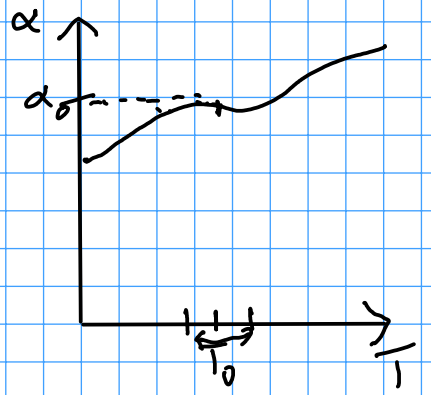
$l(T)$

$$\Delta l \sim l \cdot \Delta T$$

$$\alpha = \frac{\Delta l}{l \cdot \Delta T}$$ Längenausdehnungskoeffizient

$\alpha(T)$



$$dl = \alpha(T) \cdot l \cdot dT$$

$$\int_{l_1}^{l_2} \frac{dl}{l} = \int_{T_1}^{T_2} \alpha(T)\, dT$$

$$\ln l_2 - \ln l_1 = \ln \frac{l_2}{l_1}$$