

HAMILTONIANA POÇO COM BARREIRA DUPLA

$$\mathbf{H} = -\frac{\hbar^2}{2} \frac{\partial}{\partial z} \frac{1}{m(z)} \frac{\partial}{\partial z} + V(z) - \begin{cases} ez_L(F_{est} + F_{osc} \sin(\omega t)) & \text{se } z \leq z_L \\ ez(F_{est} + F_{osc} \sin(\omega t)) & \text{se } z_L \leq z \leq z_R \\ ez_R(F_{est} + F_{osc} \sin(\omega t)) & \text{se } z \geq z_R \end{cases}$$

POTENCIAL ABSORVEDOR

$$A(z) = \begin{cases} \frac{1}{1+\exp(-(z+0,45L)/5)} & \text{se } z \leq 0 \\ \frac{1}{1+\exp(-(0,45L-z)/5)} & \text{se } z > 0 \end{cases}$$