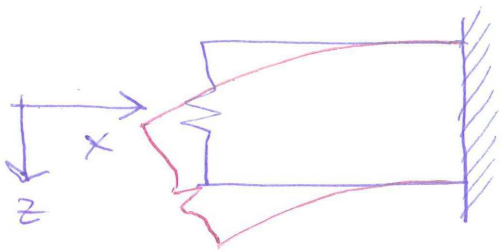
Boundary conditions for thin plates



$w = 0$

$\varphi_x = 0$

$\Rightarrow$

$\varphi_y = 0$

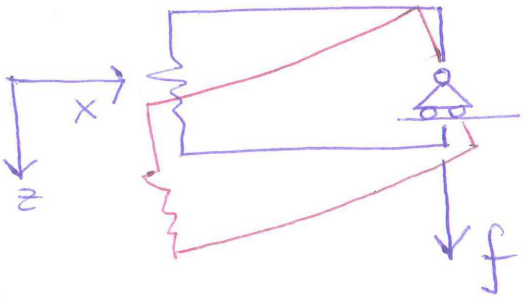
$m_{xx} = \cdots$

$m_{yy} = \nu\, m_{xx}$

$m_{xy} = 0$

$V_x = \cdots$

$V_y = \cdots$



$w = 0$

$m_{xx} = 0$

$\Rightarrow$

$\varphi_x = \cdots$

$\varphi_y = 0$

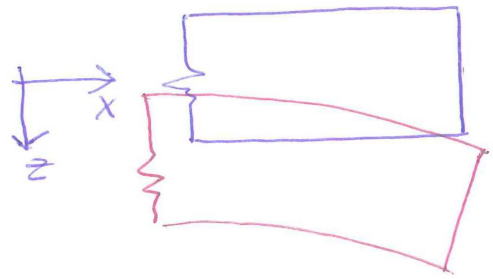
$m_{yy} = 0$

$m_{xy} = \cdots$

$V_x = \cdots$

$V_y = \cdots$

$f = V_x + \dfrac{\partial m_{xy}}{\partial y}$



$m_{xx} = 0$

$V_x + \dfrac{\partial m_{xy}}{\partial y} = 0$ $\Rightarrow$

$w = \cdots$

$\varphi_x = \cdots$

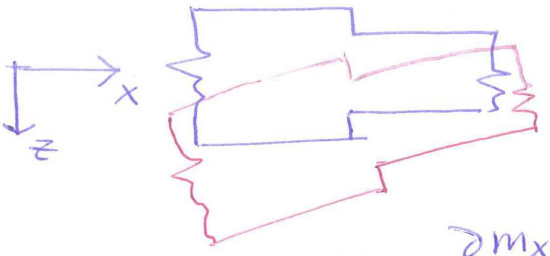
$\varphi_y = \cdots$

$m_{yy} = \cdots$

$m_{xy} = \cdots$

$V_x = \cdots$

$V_y = \cdots$



$w_L = w_R$

$\varphi_{xL} = \varphi_{xR}$

$m_{xxL} = m_{xxR}$

$V_{xL} + \dfrac{\partial m_{xyL}}{\partial y} = V_{xR} + \dfrac{\partial m_{xyR}}{\partial y}$

$\Rightarrow$

$\varphi_{yL} = \varphi_{yR}$

$m_{yyL} = \cdots$ $m_{yyR} = \cdots$

$m_{xyL} = \cdots$ $m_{xyR} = \cdots$

$V_{xL} = \cdots$ $V_{xR} = \cdots$

$V_{yL} = \cdots$ $V_{yR} = \cdots$