

TRANSIENT PROTON MASS & RADIAL LENGTH CHANGE DURING ELECTROLYSIS OF WATER

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The time for hydrogen to evolve at the cathode is inversely proportional to the frequency of a photon formed from the proton under external current force during electrolysis. The mass and radial length of the proton undergoes a temporary change during electrolysis. I have deconstructed the magnetic flux quantum.

Consider the electrolysis of water where current passed $I = 0.068$ amps for time, $t = 18000$ seconds

$$Q = I t = 0.068 \times 18000 = 1224 \text{ C}$$

$$1224 / 1.60217653 \times 10^{-19} = 7.639607603 \times 10^{21}$$

protons discharged at the cathode

This can be verified by Faraday's Equation

$$Mass = \frac{A_R \times Q}{F \times Z}$$

Voltage is acceleration, Current squared is force and Resistance is current per photon mass or c/e

$$\Omega = \frac{c}{e} = 1.871157469 \times 10^{27} \text{ amp} / \text{kg}$$

Resistance is constant

$$\Omega = \frac{I}{m} = 1.871157469 \times 10^{27} \text{ amp} / \text{kg}$$

$$\Omega = \frac{0.068}{m} \quad \text{Transient mass}$$

$$m = 3.63411424 \times 10^{-29} \text{ kg}$$

The Planck energy involves $2\pi \times 137.036$

$$E = m \times 2\pi \times 137.036 \times c^2 \times 10^{-7} = 2.81225386 \times 10^{-16} \text{ J}$$

$$E = h f$$

$$f = 4.24422646 \times 10^{17} \text{ Hz}$$

$$t = 1/f = 2.35614196 \times 10^{-18} \text{ s}$$

$$18000 / 2.35614196 \times 10^{-18} = 7.639607603 \times 10^{21}$$

Thus the time for hydrogen to evolve at the cathode is inversely proportional to the frequency of the changed mass of a proton under external current stress during electrolysis of water.

$$c = r / t \text{ and } r = 2.99792458 \times 10^8 \times 2.35614196 \times 10^{-18}$$

$$r = 7.0635359 \times 10^{-10} \text{ m}$$

$$q^2 = m \times R \times 10^7$$

$$R = 7.0635359 \times 10^{-10} \times 10^{-7} \text{ m and } m = 3.63411424 \times 10^{-29} \text{ kg}$$

the transient mass change of a proton

$$h/2e = I \times \pi \times R \times 137.036$$

$$\Phi = 0.068 \times \pi \times 7.0635359 \times 10^{-17} \times 137.0359991$$

I have deconstructed the magnetic flux quantum.

$$\text{Change in proton mass and length } q^2 = m \times R \times 10^7$$

Proton

$$(1.60217653 \times 10^{-19})^2 = 1.672622216 \times 10^{-27} \times 1.5346978 \times 10^{-18} \times 10^7$$

Transient mass

$$(1.60217653 \times 10^{-19})^2 = 3.63411424 \times 10^{-29} \times 7.06353588 \times 10^{-17} \times 10^7$$

DC introduced mass

$$(1.60217653 \times 10^{-19})^2 = 7.89585728 \times 10^{-31} \times 3.2510334575 \times 10^{-15} \times 10^7$$

$$\text{The energy of a proton } E = mc^2 = 1.50327788 \times 10^{-10} \text{ J}$$

$$\text{The force of } 0.068 \text{ amps is } (0.068)^2$$

$$R = E / F = 1.50327788 \times 10^{-10} / (0.068)^2$$

$R = 3.2510334575 \times 10^{-8} \text{ m}$ is the radius of the photon of mass $7.89585728 \times 10^{-31} \text{ kg}$ introduced by DC current. This photon impacts the proton mass and a new mass is formed $R = 7.0635359 \times 10^{-10} \times 10^{-7} \text{ m}$ and $m = 3.63411424 \times 10^{-29} \text{ kg}$. The proton under external electrolysis force of $(0.068)^2$ current squared reduces its mass from $1.672622216 \times 10^{-27} \text{ kg}$ to $3.63411424 \times 10^{-29} \text{ kg}$ and increases its radial length from $1.5346978 \times 10^{-18} \text{ m}$ to $7.0635359 \times 10^{-17} \text{ m}$. This transient mass determines electrolysis clock time the inverse of its frequency.