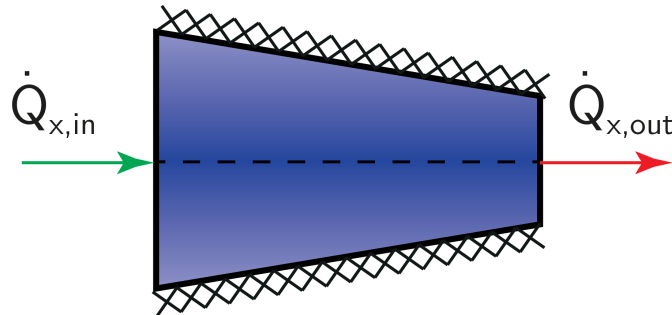


## EB - Cond. - Body 2

Set up the energy balance for the truncated cone to determine its temperature  $T_w$ . Assume steady-state heat transfer without source/sink inside.



**Energy balance:**

$$\dot{Q}_{x,in} - \dot{Q}_{x,out} = 0$$

The sum of the in- and outgoing heat fluxes of the control volume should equal zero, because of steady-state conditions.

**Heat fluxes:**

$$\dot{Q}_{x,in} = 4\dot{q}''\pi R^2$$

$$\dot{Q}_{x,out} = \alpha\pi R^2 (T_w - T_\infty)$$