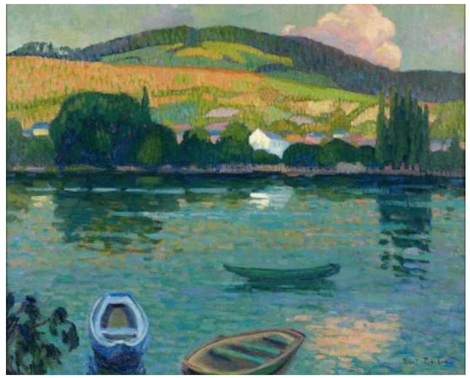
EFFECT OF THE REDUCED VELOCITY

$$U_R = \frac{T_{\mathrm{SOLID}}}{T_{\mathrm{FLUID}}} = \frac{U_0}{c}$$

SMALL REDUCED VELOCITY

$$U_R = \frac{T_{\text{SOLID}}}{T_{\text{FLUID}}} = \frac{U_0}{c} << 1$$



SMALL REDUCED VELOCITY

Solid

T_{SOLID}

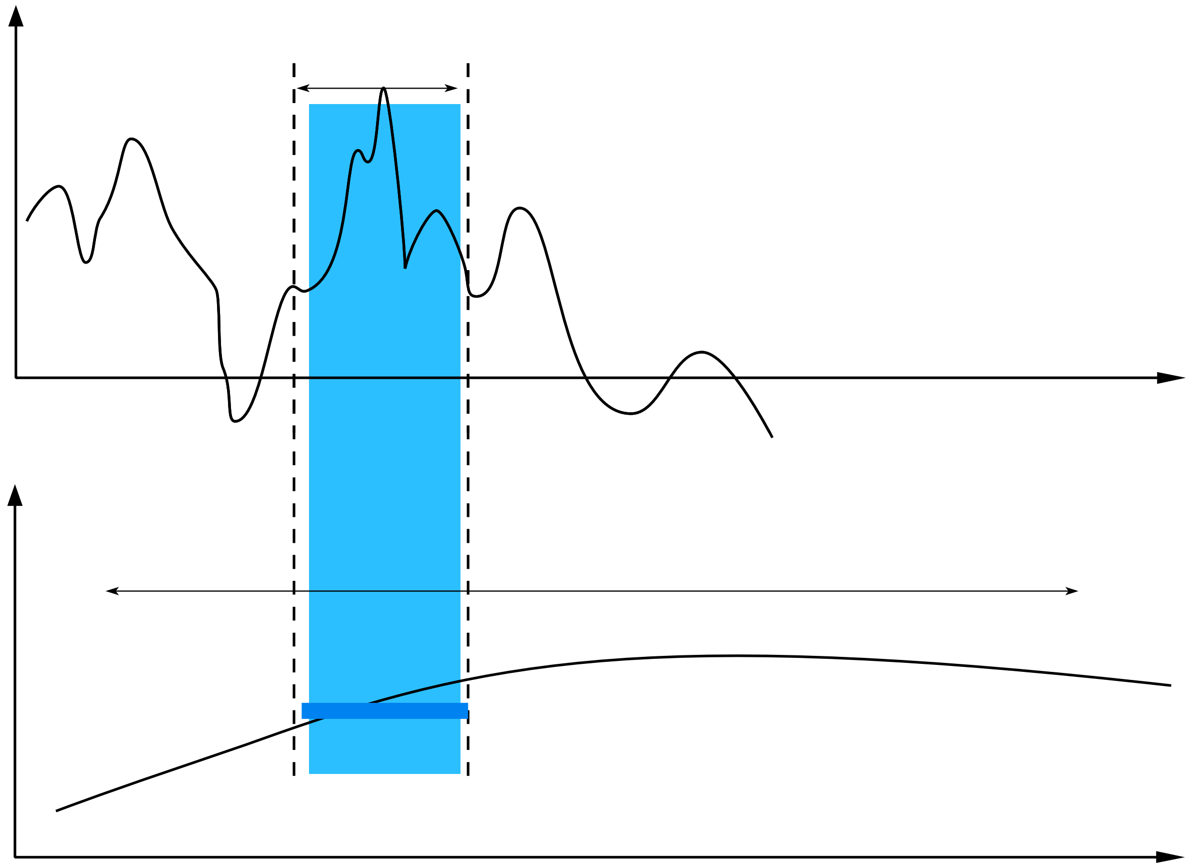
time

Fluid

T_{FLUID}

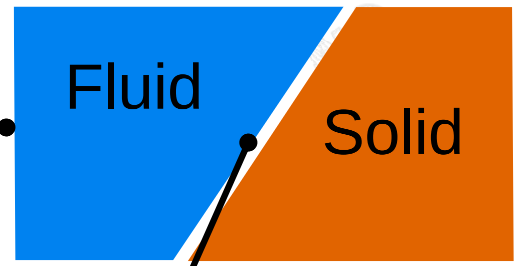
time

PRENDRE LES COURBES DANS LA DIAPO D'APRES
Et le mettre à l'échelle



BOUNDARY CONDITIONS ON THE FLUID DOMAIN

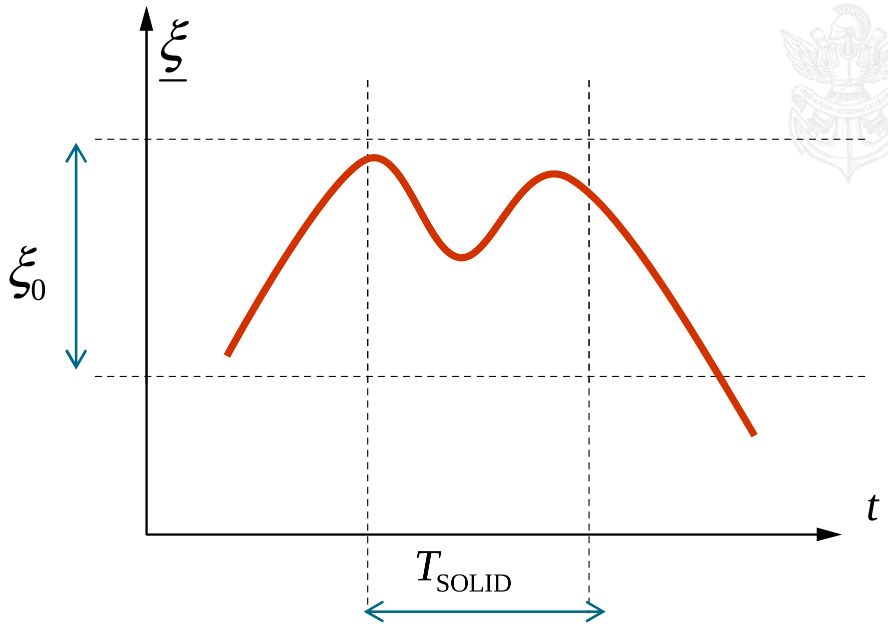
Fluid boundary conditions



Kinematic condition

$$\underline{U} = \frac{\partial \underline{\xi}}{\partial t}$$

BOUNDARY CONDITIONS ON THE FLUID DOMAIN



$$\underline{U} = \frac{\partial \underline{\xi}}{\partial t} = O\left(\frac{\xi_0}{T_{solid}}\right)$$

BOUNDARY CONDITIONS ON THE FLUID DOMAIN

$$\underline{U} = O(U_0)$$

$$\underline{U} = O\left(\frac{\xi_0}{T_{solid}}\right)$$

SMALL REDUCED VELOCITY

$$U_0 << \frac{\xi_0}{T_{solid}}$$

$$\underline{U} = O(U_0)$$

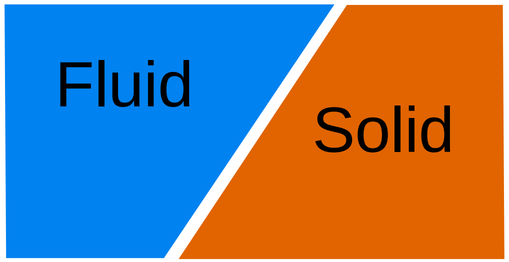
$$\underline{U} = O\left(\frac{\xi_0}{T_{solid}}\right)$$

SMALL REDUCED VELOCITY

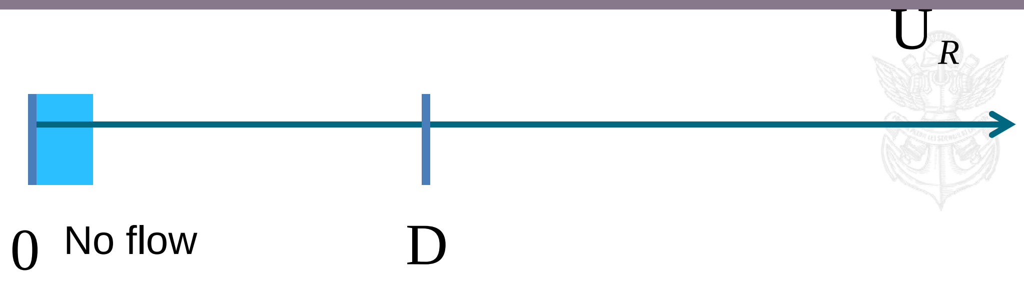
$$U_0 << \frac{\xi_0}{T_{solid}}$$

$$\frac{U_0 T_{solid}}{L} << \frac{\xi_0}{L}$$

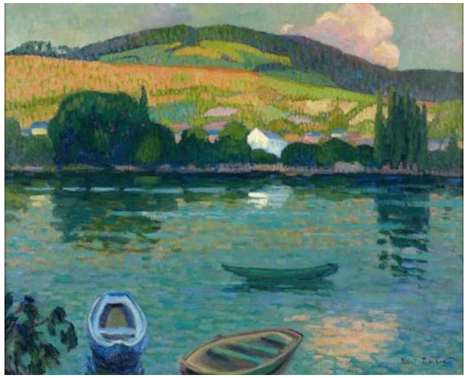
$$\boxed{U_R << D}$$



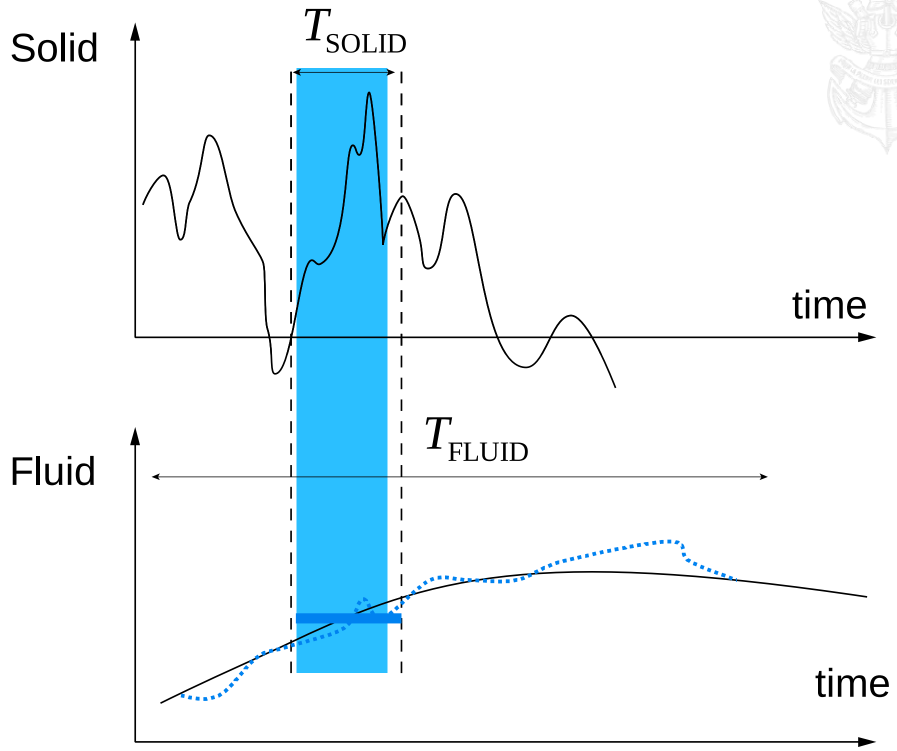
SMALL REDUCED VELOCITY



$$U_R << D$$

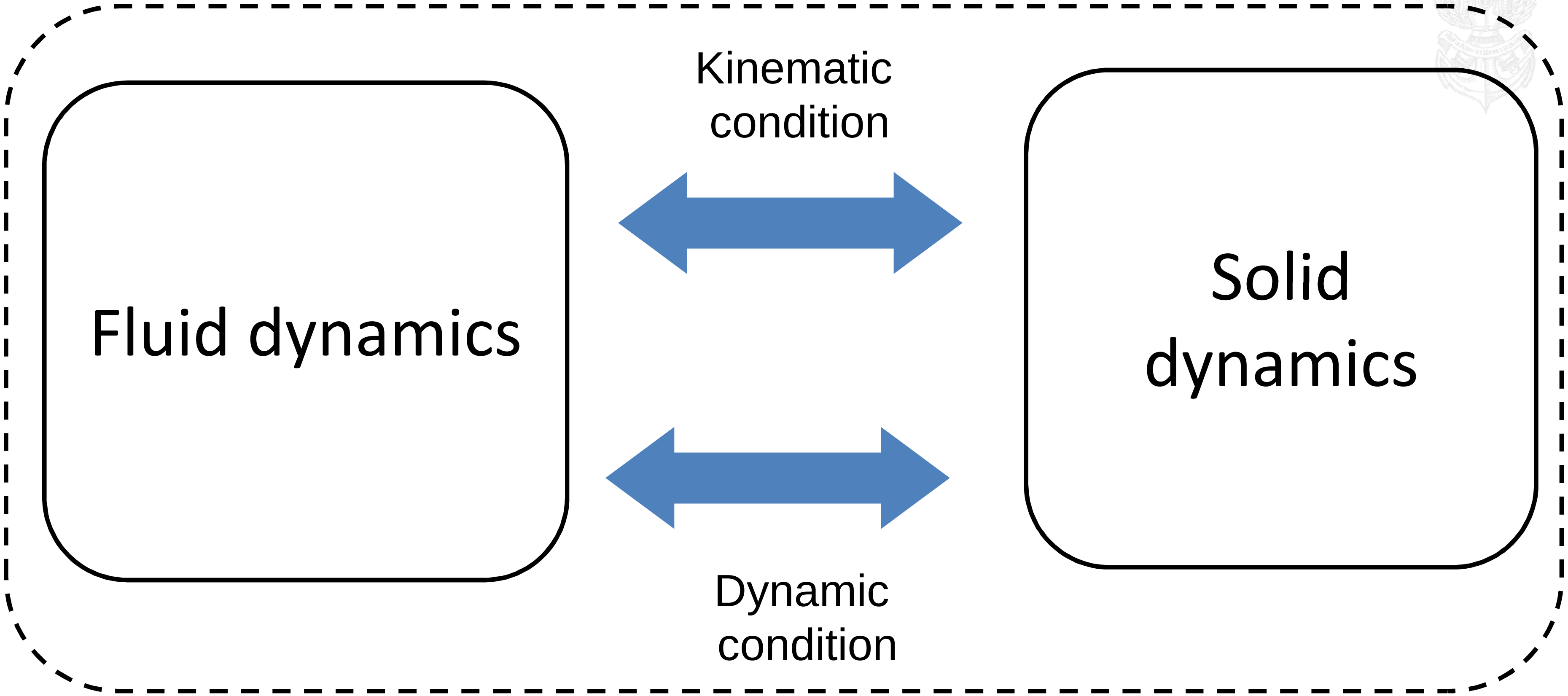


SMALL REDUCED VELOCITY



APPARENTLY STILL FLUID

GENERAL CASE



COUPLING WITH A STILL FLUID