

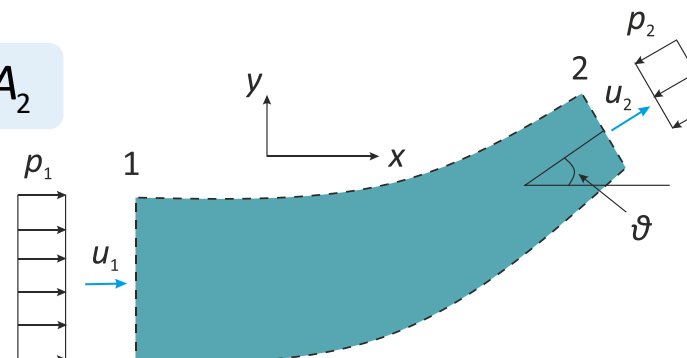
Δύναμη σε καμπύλο αγωγό 2/4

- Εξίσωση συνέχειας

$$\dot{m}_1 = \dot{m}_2 = \dot{m} \Rightarrow \rho u_1 A_1 = \rho u_2 A_2 \Rightarrow u_1 A_1 = u_2 A_2$$

- Εξισώσεις ορμής

- Η ταχύτητα (και η ορμή) μεταβάλλεται κατά τις x και y διευθύνσεις

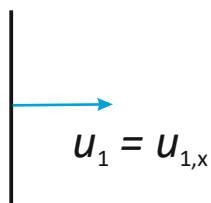


$$F_x = \dot{m}_2 u_{2,x} - \dot{m}_1 u_{1,x} = \rho u_2 A_2 u_{2,x} - \rho u_1 A_1 u_{1,x} = \dot{m} (u_{2,x} - u_{1,x})$$

$$F_y = \dot{m}_2 u_{2,y} - \dot{m}_1 u_{1,y} = \rho u_2 A_2 u_{2,y} - \rho u_1 A_1 u_{1,y} = \dot{m} (u_{2,y} - u_{1,y})$$

- Ταχύτητες

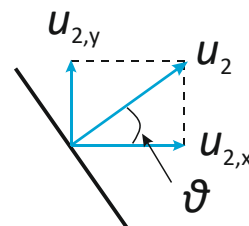
Διατομή 1



$$u_{1,x} = u_1 \quad (+)$$

$$u_{1,y} = 0$$

Διατομή 2



$$u_{2,x} = u_2 \cos \vartheta \quad (+)$$

$$u_{2,y} = u_2 \sin \vartheta \quad (+)$$