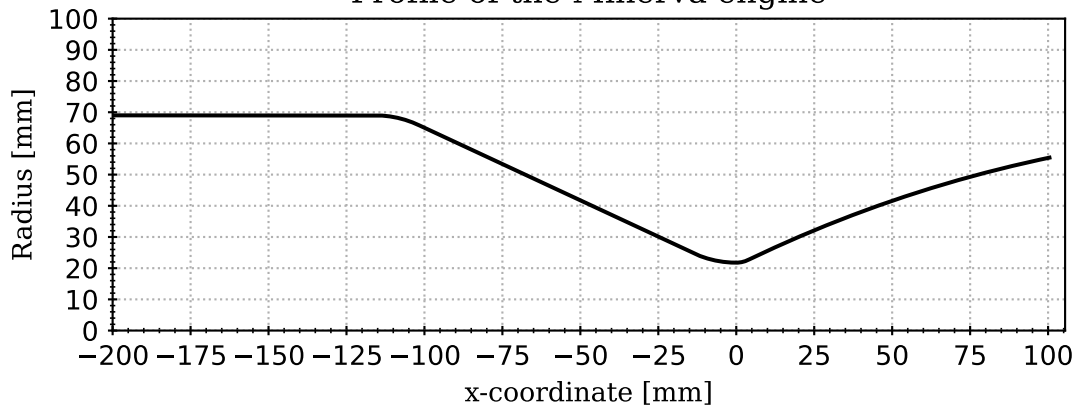
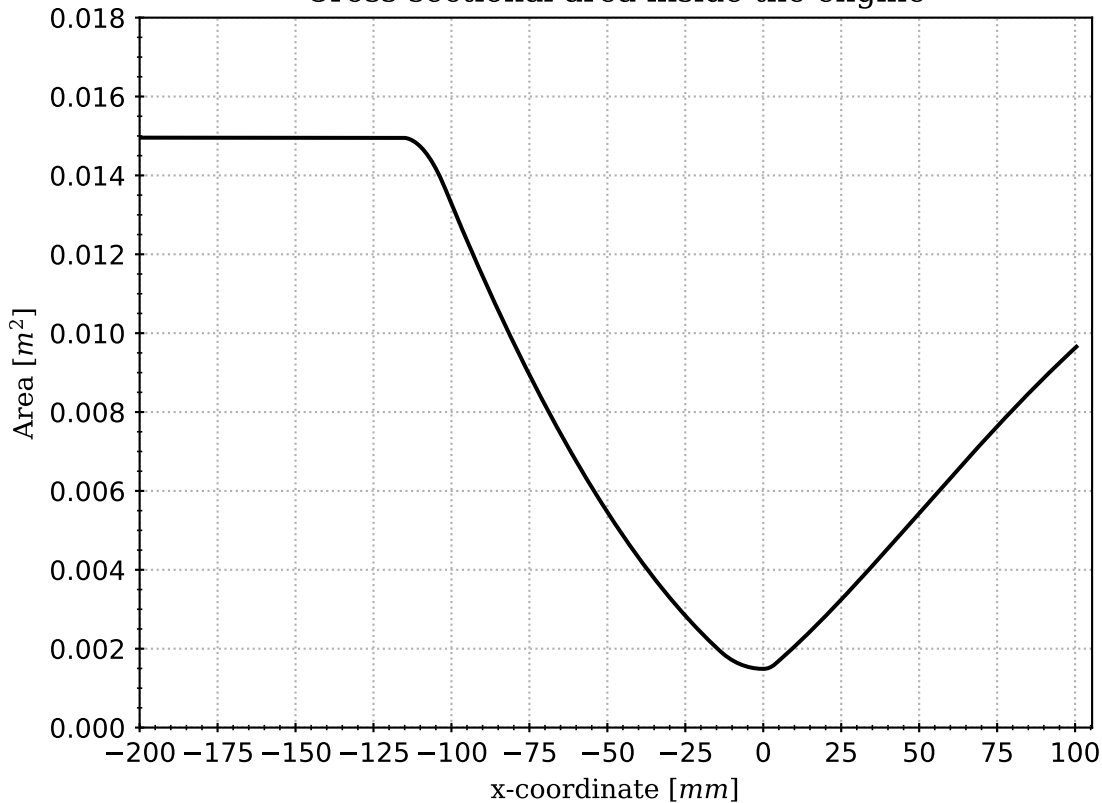


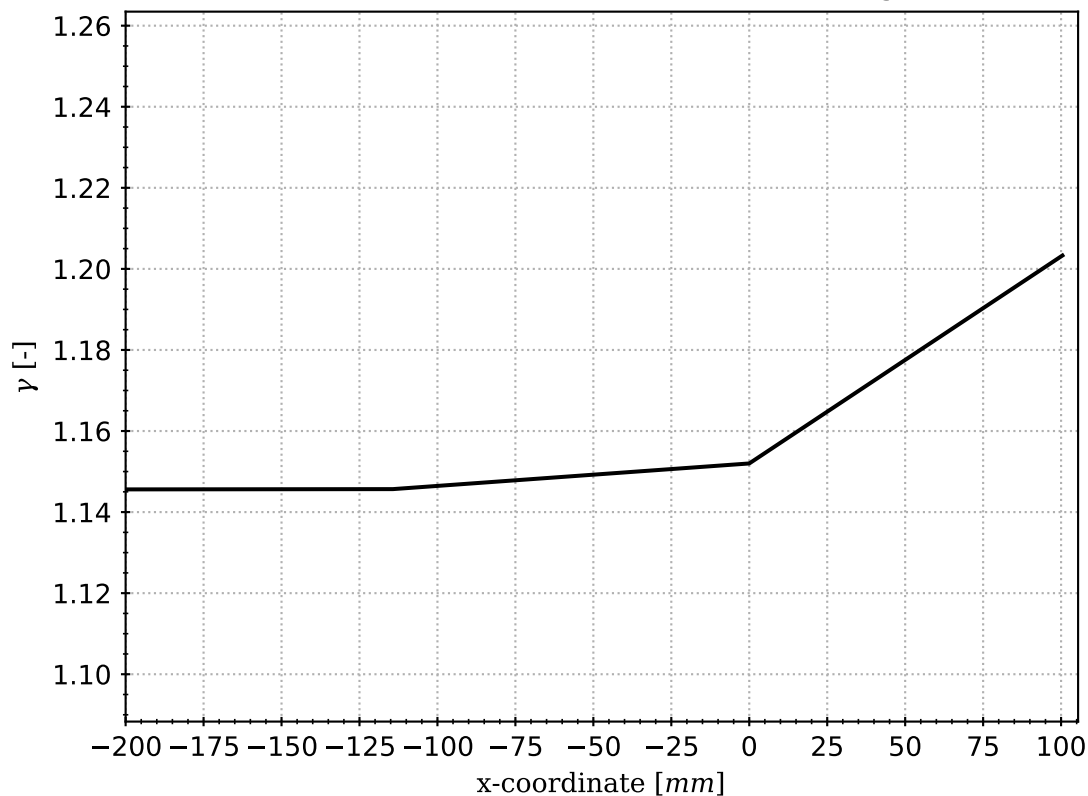
Profile of the Minerva engine



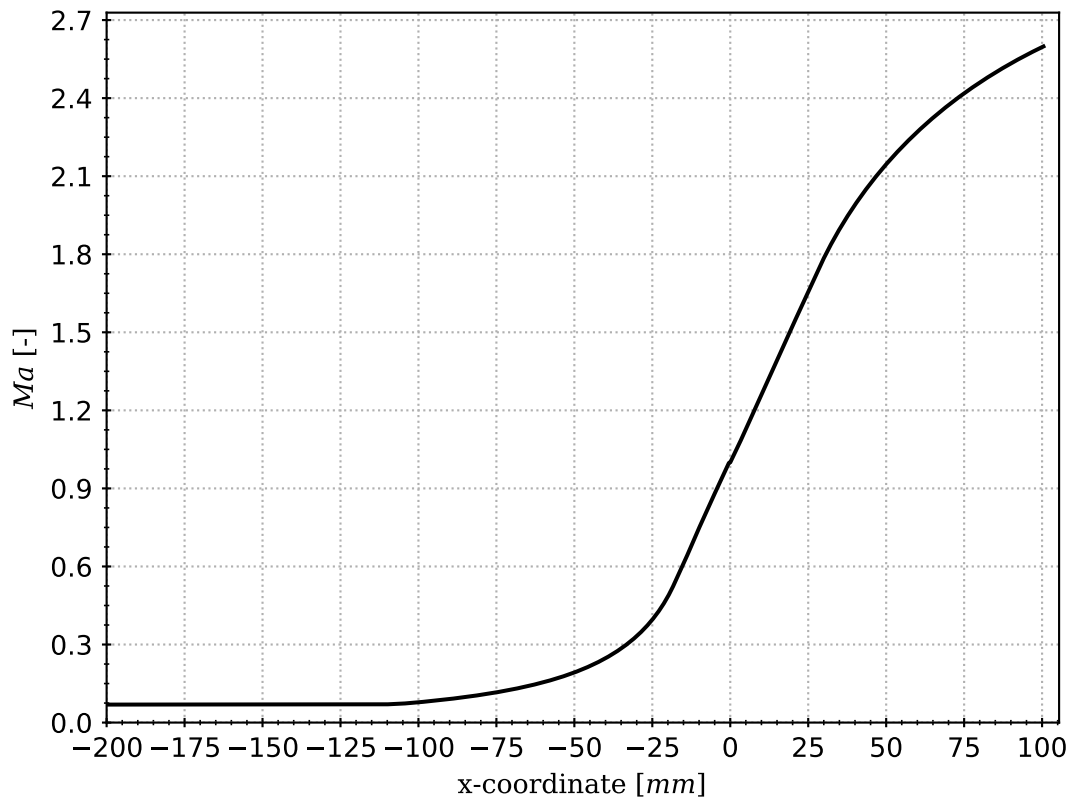
Cross-sectional area inside the engine

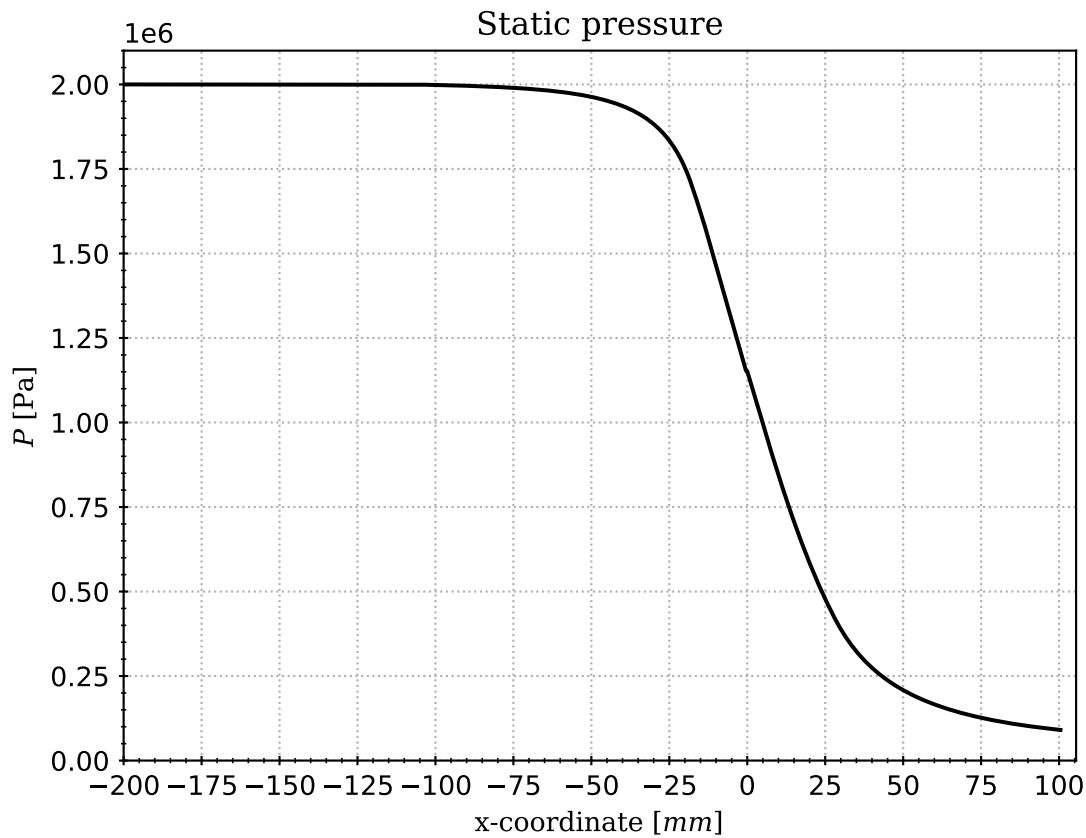


Adiabatic constant  $\gamma$  of the combustion gases

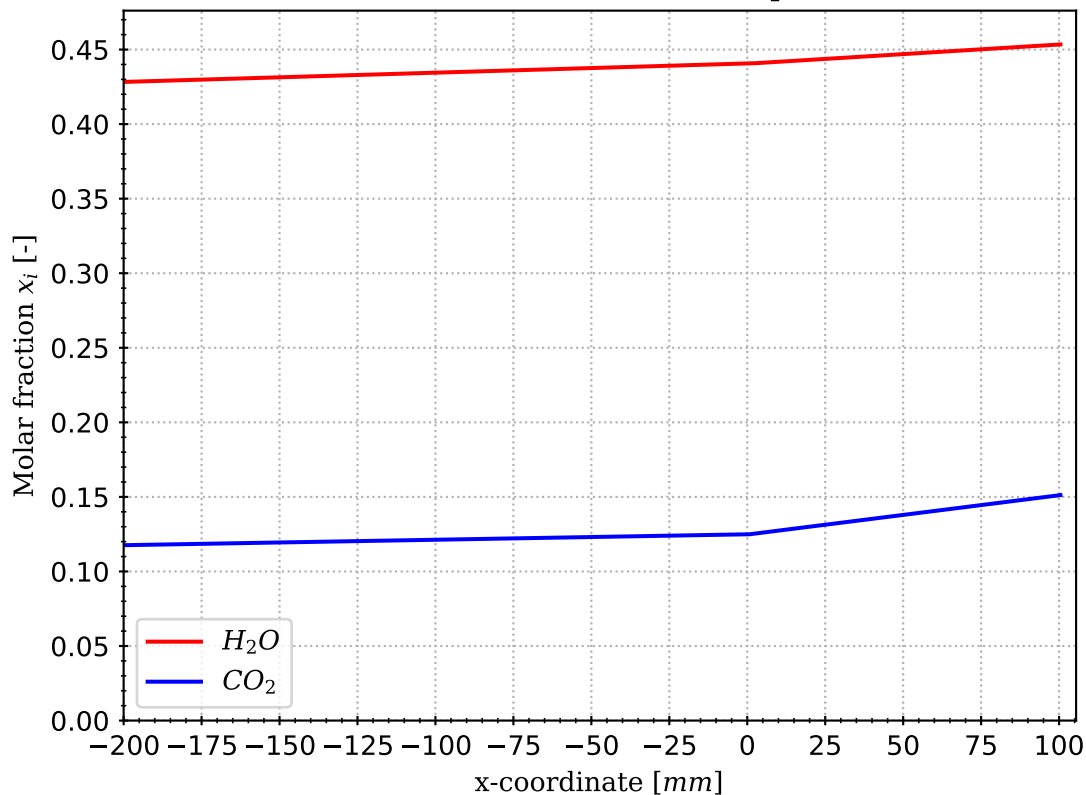


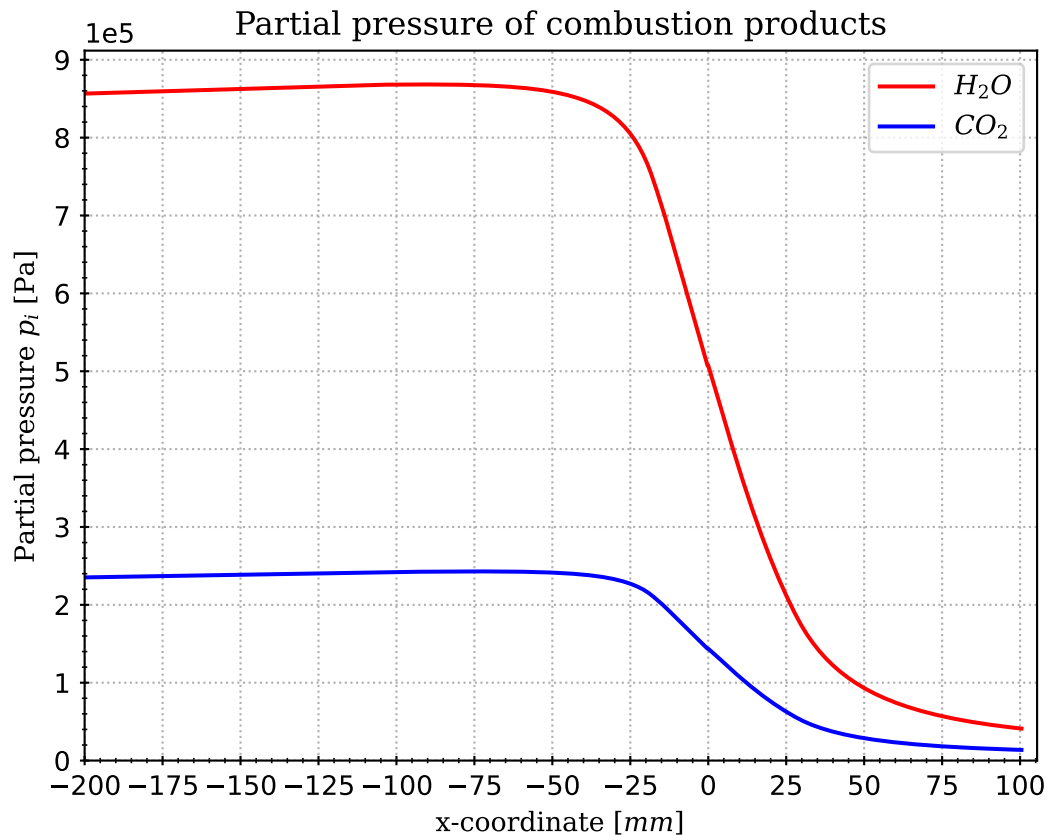
Mach number



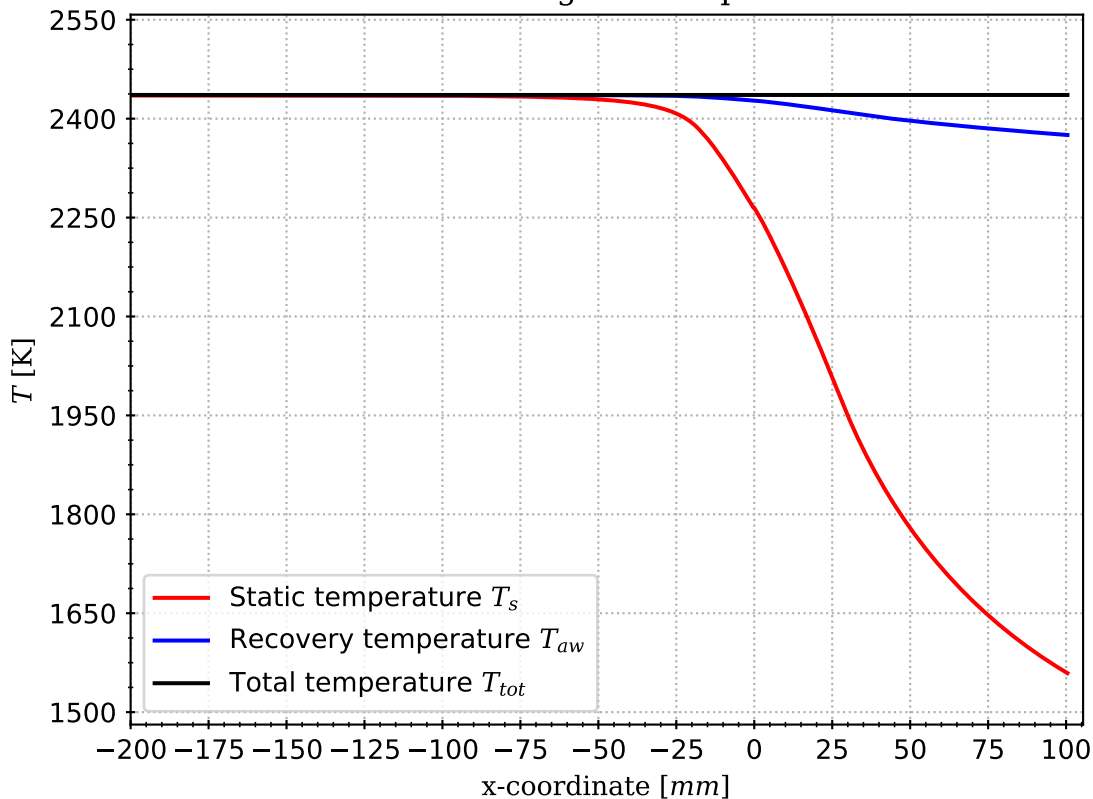


## Molar fraction of combustion products



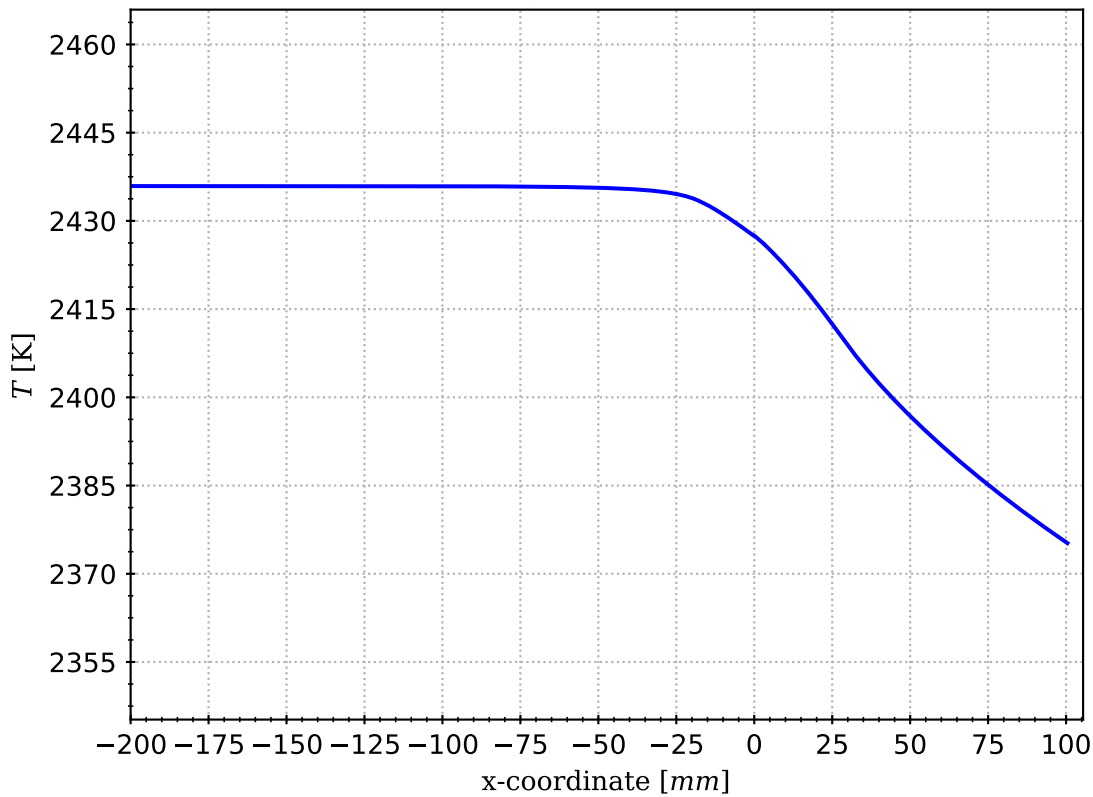


## Combustion gases temperature

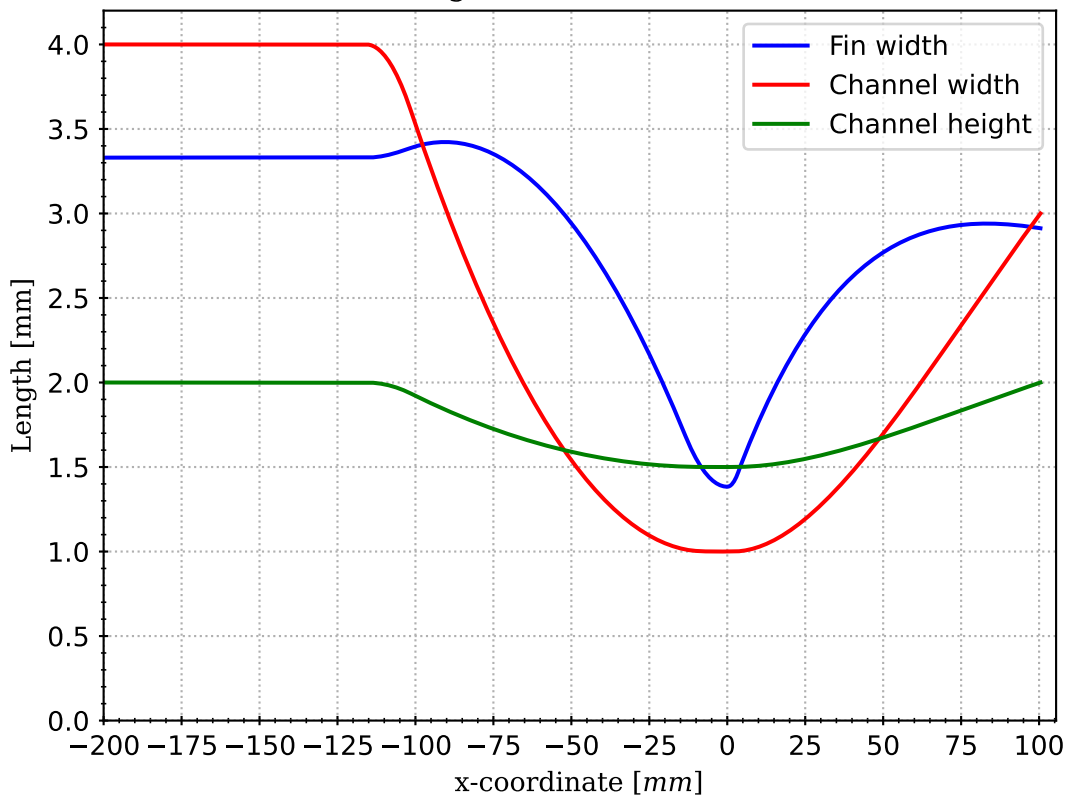




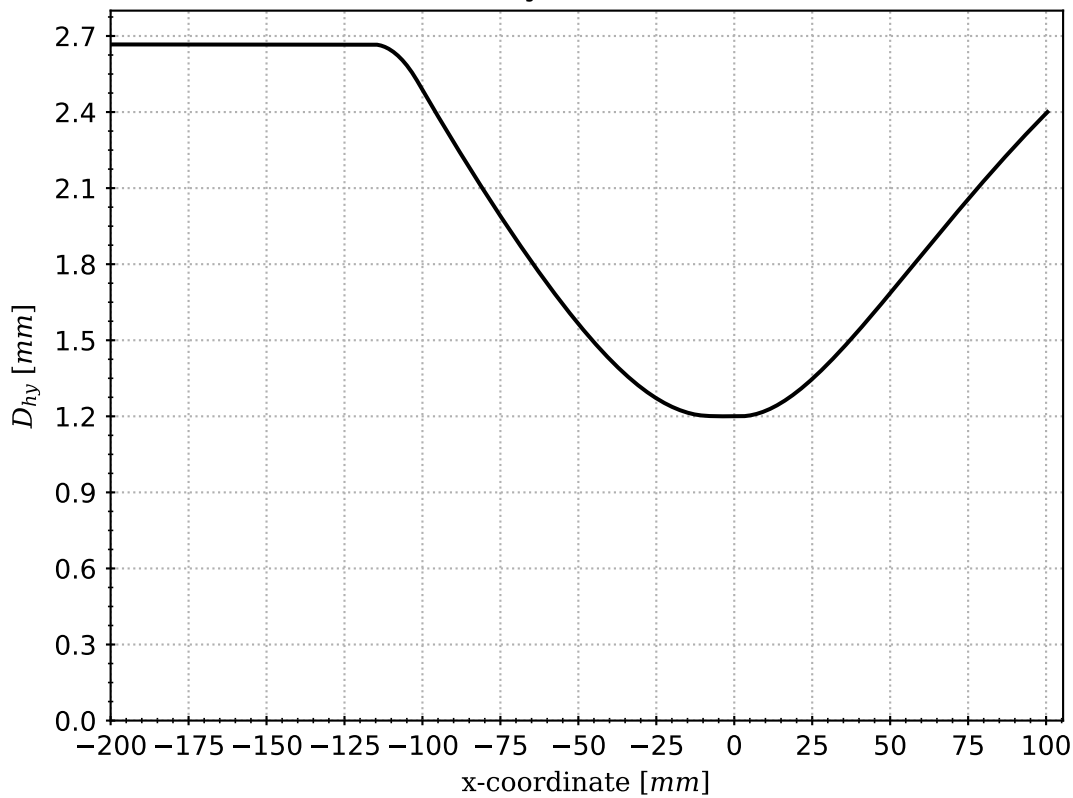
Recovery temperature  $T_{aw}$



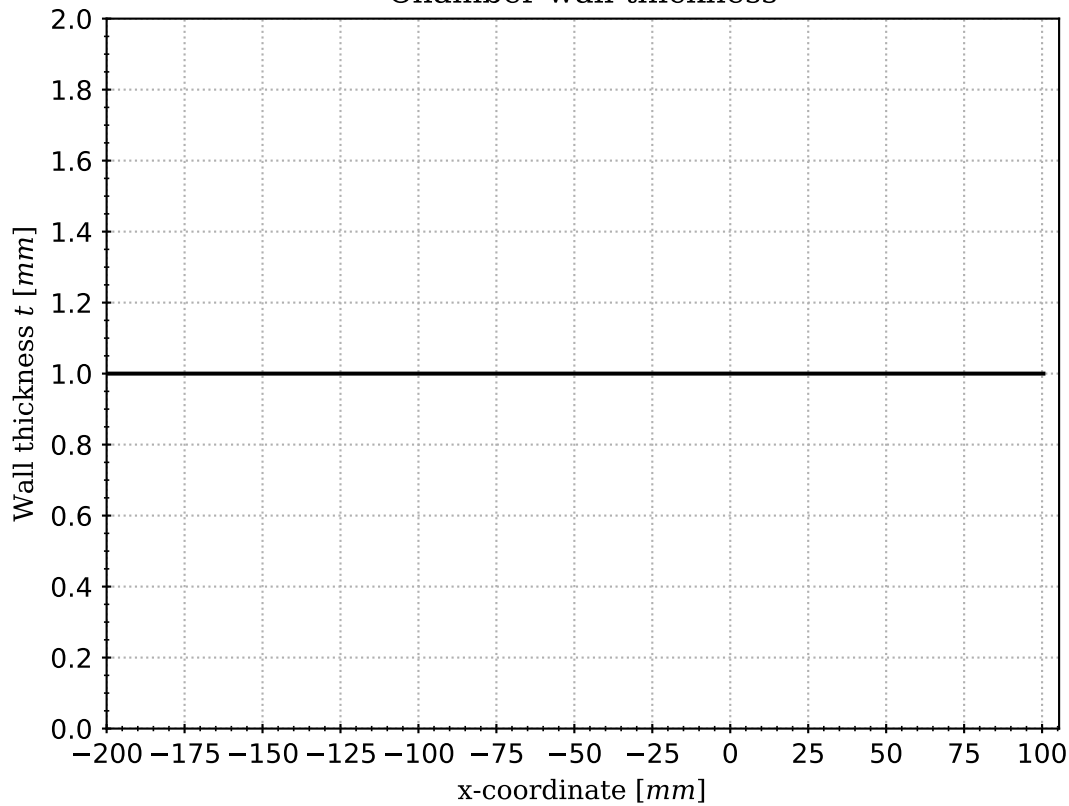
Cooling channels dimensions

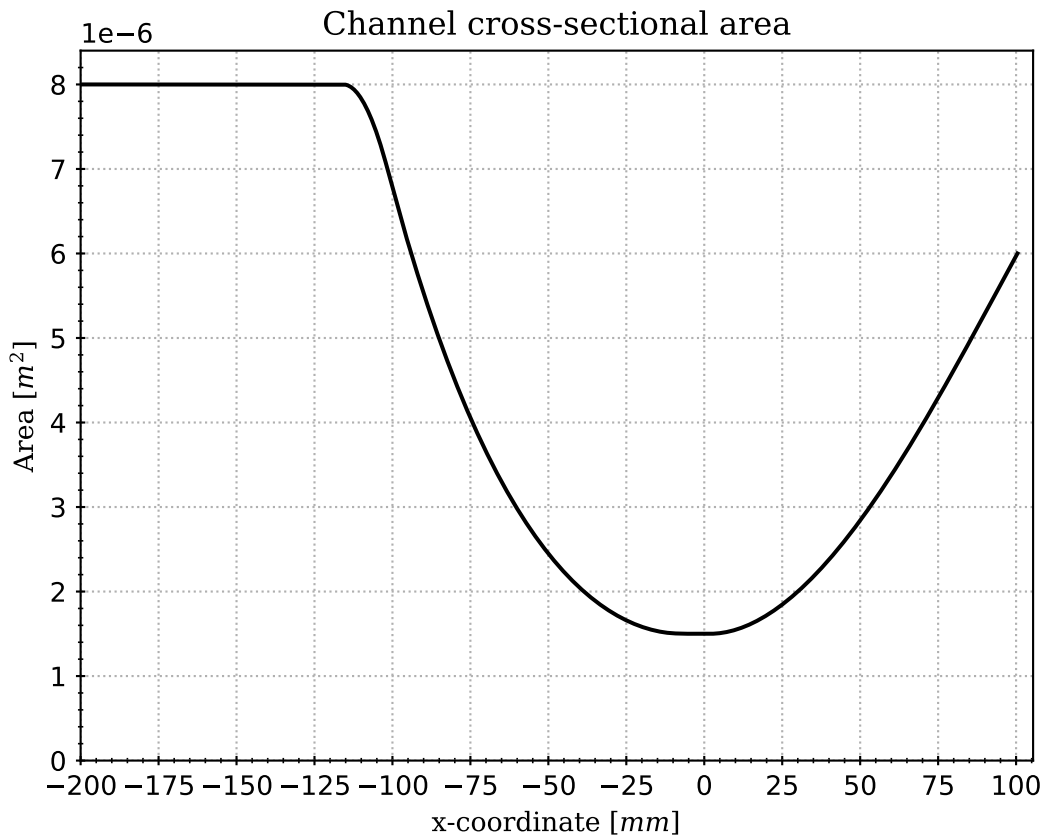


Channel hydraulic diameter

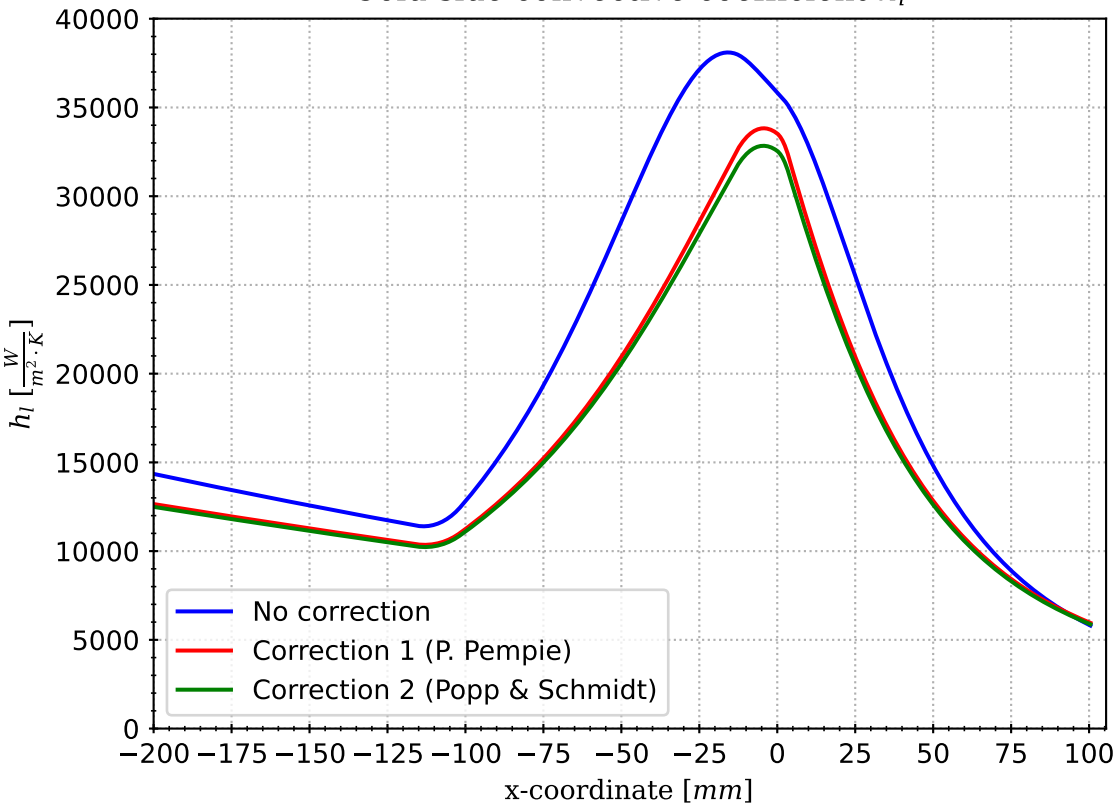


Chamber wall thickness

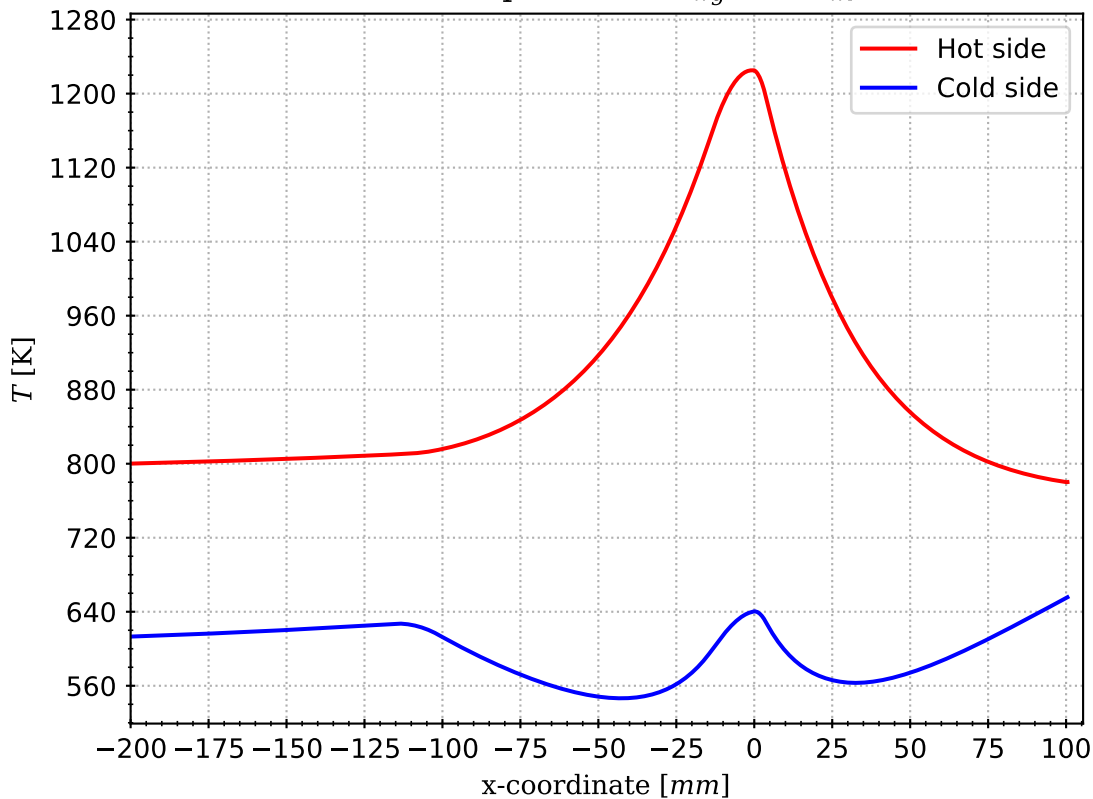




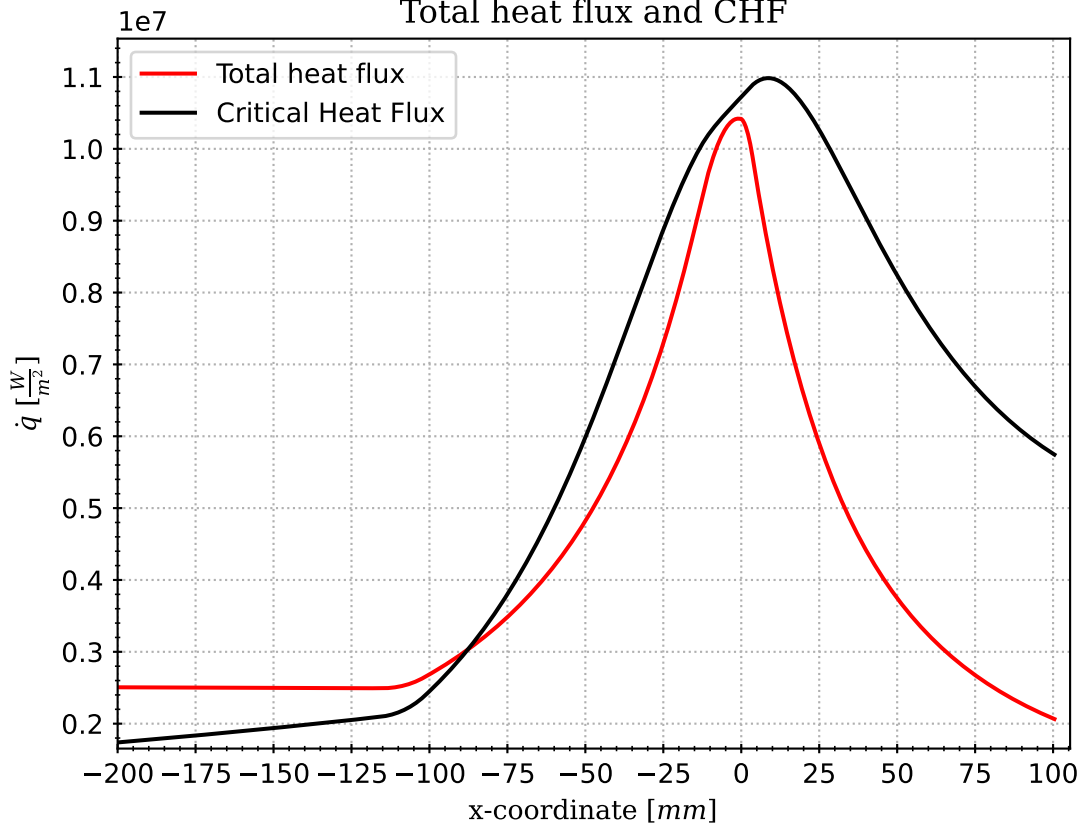
Cold-side convective coefficient  $h_l$



Wall temperatures  $T_{wg}$  and  $T_{wl}$

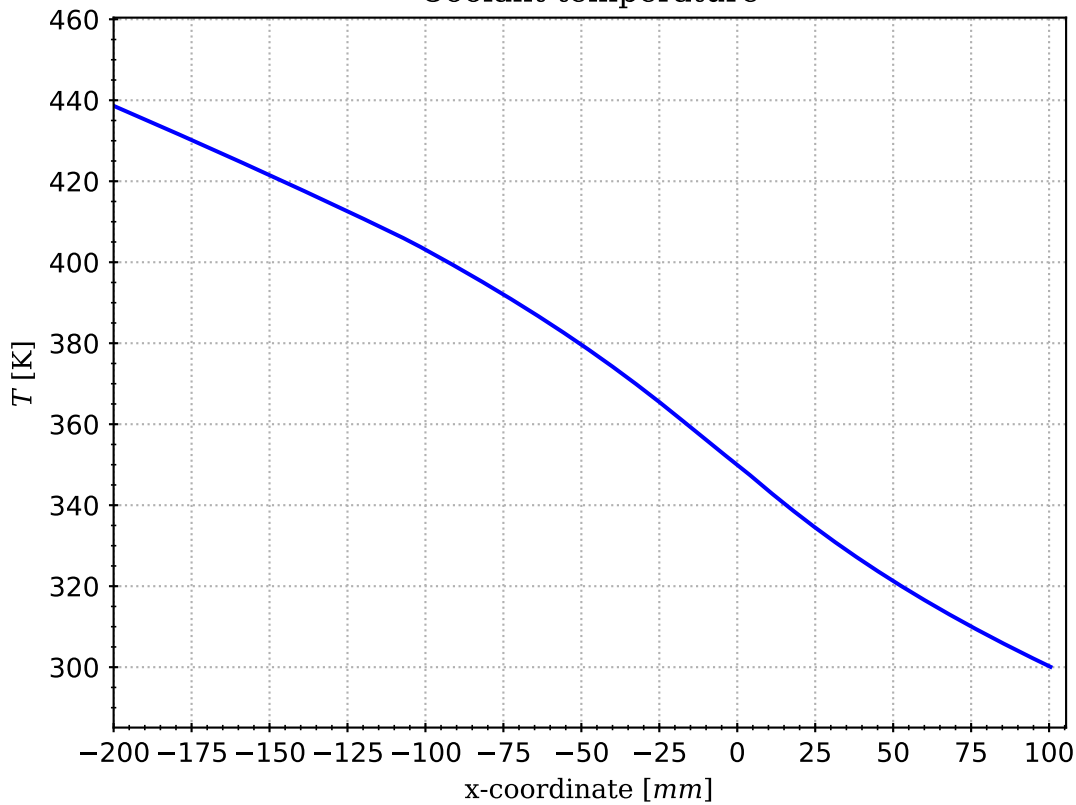


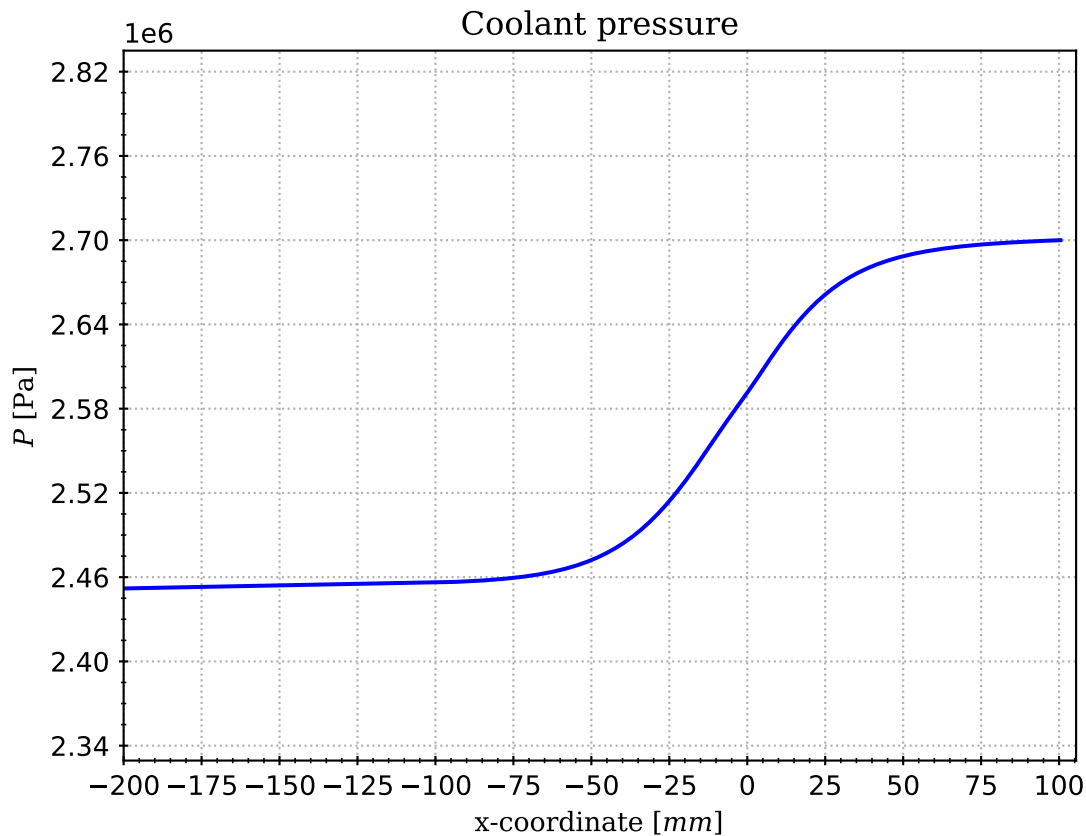
# Total heat flux and CHF

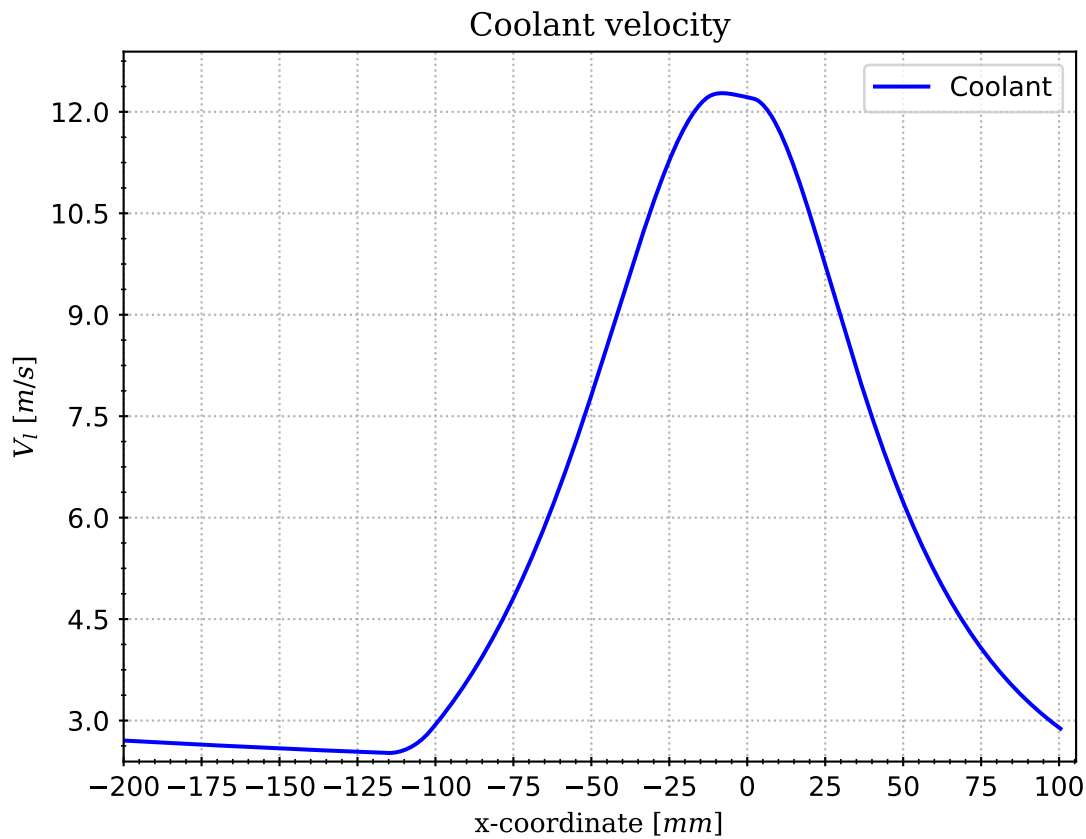




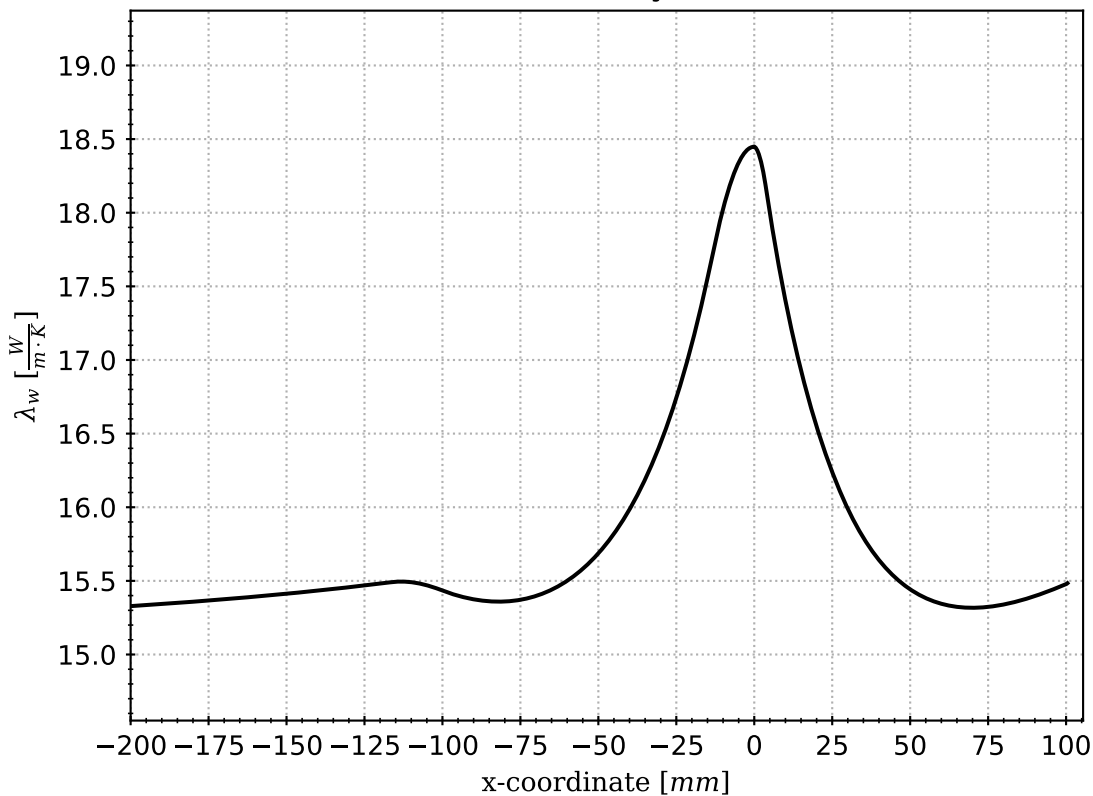
Coolant temperature



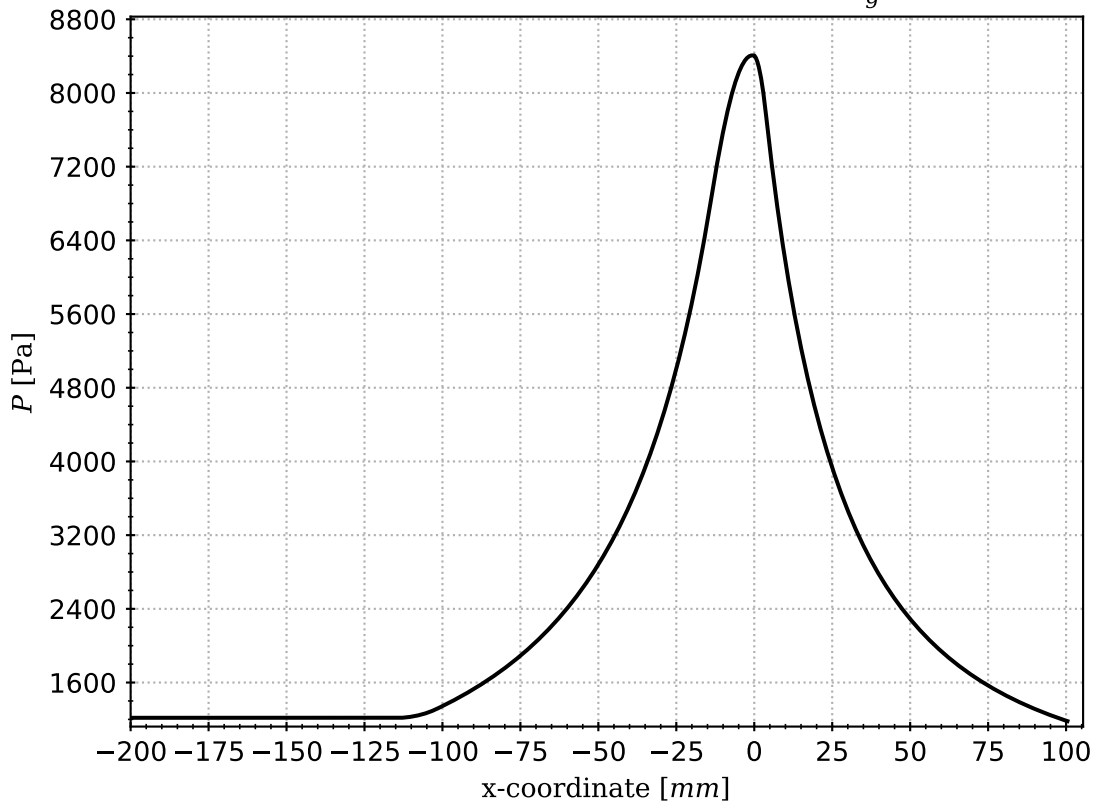




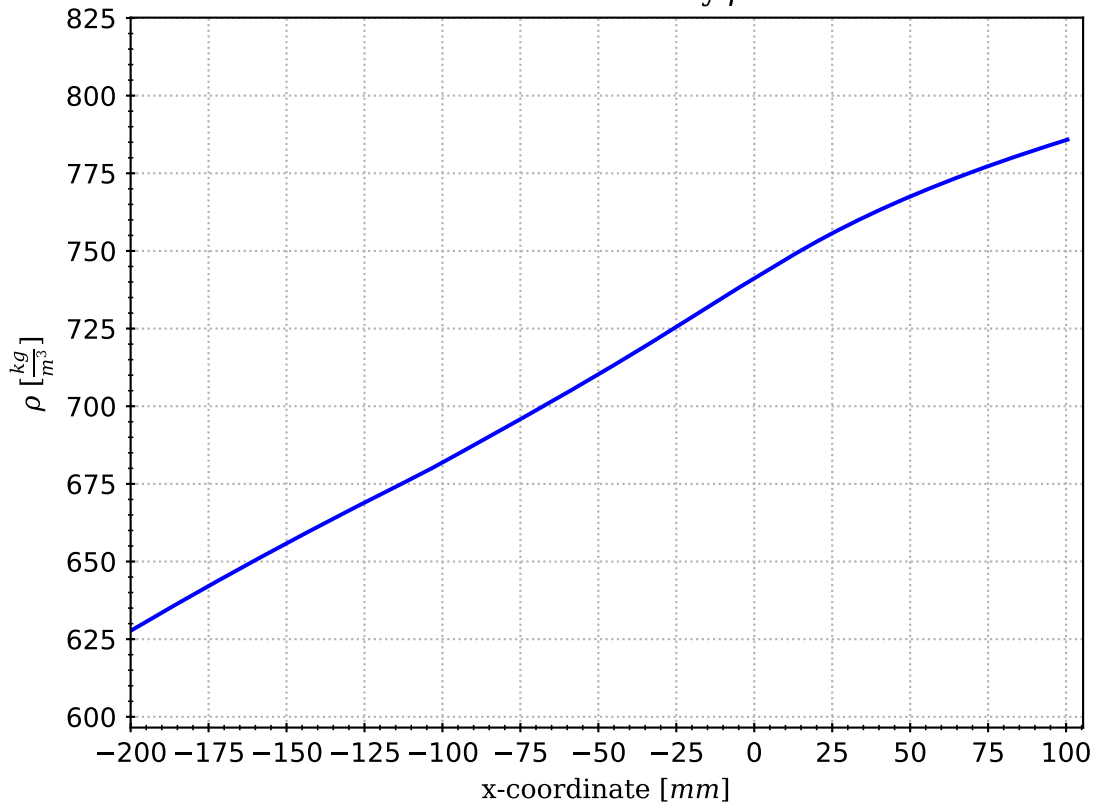
Wall conductivity (inconel)



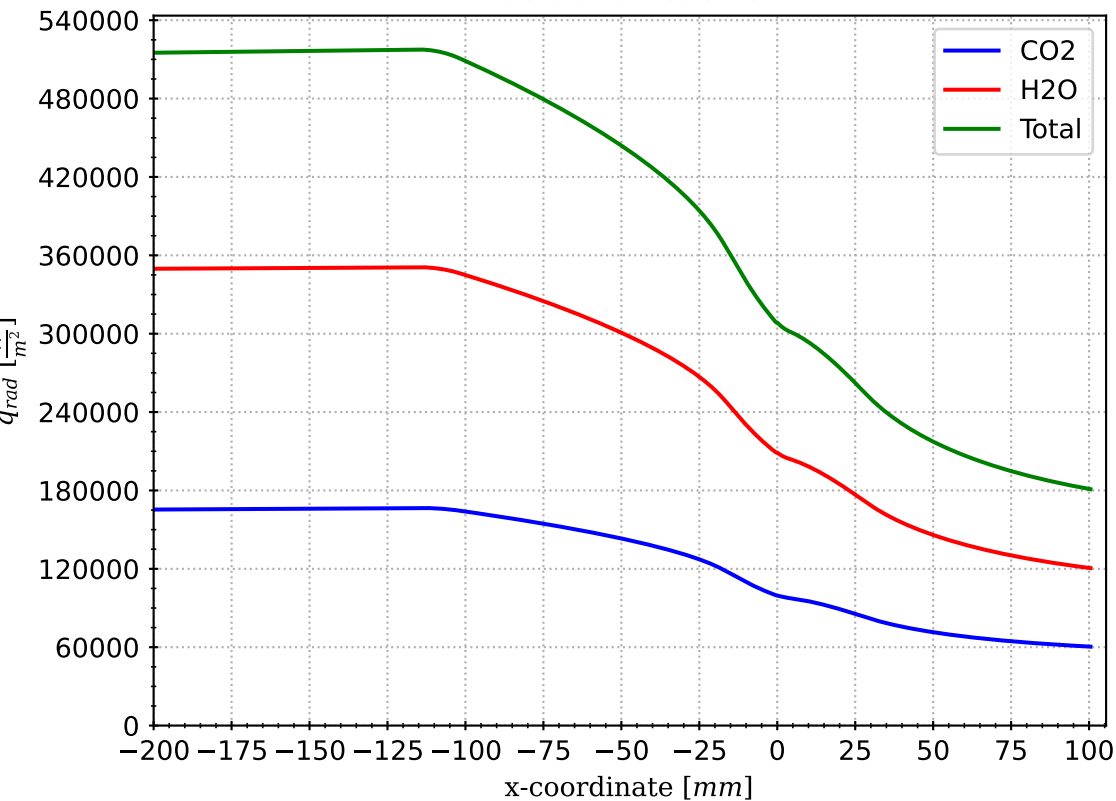
Hot-side convection coefficient  $h_g$



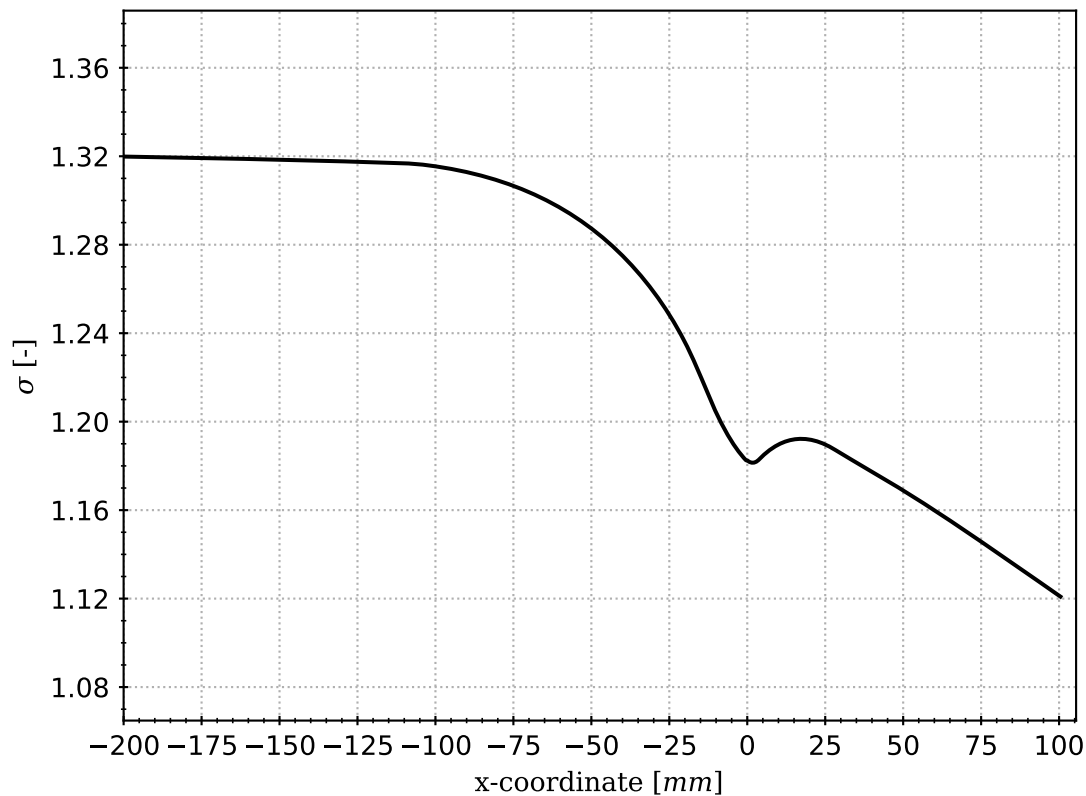
Coolant density  $\rho$



Radiative heat flux

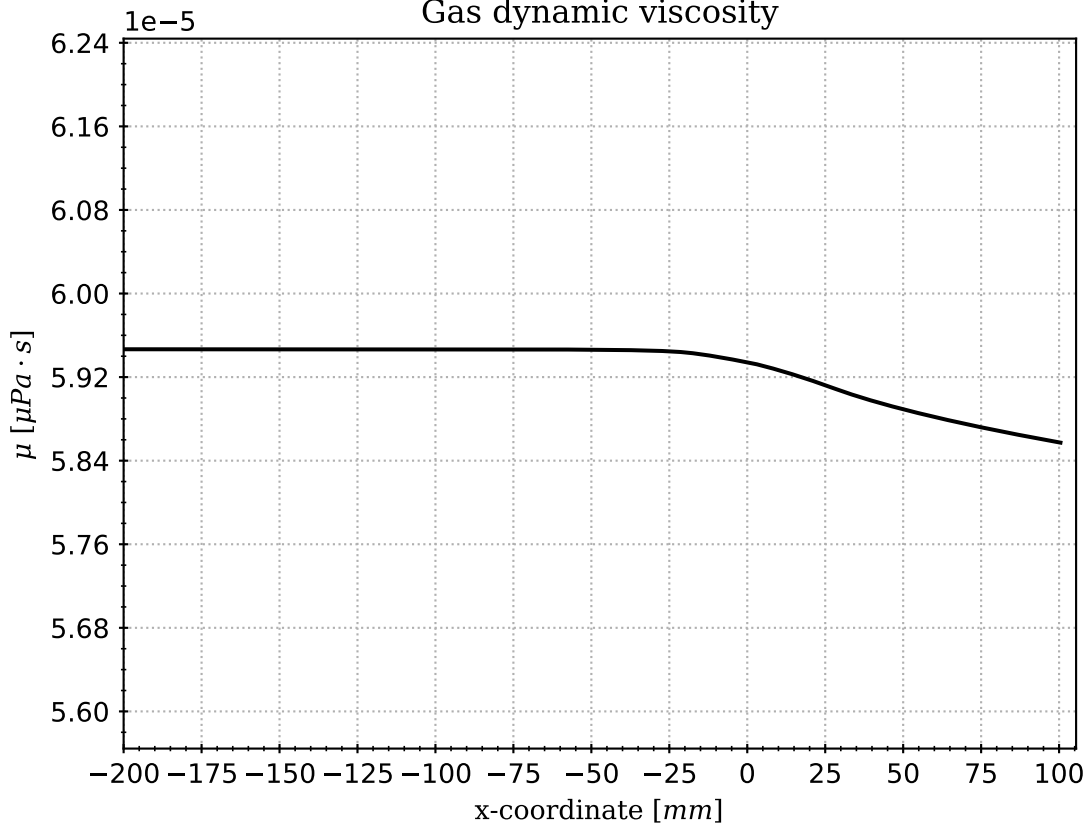


Bartz equation coefficient  $\sigma$

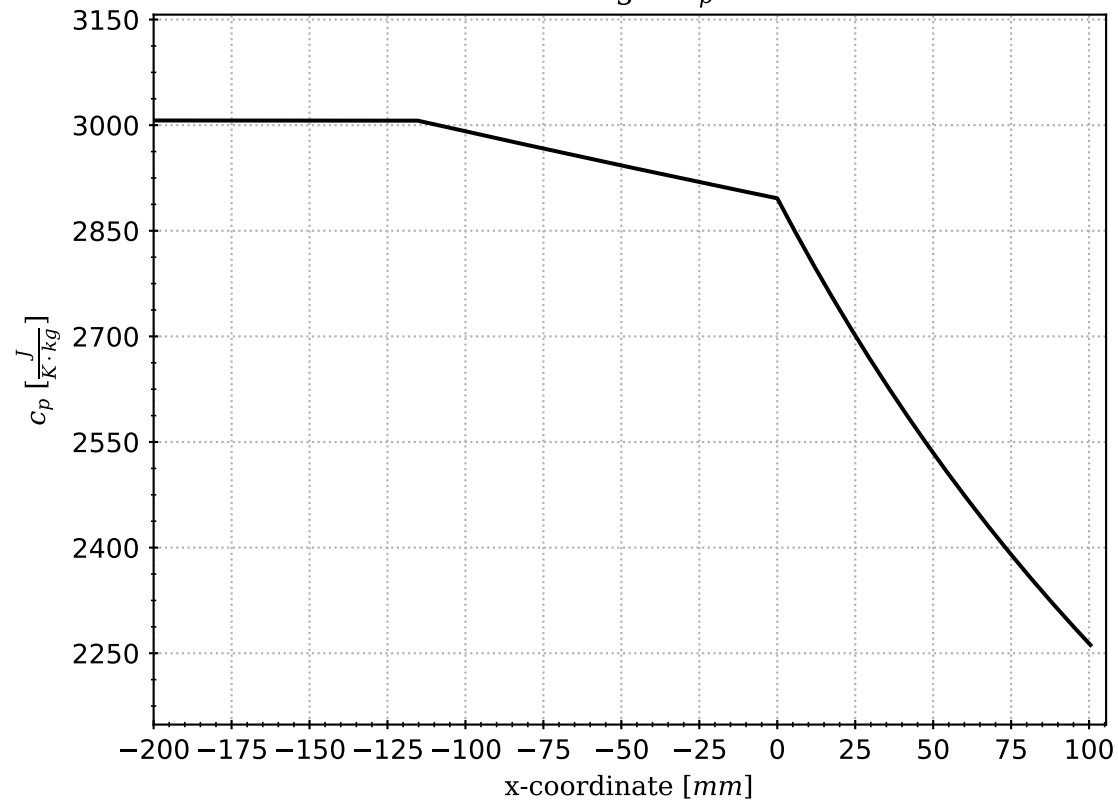




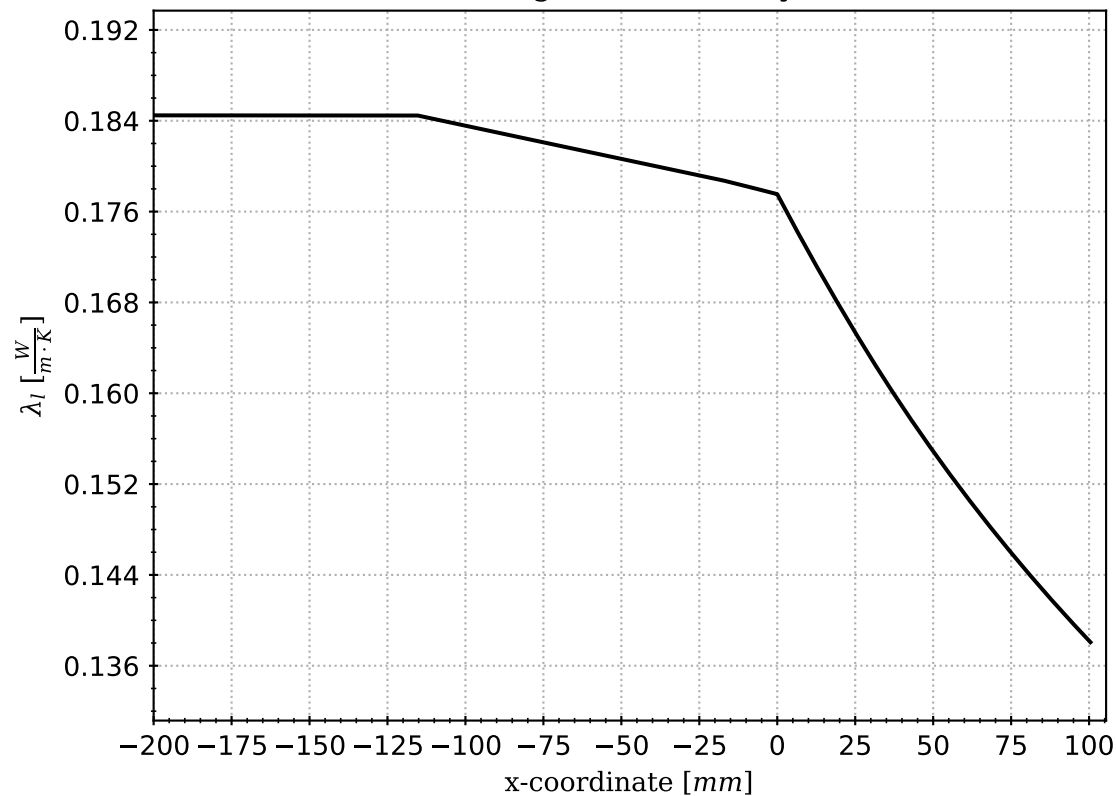
# Gas dynamic viscosity



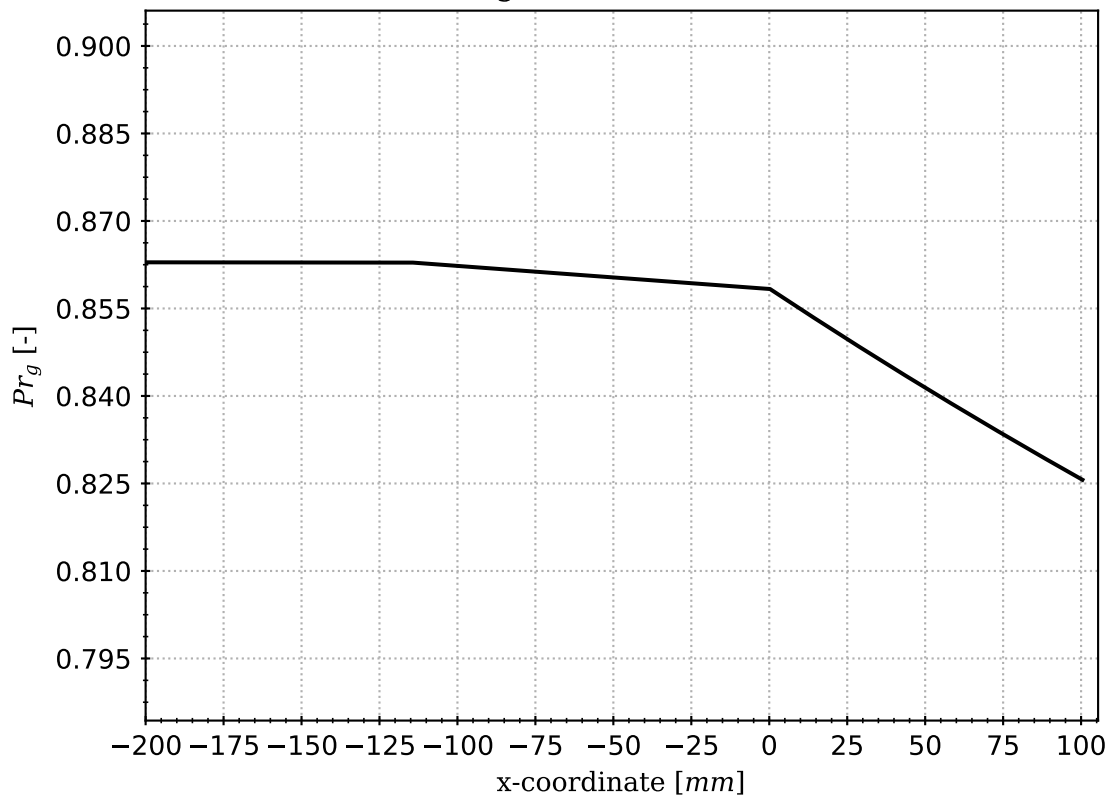
Hot gas  $c_p$



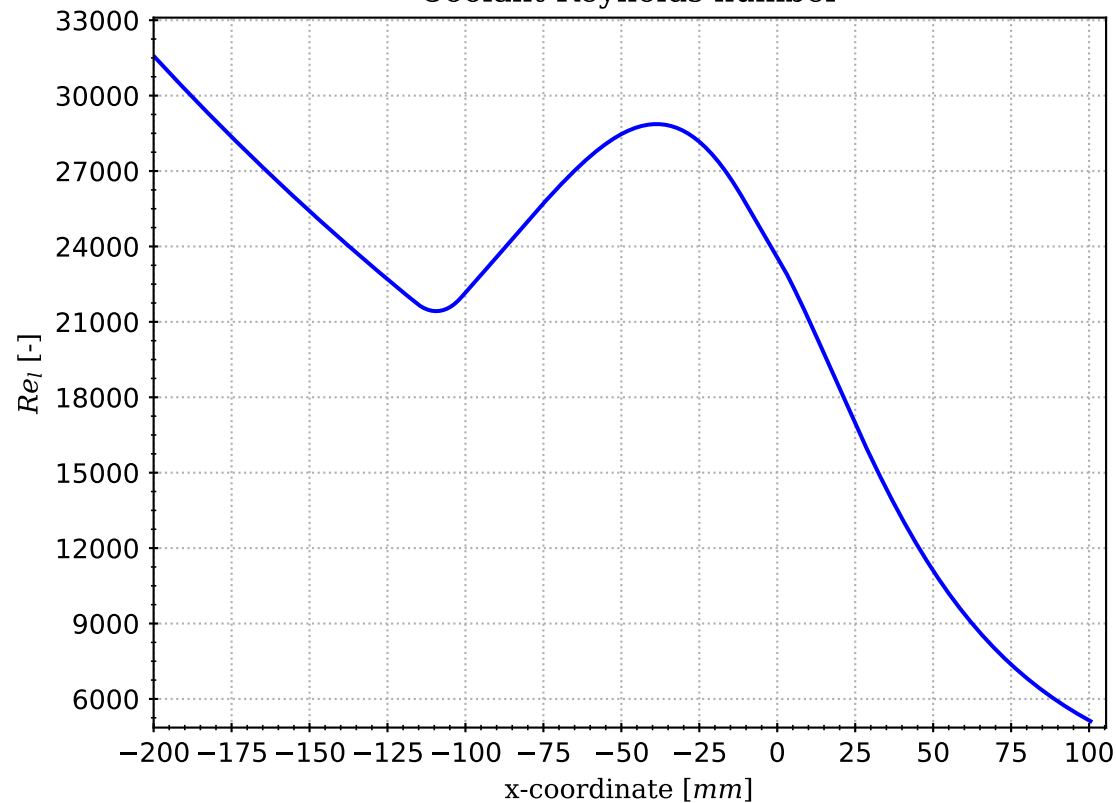
# Hot gas conductivity



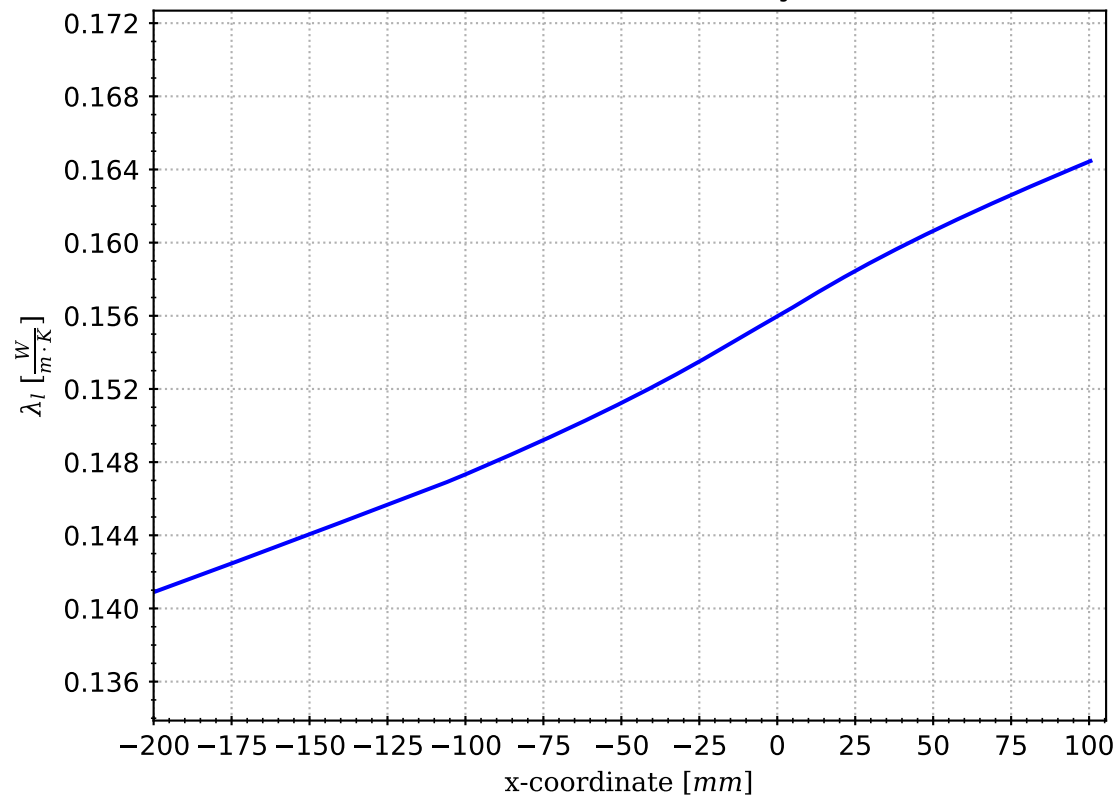
# Hot gas Prandtl number



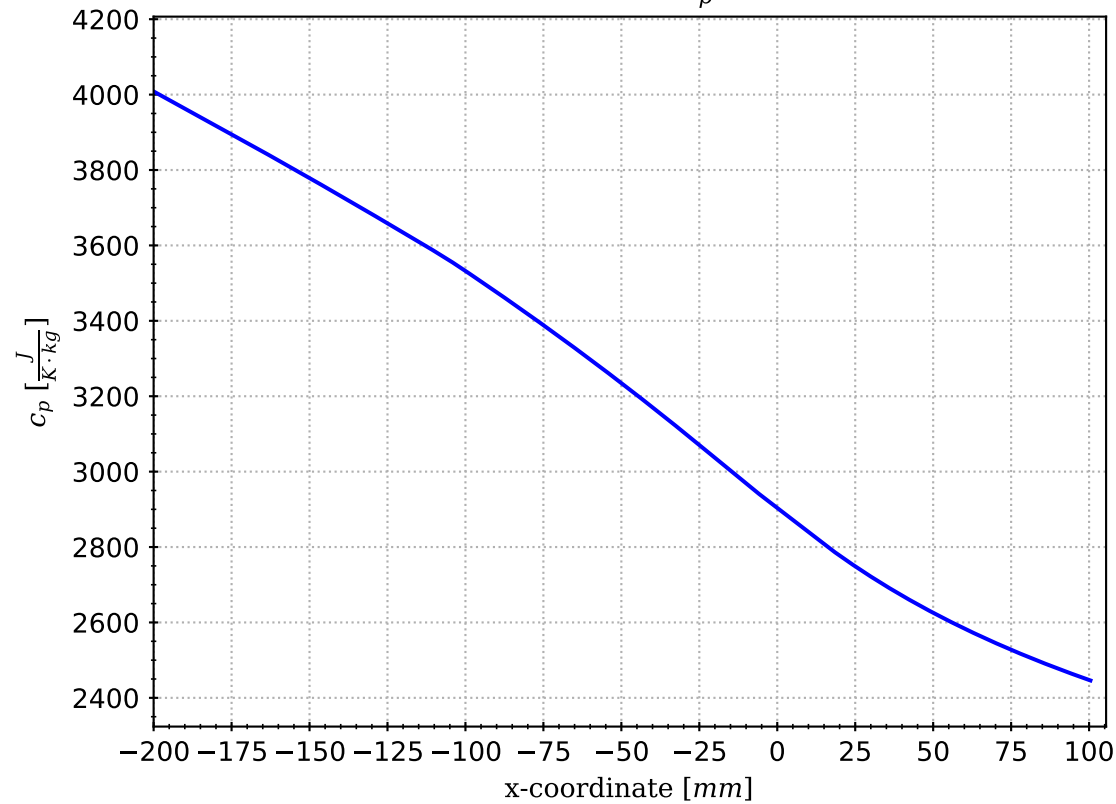
Coolant Reynolds number



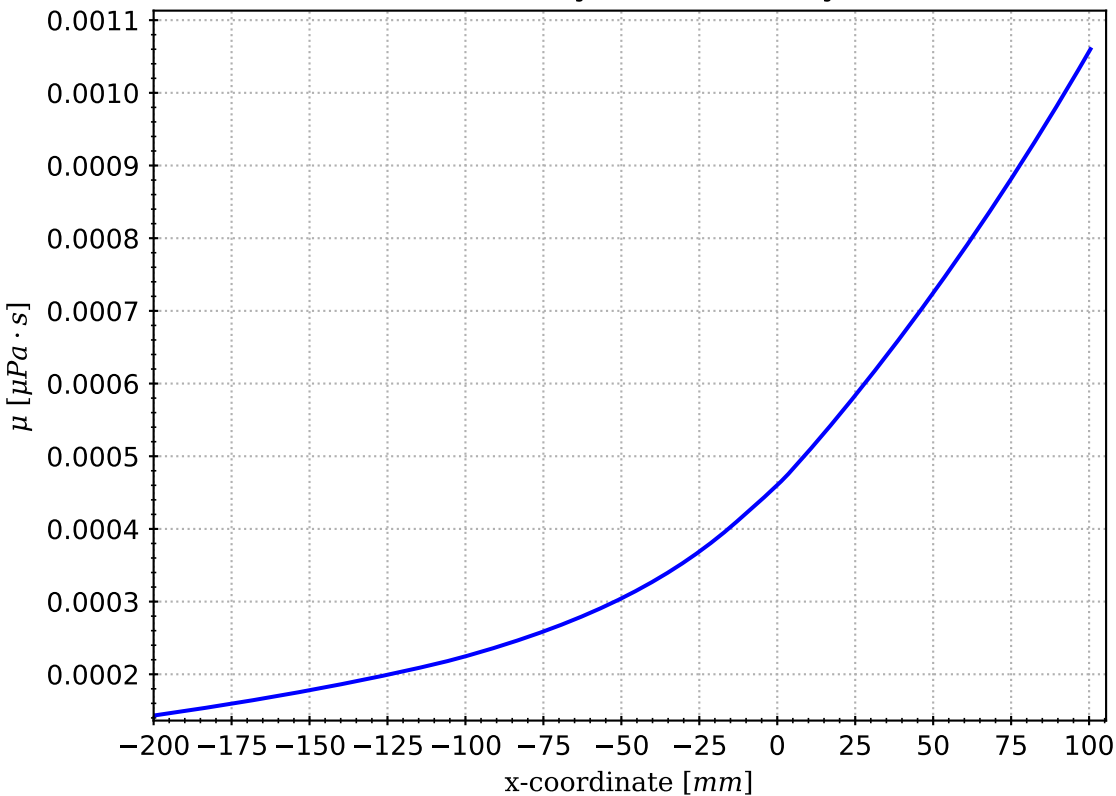
Coolant conductivity



Coolant  $c_p$



Coolant dynamic viscosity





Coolant Prandtl number

