

1. Zyklotron

$$m = 5 \text{ kg}; \quad k = 2 \text{ N/m}; \quad a = 0.1 \text{ m}; \quad h = 0.4 \text{ m}; \quad l = 0.1 \text{ m}$$

$$(a) \quad \omega = \sqrt{\frac{mgl}{I}}$$

2. Geschwindigkeitsfilter

$$\vec{E} = \begin{pmatrix} 0 \\ 0 \\ E \end{pmatrix}; \quad \vec{B} = \begin{pmatrix} 0 \\ B \\ 0 \end{pmatrix}$$

$$(a) \quad \omega = \sqrt{\frac{mgl}{I}}$$

3. Der magnetische Spiegel

$$m = 5 \text{ kg}; \quad k = 2 \text{ N/m}; \quad a = 0.1 \text{ m}; \quad h = 0.4 \text{ m}; \quad l = 0.1 \text{ m}$$

$$(a) \quad \omega = \sqrt{\frac{mgl}{I}}$$