Table of contents

Potential (intrinsic energy of inertia)

Electric Potential U:

$$e = \text{electron charge} \qquad q = ne = \text{charge} \qquad n \in \mathbb{N} \tag{1}$$

$$U = \frac{E_{pot}}{q} = \frac{m}{q}c^2 = \kappa c^2 \tag{2}$$

Voltage (potential difference, tension):

$$V = \Delta U = d \cdot \mathcal{E} = Z \cdot I = ... \qquad Z = \text{Resistance} \tag{3}$$

$$E_{kin}^{max} = eV_0 = h(\nu - \nu_0) \tag{4}$$

Action Quantum, Planck Constant (Energy-Frequency-Slope)[1]:

$$\begin{aligned} h = \tan(\alpha) = \frac{E_{kin}}{\nu_i - \nu_0} = \frac{eV_{0i}}{\nu_i - \nu_0} \equiv \\ \frac{\Delta E}{\nu_0} = \frac{W}{\nu_0} = \frac{F_{EM} \cdot x}{\nu_0} = \hbar k \lambda \end{aligned} \tag{5}$$

$$\hbar = \frac{\Delta E}{\omega} = \tag{6}$$

$$\begin{aligned} &\alpha = \angle(E_{kin}, \nu) \qquad e = \text{electron charge} \\ &V_0 = \text{Opposing Potential } (I = 0) \qquad E_{kin}^{max} = eV_0 \end{aligned} \tag{7}$$

[1] Wirkungsquantum