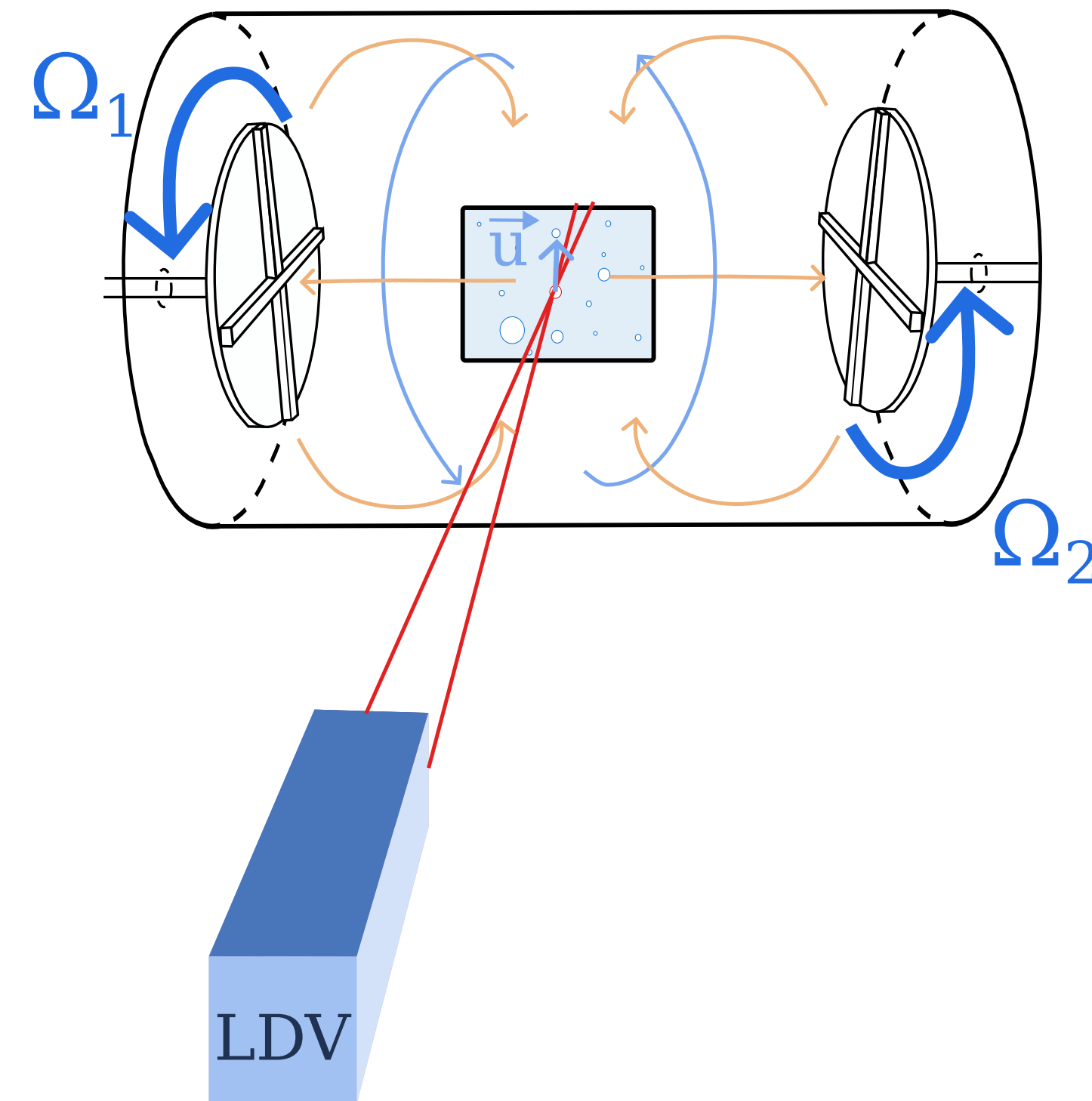


# Turbulent bubbly von Karman flow

V. Mouet, F. Pétrélis and S. Fauve (LPENS)

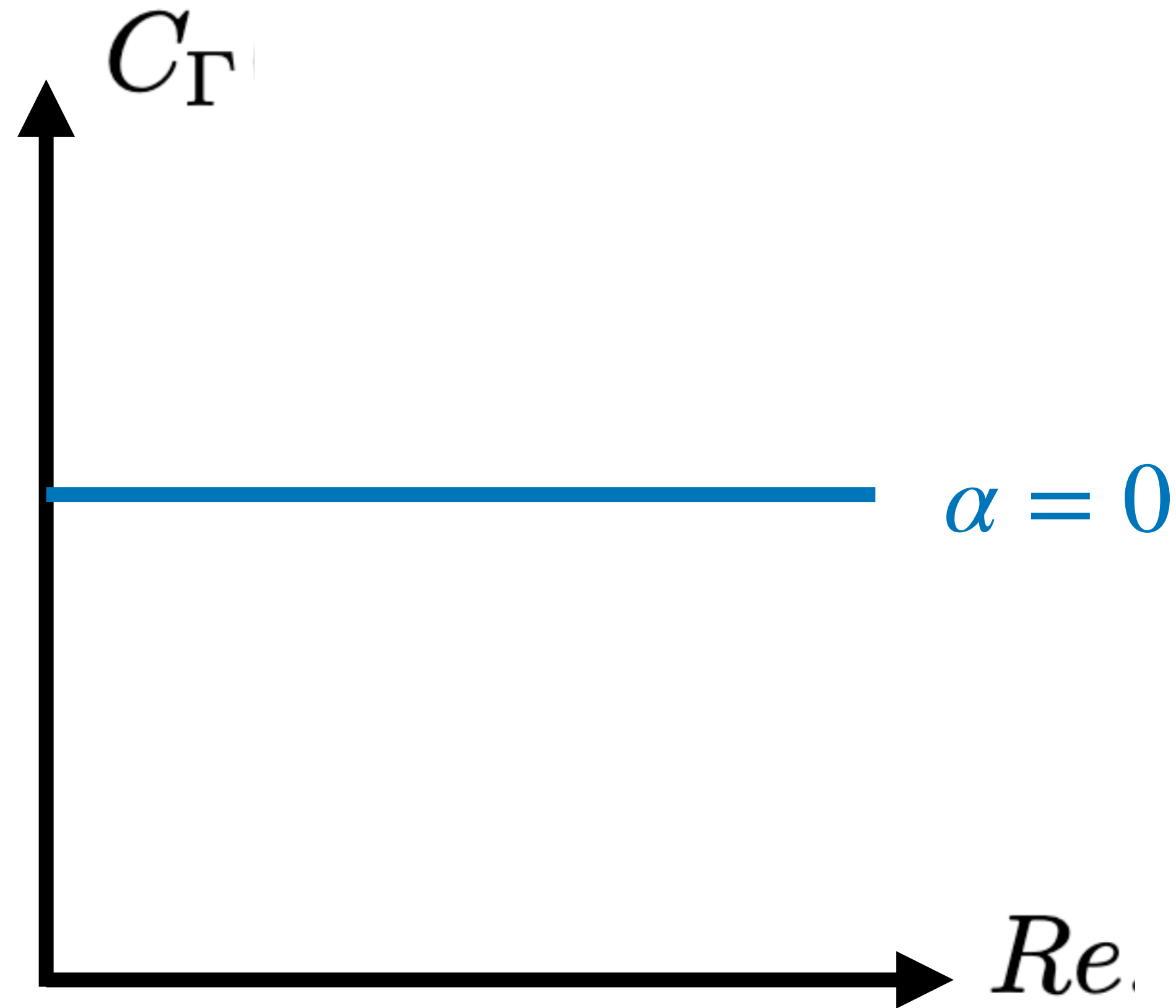


Mean torque :

$$\Gamma = C_{\Gamma}(\alpha, Re, Fr, We, \frac{\rho_L}{\rho_G}, \frac{\eta_L}{\eta_G}) \bar{\rho} R^5 \Omega^2$$

Very turbulent

$Re_i \gg 1$



**What happens when  $\alpha > 0$  ?**

- Torque reduction ?
- Torque increase ?
- Dependence in  $Re$  ?