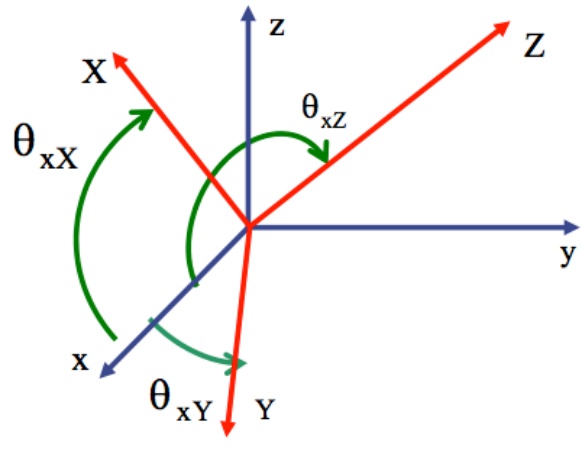
Transformation of stresses in 3D

Use: Rotation matrix R to get from
(x, y, z) to (x', y', z') ..... Best to think in terms of direction cosines, l, m, n

$$R = \begin{pmatrix} l_1 & l_2 & l_3 \\ m_1 & m_2 & m_3 \\ n_1 & n_2 & n_3 \end{pmatrix}$$

$l_1 = \cos\theta_{xx'}$, etc.



$$\boldsymbol{\sigma}' = \mathbf{R} \cdot \boldsymbol{\sigma} \cdot \mathbf{R}^T$$