

The goal of this work is to introduce a mathematical framework for physics where the speed of light is not constant.

$$\partial^\mu \partial_\mu = \frac{1}{c} \frac{\partial^2}{\partial t^2} - \nabla^2$$

The d'Alembert operator for space-time, the goal is to turn this into a transformation function based on a new physical dimension.

$$-\frac{\partial}{\partial t} (\nabla \times \mathbf{B}) = \nabla(\nabla \cdot \mathbf{E}) - \nabla^2 \mathbf{E}$$

$$\nabla^2 \mathbf{E} = \mu\epsilon \frac{\partial^2 \mathbf{E}}{\partial t^2}$$

The classical Maxwell's Wave equation for defining the speed of light.

$$\frac{\nabla \times \mathbf{A} - 3\pi \mathbf{M}}{\nabla \times \mathbf{A}} = \mu \frac{\mathbf{E} + 3\pi(\chi_\mu \oint_S \mathbf{E} \cdot d\mathbf{A} + \oint_S \mathbf{P} \cdot d\mathbf{A})}{\mathbf{E}} = \epsilon$$

After some serious manipulation of electromagnetic identities I achieve the above.

$$\mathbf{A} = \int \frac{\nabla' \times \mathbf{M}}{r} d^3 x'$$

Using the above identity we should be able to correlate the B and E fields and produce a formula that varies the speed of light on a function of the M and P fields.

$$\mu\epsilon(\chi): \mu\epsilon(1\epsilon_0) = \mu_0\epsilon_0$$