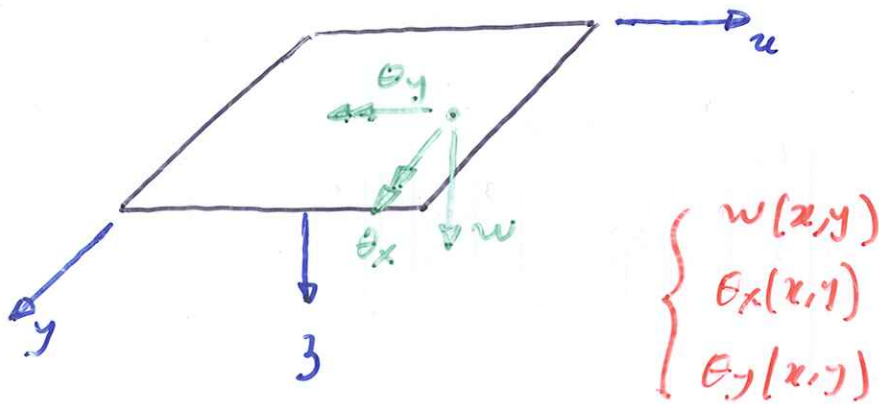
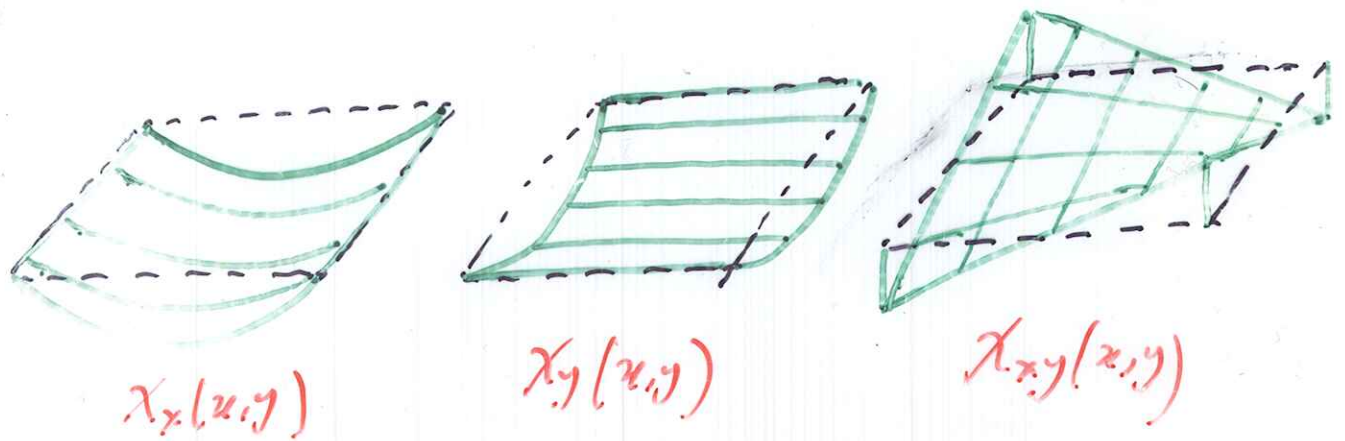


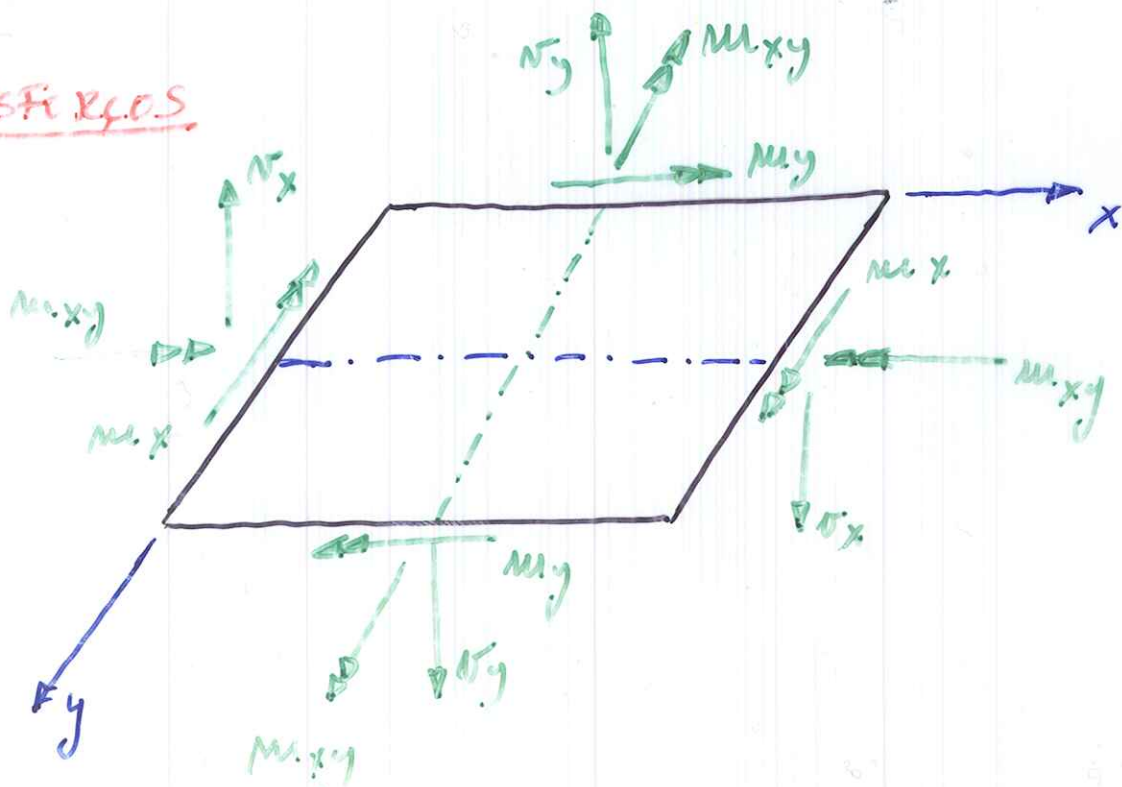
DESLOCAMENTOS



DEFORMAÇÕES



ESFORÇOS



* COMPATIBILIDADE

$$\begin{aligned} \chi_x &= -\frac{\partial^2 w}{\partial x^2} \\ \chi_y &= -\frac{\partial^2 w}{\partial y^2} \\ \chi_{xy} &= -\frac{\partial^2 w}{\partial x \partial y} \end{aligned}$$

* EQUILÍBRIO

$$\begin{aligned} \frac{\partial m_x}{\partial x} + \frac{\partial m_{xy}}{\partial y} - v_x &= 0 \\ \frac{\partial m_{xy}}{\partial x} + \frac{\partial m_y}{\partial y} - v_y &= 0 \\ \frac{\partial v_x}{\partial x} + \frac{\partial v_y}{\partial y} + q &= 0 \end{aligned}$$

$$\text{ou} \quad \frac{\partial^2 m_x}{\partial x^2} + \frac{\partial^2 m_y}{\partial y^2} + 2\frac{\partial^2 m_{xy}}{\partial x \partial y} + q = 0$$

* ELASTICIDADE

$$\begin{bmatrix} m_x \\ m_y \\ m_{xy} \end{bmatrix} = \frac{E h^3}{12(1-\nu^2)} \begin{bmatrix} 1 & \nu & 0 \\ \nu & 1 & 0 \\ 0 & 0 & (1-\nu) \end{bmatrix} \begin{bmatrix} \chi_x \\ \chi_y \\ \chi_{xy} \end{bmatrix}$$

$$D = \frac{E h^3}{12(1-\nu^2)}$$