VELOCITY AND THERMAL BOUNDARY LAYERS

THE VELOCITY BOUNDARY LAYER

Consider the flow over a flat plate of length $L$, at a sufficiently large Reynolds number:

$$\text{Re} = \frac{\rho U_\infty L}{\mu} >> 1$$

Important surface parameters:

- Wall shear stress $\tau_w$:
- Friction coefficient $C_f$:
- Viscous drag force $D$:
THE THERMAL BOUNDARY LAYER

Consider the flow over an isothermal plate of length $L$:

Important surface parameters:

- Local surface heat flux $q_s$:

- Coefficient of convective heat transfer $h$: 