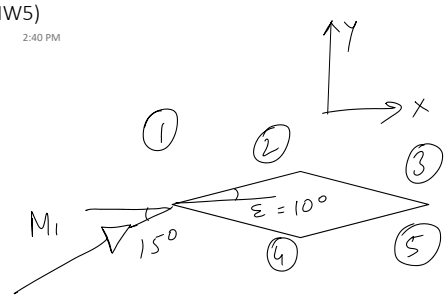
Problem 4 (HW5)

Friday, February 10, 2023 2:40 PM

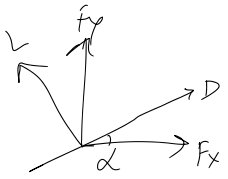


$\theta_{12} = \alpha - \varepsilon = 5°$ expansion

$\theta_{23} = 2\varepsilon = 20°$ "

$\theta_{14} = \alpha + \varepsilon = 25°$ compression

$\theta_{45} = 2\varepsilon = 20°$ expansion



$f_y = (p_4 + p_5 - p_2 - p_3) l \cos\epsilon$

$f_x = (p_2 - p_3 + p_4 - p_5) l \sin\epsilon$

$L = F_y \cos\alpha - F_x \sin\alpha$

$D = F_x \cos\alpha + F_y \sin\alpha$

$C_L = \frac{L}{\gamma p_1 M_1^2 l} = \frac{(p_4 + p_5 - p_2 - p_3)}{\gamma p_1 M_1^2} \cos\epsilon$

$\rho u^2 = M^2 \rho a^2$

$= \gamma M^2 p$