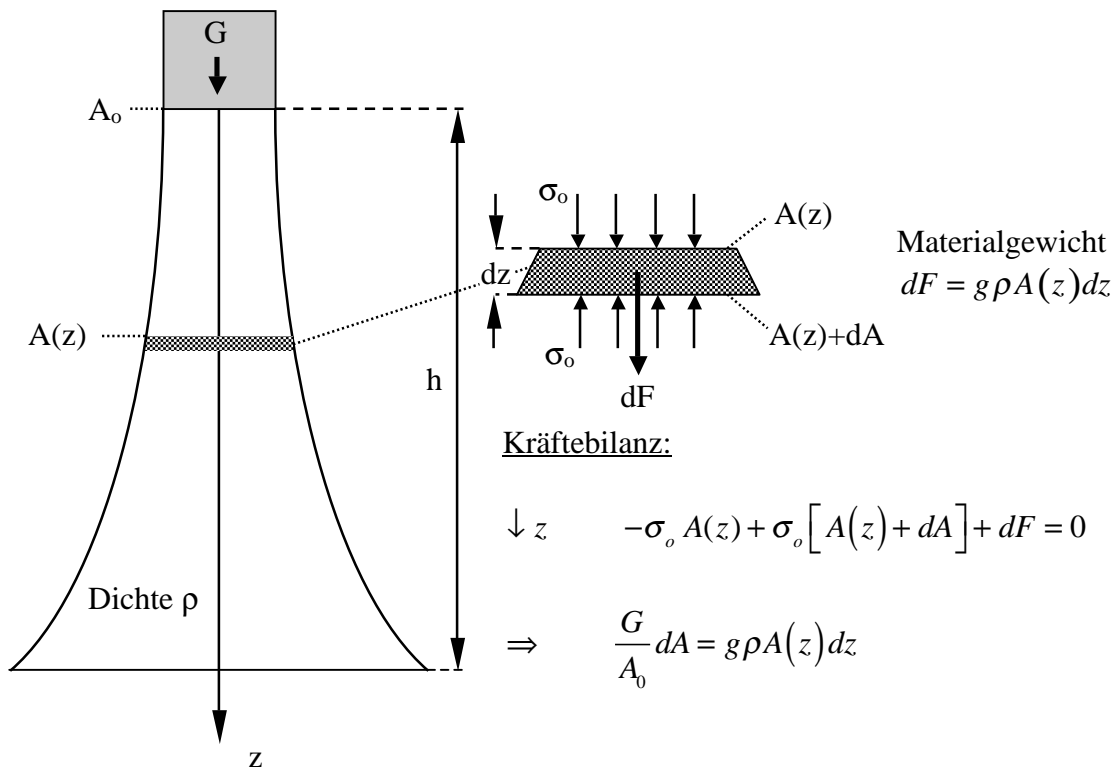


Bauteil gleicher Festigkeit: $\sigma_{zz}(z) = \sigma_o = -\frac{G}{A_o} \quad 0 \leq z \leq h$



$$\int_{A_o}^A \frac{dA}{A} = \frac{g\rho A_o}{G} \int_0^z dz \quad \Rightarrow \quad \ln \frac{A}{A_o} = \frac{g\rho A_o}{G} z \quad \Rightarrow \quad A(z) = A_o \exp\left(\frac{g\rho A_o}{G} z\right)$$

Gewicht des Turms:

$$G_T = g\rho \int_0^h A(z) dz = G \left[\frac{A(h)}{A_o} - 1 \right]$$