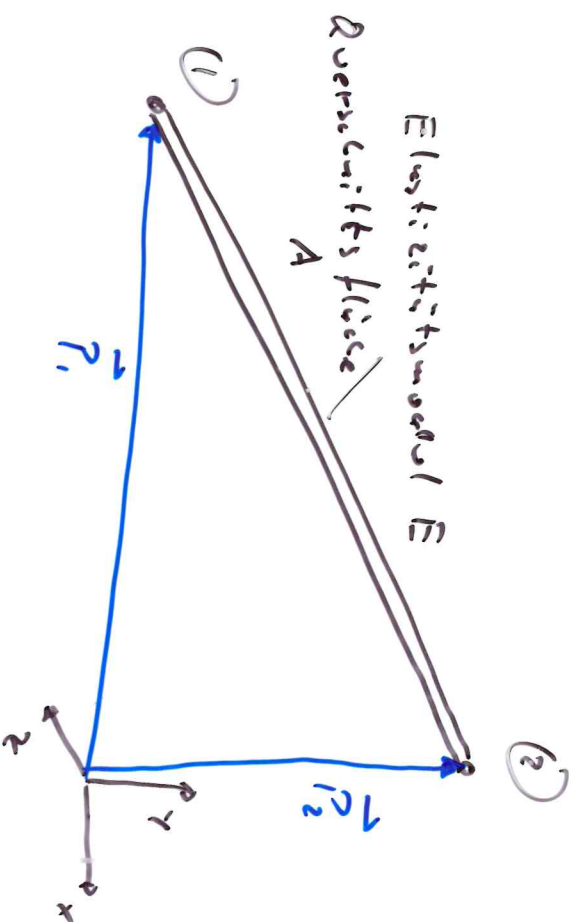


# Das Stab-Element in Dreidimensionaler



$$\vec{r}_1 = \begin{bmatrix} x_1 \\ y_1 \\ z_1 \end{bmatrix}$$

$$\vec{r}_2 = \begin{bmatrix} x_2 \\ y_2 \\ z_2 \end{bmatrix}$$

$$\vec{r}_2 - \vec{r}_1 = \begin{bmatrix} x_2 - x_1 \\ y_2 - y_1 \\ z_2 - z_1 \end{bmatrix} = \begin{bmatrix} \Delta x \\ \Delta y \\ \Delta z \end{bmatrix}$$

$$L = \sqrt{\Delta x^2 + \Delta y^2 + \Delta z^2}$$

"Länge des Stabes"