

Pseudo code

Ex 6.4

↳ Kirchhoff's laws  
flow in  $\downarrow$  = flow out  $\uparrow$

↳  $V_1 \quad V_2 \quad V_3 \quad V_4$

$$A = \begin{bmatrix} \vdots & \vdots & \vdots & \vdots \end{bmatrix} = \begin{bmatrix} \sim \\ \sim \\ \sim \end{bmatrix} \quad \vec{V}$$

~~total~~

↳ Import np.linalg.solve

Input A, V

Ex 6.9

if  $n = m$

$$H_{mn} = \frac{(kn\pi)^2}{2\omega^2} + \frac{a}{2}$$

if  $n \neq m$

case I)

$m, \text{ odd} \quad n, \text{ odd}$   
 $m, \text{ even} \quad n, \text{ even}$

$$H_{mn} = 0$$

↳ if  $m, \text{ even} \quad n, \text{ odd}$  or  $m, \text{ odd} \quad n, \text{ even}$

$$H_{mn} = -\left(\frac{2L}{\pi}\right)^2 \left(\frac{2a}{L^2}\right) \left(\frac{mn}{(m^2 - n^2)^2}\right)$$

Prob. density

↳ Eigen vectors

$n \rightarrow 0: n_{max}$

$$\psi_n \propto \sin(n\pi x/L)$$

$$\psi(x) = \sum \psi_n \sin(n\pi x/L)$$

$\psi^2$

↳ Plot against x.