

# Displacement Experiment

The World Leader in Electromagnetic Physics  
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## The Question

The presently accepted model of light, Maxwell's Uniform Plane Wave Equation (UPWE), requires both of the following conditions to be true:

- 1) Electric fields are generated directly by changing magnetic fields.
- 2) Magnetic fields are generated directly by changing electric fields.

**Note: "directly" means spontaneously without charges.**

The first condition is given by Maxwell's version of Faraday's Law

$$1) \nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t} \quad (\text{see Note below})$$

The second from Maxwell's version of Ampere's law with the addition of Maxwell's Displacement current term

$$2) \nabla \times \mathbf{H} = \mathbf{J} + \frac{\partial \mathbf{D}}{\partial t}$$

The first equation is shown to be contradictory in the paper maxomis.pdf and illogical in the paper New Induction (ni.pdf). It is our position here at [www.Distinti.com](http://www.Distinti.com) that it is impossible for a changing magnetic field to directly create an electric field (without charges). It is analogous to claiming that the kinetic energy of a vertically shot bullet can convert directly to potential energy without the bullet. Both potential and kinetic energy are meaningless without the bullet.

Since the first equation is dubious, then what about the second? In this paper we propose, and execute, an experiment to verify/disprove the magnetic field contribution from Maxwell's Displacement current term. We call the experiment the Displacement Current Experiment.

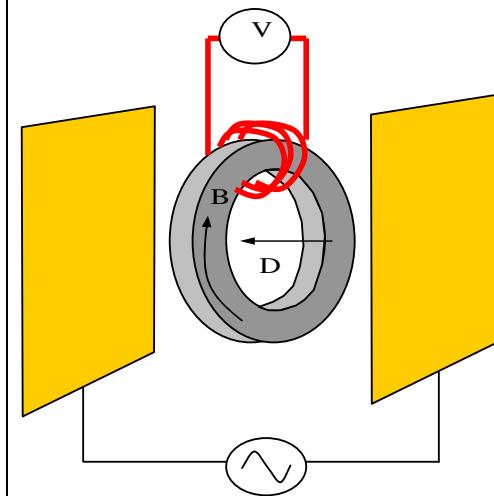
If the experiment shows that there is no magnetic field developed from a changing electric field, then the UPWE and all science developed from it are called into question.

New Electromagnetism provides a superior model for light (see NIA1). The new model is easier to use and provides very accurate results. The new model provides accurate antennae radiation pattern prediction, which was not possible with the UPWE.

Note: Faraday's Law specifies an emf from a changing magnetic field which is different from Maxwell's version which claims an actual electric field. In the paper Classic Flux Anomaly (classfluxanom.pdf) we show that Faraday's Law is only a simplification of actual flux dynamics and does not represent the complete number of interactions.

## The Experiment

To measure the magnetic field contributed by the displacement current, we suspend a permeable core between to conductive plates as shown in the following diagram. The photo at right shows an acrylic core in place of the permeable core (we are still waiting on the arrival of the special high frequency core from the manufacturer)



The experiment also permits the insertion of a brass screw through the center of the core in order to use the J term as a comparison (the brass screw is shown on top of the apparatus on the following photo).



## Status

The experiment was designed to use a particle accelerator core from Ferroxcube. The 10Mhz operating point of the core along with 63 turns of wire gives us a no-load output emf of 500mV (if classical theory is correct).

Unfortunately the distributor wants \$150.00 per core with a minimum order of 100. Because this situation does not seem like it is going to change, we have developed a few interesting arguments to suggest that the displacement current can not contribute flux. See our arguments in the following free papers

<http://www.distinti.com/docs/maxdispcur.pdf> (section 7)

and

[http://www.distinti.com/docs/displacement\\_dilemma.pdf](http://www.distinti.com/docs/displacement_dilemma.pdf)



Unlike classical theory, New Electromagnetism does not allow source-less electric or magnetic fields.

See [www.newelectromagnetism.com](http://www.newelectromagnetism.com)