

steinmetz dollard

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According to a video produced by Borderlands Science Research Foundation,ⁱ Tesla worked on “longitudinal electricity.” The video demonstration, by physicist Eric Dollard and Tom Brown, is quite interesting. The concepts presented were attributed to a book by Charles Steinmetz titled *Electric Discharge Waves and Impulses*, published 1914.ⁱⁱ Among other claims made in the video is that longitudinal electricity is more “natural” than transverse.

video:

File: tesla transverse and longitudinal:

This file contains notes on the video

Outofpast/Charles proteus steinmetz: notes on Elementary Lectures

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<http://www.borderlands.com/dollardandtesla.htm>

awful typos, but basically summarizes Steinmetz book, with some stuff thrown in that was not from steinmetz.;

main difference:

dollard: DIELECTRIC ENERGY STORAGE SPATIALLY DIFFERENT THAN MAGNETIC ENERGY STORAGE

Unlike magnetism the energy is forced or compressed inwards rather than outwards. Dielectric lines of force push inward into internal space and along axis, rather than pushed outward broadside to axis as in the magnetic field. Because the lines are mutually repellent certain amounts of broadside or transverse motion can be expected but the phenomena is basically longitudinal. This gives rise to an interesting paradox that will be noticed with capacity. This is that the smaller the space bounded by the conducting structure the more energy that can be stored. This is the exact opposite of magnetism.

This paragraph from dollard seems to be related to pulsation of energy discussion on double-energy transients lecture pg 61 of steinmetz book:

CHARACTERISTIC IMPEDANCE AS REPRESENTATION OF PULSATION OF ENERGY FIELD

The ratio of magnetic storage ability to that of the dielectric is called the characteristic impedance. This gives the ratio of maximum voltage to maximum current in the oscillatory structure. However, as the magnetic energy storage is outward and the dielectric storage is inward the total or double energy field pulsates in shape or size. The axis of this pulsation of force is the impedance of the system displaying oscillations and pulsation occurs at the frequency of oscillation.

Dollard:

MISCONCEPTIONS OF PRESENT THEORY OF CAPACITANCE

The misconception that capacitance is the result of accumulating electrons has seriously distorted our view of dielectric phenomena.

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ⁱ <http://borderland.com>

ⁱⁱ <http://video.google.com/videoplay?docid=-721789270445596549#>