

$$\tanh(0) = 0$$

$$\tanh(4) = 1$$

$$(t_w - t_{gi}) - \frac{I}{k_{koll}} = -232.5 \text{ K}$$

$$\sigma = 5.67 \times 10^{-8} \text{ K}^{-4} \cdot \text{m}^{-2} \cdot \text{W}$$

$$I = 500 \text{ s}^{-3} \cdot \text{kg}$$

Vorgabe

$$\frac{\lambda_{Bl}}{\frac{W}{\text{m} \cdot \text{K}}} \cdot \frac{d}{dy} T_R(y) = \left[\frac{I}{\frac{W}{\text{m}^2}} + \frac{\alpha_{gi}}{\frac{W}{\text{m}^2 \cdot \text{K}}} \cdot \left(T_R(y) - \frac{t_{gi}}{\text{K}} \right) + \tau \alpha \cdot \epsilon_a \cdot \epsilon_g \cdot \left(\frac{\sigma}{\frac{W}{\text{m}^2 \cdot \text{K}^4}} \right) \cdot \left[\left(T_R(y) + 273.15 \right)^4 - \left(\frac{t_H}{\text{K}} + 273.15 \right)^4 \right] \right]$$

$$T_R(0) = \frac{t_0}{\text{K}}$$

$$\text{DGL_T}(I, \alpha_{gi}, t_{gi}) := \text{Gdglösen} \left(y, \frac{x}{\text{m}} \right)$$

$$\frac{x}{\text{mm}} = 20$$

$$T_R := \text{DGL_T}(I, \alpha_{gi}, t_{gi})$$

$$T_R = f(\text{Unitless}) \rightarrow \text{Unitless}$$

$$T_R(0.01) = 44.15$$