## **Defining Drift Current**

## DRIFT = c x v

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Electric current is a measure of motion of atoms and 186-ether. An impact force of current squared causes copper atoms in a wire to drift at Maxwell's drift velocity. There is another drift of 186-ether particles caused by the force of current squared. Current is not the flow of electrons. The measure of charge is that of atoms and 186-ether. Electrons are just one example of a measure of charge.

Consider a current of 5.0 amps thru a copper wire of cross section area  $5.0 \times 10^{-7} \text{ m}^2$ .

Drift Velocity Formula: I = n A v e

Current, I = 5.0 amps

Number of copper atoms per meter cubed of copper wire,  $n = 8.5 \times 10^{28}$ 

Cross section area of the copper wire,  $A = 5.0 \times 10^{-7} \text{ m}^2$ 

Elementary charge,  $e = 1.60217653 \times 10^{-19} C$ 

Drift velocity, v = 7.34295219 x 10<sup>-4</sup> m/s

Dividing the length of 2 x  $10^{6}$  m by 8.5 x  $10^{28}$  particles we arrive at R =  $2.352941132 \times 10^{-23}$  m.

Clearly E/B changes from c to v because electric field E is constant while the magnetic field B measures different for  $r = 9.6064088 \times 10^{-12} m$  and  $R = 2.352941132 \times 10^{-23} m$  at  $t = 3.20435306 \times 10^{-20}$ . B<sub>1</sub> = I/r and B<sub>2</sub> = I/R and c = r/t and v = R/t where E = I/t and I=5amps.

 $\Phi = I x \pi x r x 10^{-7} x 137.036 = h / 2e under I = 5 amp stress$ 

 $r = 9.6064088 \times 10^{-12} m$  This length represents a wave length – spiral motion of a photon

 $q^2 = m * x 9.6064088 \times 10^{-12} m$ 

The source of the magnetic flux quantum  $\Phi$  is the changed mass m \* and radius r of copper.

Resistance, R = I / m

$$m* = \frac{I}{R} = \frac{5}{1.871157469 \times 10^{27}} = 2.672142823 \times 10^{-27} kg$$

Under, 5 amp stress the mass of copper is changed from 1.05520602 x  $10^{-25}$  kg to m \*

The atomic mass of copper is 63.546g. Divide by Avogadro's number for one atom mass of copper which is  $m_1 = 1.05520602 \times 10^{-25}$  kg.

Momentum = mv = Ft

 $1.859222909 \times 10^{-9} \text{ kg x v} = 25 \times 3.20435306 \times 10^{-20} \text{ s}$ 

v = 4.3087263 x 10<sup>-10</sup> m/s

One coulomb of ether in kg =  $1.859222909 \times 10^{-9}$  kg x  $6.24150948 \times 10^{18}$  =  $1.160435741 \times 10^{10}$  kg

Current is the momentum of one coulomb of ether,

Ether Current I = 5 amps =  $1.160435741 \times 10^{10}$ kg x  $4.3087263 \times 10^{-10}$  m/s per one coulomb

Energy of ether drift, E = F r where  $r = 9.6064088 \times 10^{-12} m$  and  $F = I^2$ 

 $E = 25 \times 9.6064088 \times 10^{-12} = 2.4016022 \times 10^{-10} J$ 

 $E = m (cv) = 1.859222909 \times 10^{-9} (2.99792458 \times 10^8 \times 4.3087263 \times 10^{-10}) = 2.4016022 \times 10^{-10} J$ 

**Copper Current I** = 5 amps =  $2.672142823 \times 10^{-27} \times 6.24150948 \times 10^{18} \times 2.99792458 \times 10^{8}$  per one Coulomb

The drift velocity of changed mass 2.672142823 x  $10^{-27}$  kg of copper atoms **v** = 7.34295219 x  $10^{-4}$  m/s

 $E = m (cv) = 2.672142823 \times 10^{-27} \times (2.99792458 \times 10^8 \times 7.34295219 \times 10^{-4}) = 5.88235283 \times 10^{-22} J$ 

E = FR = 25 x 2.352941132 x10<sup>-23</sup> = 5.88235283 x 10<sup>-22</sup> J

## Remarks

The drift of ether and atoms of the conductor can be calculated by E = m (cv)

The mass of copper atoms changed under eVe stress from 1.05520602 x  $10^{-25}$  kg to m \*

Maxwell thought that drift velocity was that of electrons. This has now been shown to be a false assumption.