

$$1, \quad C_L \sim C_\alpha \quad \text{proxy for } C_L$$

2,

L/d is maximized when

$$\alpha = d_c/d_{max} \approx \alpha_{sm4}$$

$$M=0$$

$$0 = C_{m0} + C_{m\alpha} \alpha_{L/d_{max}} + C_{m\delta_e} \delta_e$$

$$\delta_{L/d_{max}} = - \left(\frac{C_{m0}}{C_{m\delta_e}} \right)$$

$$- \left(\frac{C_{m0} + C_{m\alpha} \alpha_{L/d_{max}}}{C_{m\delta_e}} \right)$$

$$\alpha_{L/d_{max}} = \text{there is an } \alpha$$

$$b) \quad L = Y_L x$$

$$Y_L = \frac{N_{cylinder}}{l_f}$$