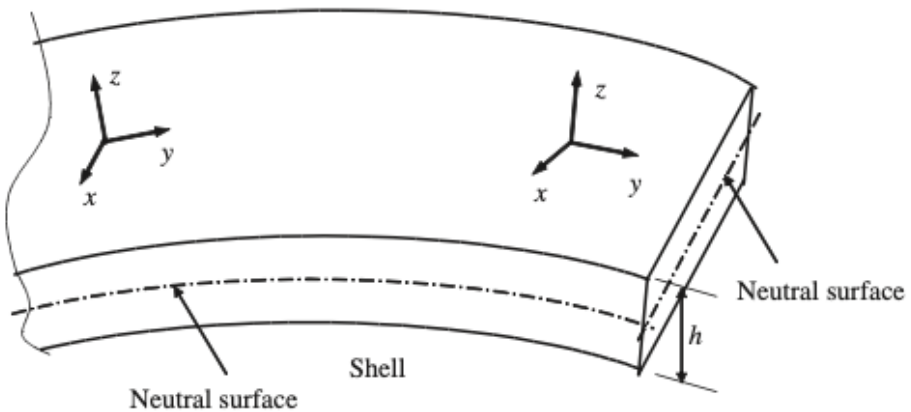
1. *Linear Elastic* Deformation grows proportionally with external force.
2. *Isotropic* Material property is direction independent.

We distinguish between four kinds of objects: beams, trusses, plates and shells.

What to Solve

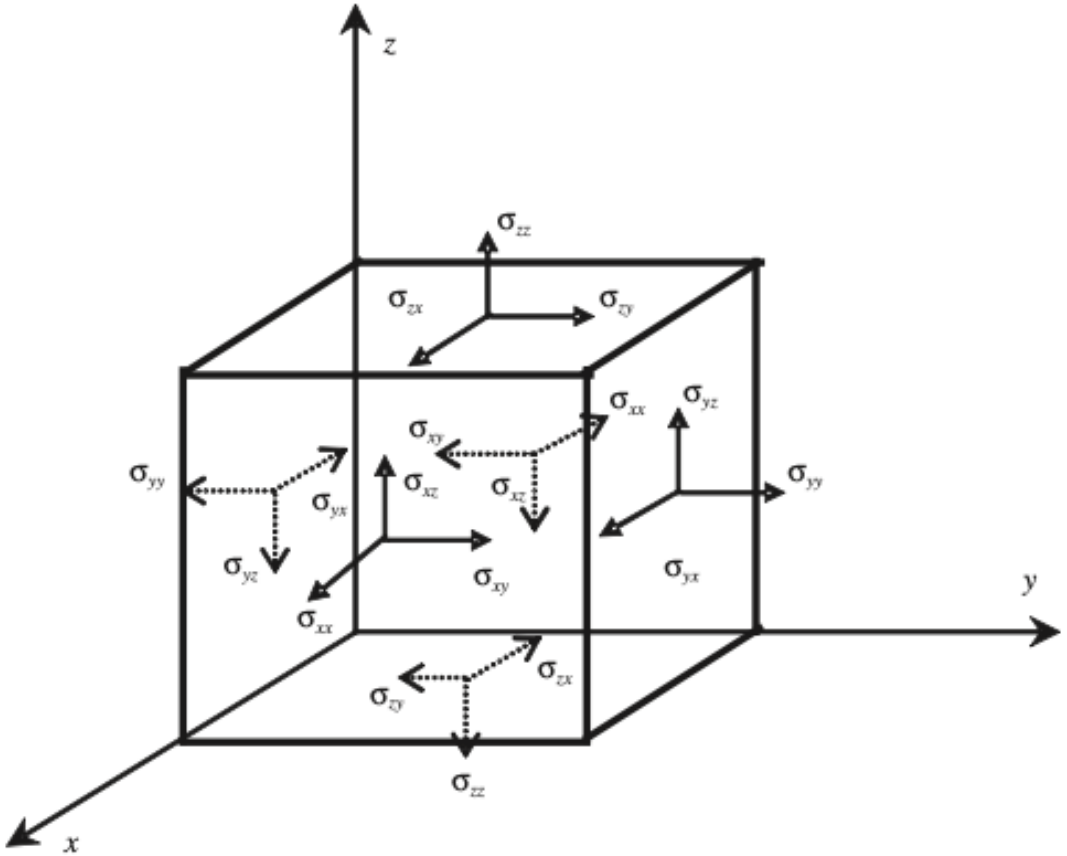






What to Solve

Taking a queue from Liu and Quek, we start off by defining DEE for an idealized infinitesimal, linearly elastic, isotropic material.



Observe that because of equilibrium $\sigma_{xy} = \sigma_{yx}; \sigma_{xz} = \sigma_{zx}; \sigma_{yz} = \sigma_{yz}$
Which give sus the stress tensors: $\sigma^T = \{\sigma_{xx}, \sigma_{yy}, \sigma_{zz}, \sigma_{yz}, \sigma xz, \sigma xy\}$

What to Solve