

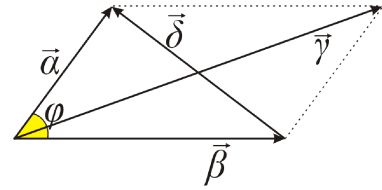
➔ **ΠΡΟΣΟΧΗ:** Οι τύποι που είναι σε πλαίσιο υπάρχουν στο σχολικό βιβλίο

Μαθηματικά:

$$\eta\mu 180^\circ = \eta\mu\pi = 0, \quad \eta\mu 270^\circ = \eta\mu \frac{3\pi}{2} = -1$$

$$\sigma\upsilon\nu 180^\circ = \sigma\upsilon\nu\pi = -1, \quad \sigma\upsilon\nu 270^\circ = \sigma\upsilon\nu \frac{3\pi}{2} = 0, \quad \sigma\upsilon\nu 120^\circ = \sigma\upsilon\nu \frac{2\pi}{3} = -\frac{1}{2}$$

$$\vec{\gamma} = \vec{\alpha} + \vec{\beta} \Rightarrow \gamma = \sqrt{\alpha^2 + \beta^2 + 2\alpha\beta \sigma\upsilon\nu\phi}, \quad \vec{\delta} = \vec{\alpha} - \vec{\beta} \Rightarrow \delta = \sqrt{\alpha^2 + \beta^2 - 2\alpha\beta \sigma\upsilon\nu\phi}$$



Κρούσεις:

$$v_1' = \frac{m_1 - m_2}{m_1 + m_2} v_1 + \frac{2m_2}{m_1 + m_2} v_2$$

$$v_2' = \frac{2m_1}{m_1 + m_2} v_1 + \frac{m_2 - m_1}{m_1 + m_2} v_2$$

$$v_1 + v_1' = v_2 + v_2'$$

Στερεό Σώμα:

$$\omega = \omega_0 \pm |a_\gamma| t \quad \phi = \omega_0 t \pm \frac{1}{2} |a_\gamma| t^2 \quad \hat{S} = R\phi \quad N = \frac{\phi}{2\pi} \quad a_{\varepsilon\pi\iota\tau\rho.} = \frac{dv}{dt} = a_\gamma R \quad \tau = Fd \eta\mu\phi$$

Ταλαντώσεις:

$$v_{\max} = \omega A$$

$$a_{\max} = \omega^2 A$$

$$D = m\omega^2$$

$$T = 2\pi \sqrt{\frac{m}{D}}$$

$$E_T = K + U = \frac{1}{2} D A^2 = \frac{1}{2} m v_{\max}^2$$

Κύματα:

$$v = \frac{x}{t}$$

$$\phi = 2\pi \left(\frac{t}{T} \pm \frac{x}{\lambda} \right)$$

$$r_1 - r_2 = N\lambda \quad (N = 0, \pm 1, \pm 2, \dots)$$

$$r_1 - r_2 = (2N + 1) \frac{\lambda}{2} \quad (N = 0, \pm 1, \pm 2, \dots)$$

$$x_K = \kappa \frac{\lambda}{2} \quad (\kappa = 0, 1, 2, \dots)$$

$$x_\Delta = (2\kappa + 1) \frac{\lambda}{4} \quad (\kappa = 0, 1, 2, \dots)$$

$$A' = 2A \sigma\upsilon\nu 2\pi \frac{x}{\lambda} \quad |A'| = 2A \left| \sigma\upsilon\nu 2\pi \frac{x}{\lambda} \right|$$

Ηλεκτρομαγνητισμός:

$$R = R^* \ell \quad V_{\Pi} = E - I r \quad P = IV = I^2 R = \frac{V^2}{R} \quad Q = I^2 R t \quad B = N \frac{\mu_0}{4\pi} \frac{2I}{r} \quad B = N \frac{\mu_0}{4\pi} \frac{2\pi I}{r}$$

$$R = \frac{mv}{B|q|}$$

$$T = \frac{2\pi m}{B|q|}$$

$$\beta = v_{\parallel} T = v \sigma\upsilon\nu\phi \frac{2\pi m}{B|q|}$$

Επαγωγή:

$$q_{\varepsilon\pi.} = N \frac{|\Delta\Phi|}{R}$$

$$E_{\varepsilon\pi.} = \frac{1}{2} B \omega \ell^2$$

$$E_{\varepsilon\pi.} = \frac{1}{2} B \omega r^2$$

$$Q = I_{\varepsilon\nu}^2 R t$$

$$\bar{P} = I_{\varepsilon\nu} V_{\varepsilon\nu} = I_{\varepsilon\nu}^2 R$$

Κβαντομηχανική:

$$I = \frac{P}{A} = \frac{E}{A \cdot t} = \frac{N \cdot h \cdot f}{A \cdot t}$$

$$f_0 = \frac{\phi}{h}$$

$$V_0 = \frac{h}{e} f - \frac{\phi}{e}$$

$$\lambda = \frac{h}{p}$$