

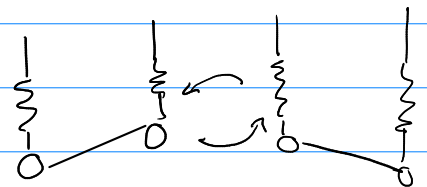
Physics 220 Homework 7 Problem 1c.

$$M = \begin{pmatrix} 2 & & \\ & 2 & \\ & & \frac{L^2}{2} \end{pmatrix} \quad V = \begin{pmatrix} 0 & & \\ & 2 & \\ & & -\frac{L^2}{2} \end{pmatrix}$$

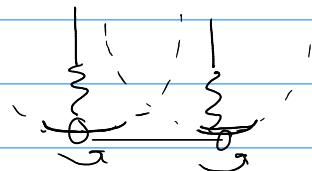
$$V - \lambda M = \begin{pmatrix} -2\lambda & & \\ & 2 - 2\lambda & \\ & & \frac{L^2}{2}(1 - \lambda) \end{pmatrix}$$

$$\lambda = -1, 0, +1$$

$$\lambda = -1 \longrightarrow \begin{pmatrix} 0 & & \\ & 0 & \\ & & \frac{L^2}{2} \end{pmatrix}$$



$$\lambda = 0 \longrightarrow \begin{pmatrix} 1 & & \\ & 0 & \\ & & 0 \end{pmatrix}$$



$$\lambda = +1 \longrightarrow \begin{pmatrix} 0 & & \\ & 1 & \\ & & 0 \end{pmatrix}$$

