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Theory Uniting the Principles of Electrodynamics and Mechanics

Theory of Erdogan's Field

The First Section

The Scalar Model For the Theory

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Summary

Theory Of Erdogan's field is the theory that works to link the electric and magnetic fields to the laws governing the movement of the physical point and also with the science of mechanics, This theory proves that movement of any material point can generate two perpendicular areas which are the electric and magnetic fields.

This theory consists of two parts:
1 - the first part, is what is special as the standard theory and the formula is working on linking the electric and magnetic fields with classical mechanics
2 - The second part is destined for the private as the theory and formula is working on linking the electric and magnetic fields relative mechanics and advanced

This theory has great importance because it is considered as a link between electromagnetic theory and the science of mechanics, and in general it helps unify the physical sciences, including astronomy, as will become evident from the articles to come.

Introduction

first we will reach the Law that links between the kinetic energy of an object moving along a straight line and the intensity of the electrical field resulting from this movement, and then it will reach to a mathematical formula linking the determination of the amount of traffic to block material found in the conservative regime and the intensity of the magnetic field resulting from the movement of these cluster .
Finally, it will be a new mathematical formula linking the amount of traffic to the physical volume and intensity of the magnetic field resulting from the movement of this block, and then it will infer a relationship between the intensity of electric current and the amount of movement of this cluster.

Research Objectives

1 - connect the movement of the physical point electric and magnetic spheres
2 - Access to new ways to infer the relationship between the electrical and magnetic fields
3 - Develop the mathematical foundations for the Unification of Science and physical theories

Ohachaelip Search

At the outset we will study the movement of material points moving along a straight line, representing the fall of this movement continues to this point the material to no end is not affected by the external force working to change speed or direction.
Is equivalent to a standard form that represents a point charge moving in a circular orbit around a central force to the endless power level equal to zero.
In other words,

$$\mathcal{E}_T = \mathcal{E}_k + \mathcal{E}_p = 0$$

Where

$$\mathcal{E}_\mathrm{k} = mc^2 \; : \quad \mathcal{E}_p = -k\,\frac{q_0\,q}{r} \quad and \quad k = \frac{1}{4\pi\epsilon_0} \; : \; c^2 = \frac{1}{\epsilon_0\mu_0}$$

Hard ϵ_0 permeability coefficient is the center and the constant electric μ_0 is the coefficient of the magnetic permeability of the center, k is the gravitational constant.

1 - the intensity of the electric field on a point of physical mobile

due to

$\mathcal{E}_{\mathrm{k}} = -\mathcal{E}_p$

Then

$\mathbf{F} = -\nabla\mathcal{E}_p = \nabla\,\mathcal{E}_k$

so

$$\mathbf{E} = \frac{\mathrm{F}}{\mathrm{q}} = \frac{1}{\mathrm{q}}\,\mathrm{F} = \frac{1}{\mathrm{q}}\nabla\,\mathcal{E}_{\mathrm{k}}$$

$$\mathbf{E} = \frac{1}{\mathrm{q}}\nabla\,\mathcal{E}_{\mathrm{k}} \quad \dots\dots\dots\dots\ \dots.(\ 1\ )$$

Where **H** is the intensity of the magnetic field

2 - the intensity of the magnetic field caused by the movement of material points

2.1 - change the wording of the law " Biot - Savart Law"

We know from the law Biot - Savart Law" [1] that the magnetic field is generated as a result of the passage of electric current in a particular direction

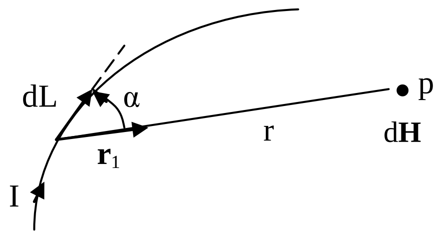

Fig (1)

intensity of the magnetic field at the point p

Where

$$d\mathbf{H} = \frac{I\ \mathrm{dL}\ \times\ \mathbf{r}_1}{4\pi\ \mathrm{r}^2} \qquad (\mathrm{B/m})$$

Here I is the intensity of the current material, d**H** intensity of the magnetic field

Possible to modify the wording of the last equation as follows

$$I\ \mathrm{dL}\ \times\ \boldsymbol{r}_1 = \frac{\mathrm{dq}}{\mathrm{dt}}\ \mathrm{d}\mathbf{L}\ \times\ \mathrm{r}_1\ =\ \mathrm{dq}\ \frac{\mathrm{d}\mathbf{L}}{\mathrm{dt}} \times\ \mathbf{r}_1 = \mathrm{dq}\ \mathbf{v}\ \times\ \mathbf{r}_1$$

$$d\mathbf{H} = \frac{I\ \mathrm{dL}\ \times\ \boldsymbol{r}_1}{4\pi\ \mathrm{r}^2} = \frac{\mathrm{dq}\ \mathbf{v}\ \times\ \mathbf{r}_1}{4\pi\ \mathrm{r}^2} \qquad (\mathrm{B/m})$$

In our model, the standard dq represent the shipment bitmap q_0 and therefore

$$\mathbf{H} = \frac{\mathrm{q}_0\ \mathbf{v}\ \times\ \mathbf{r}_1}{4\pi\ \mathrm{r}^2} \qquad (\mathrm{B/m})\ \ldots\ldots\ldots\ldots\ldots(\ 2.1\ \ )$$

Where H is the intensity of the magnetic field

2.2 - The relationship between the determination of the amount of movement and intensity of the magnetic field

Where

$$\mathcal{E}_\mathrm{k}\ =\ -\ \mathcal{E}_p$$

Then

$$\mathcal{E}_\mathrm{k}\ = -(-\ k\ \ \frac{q_0\ \ q}{r}) = \ \frac{1}{4\pi\epsilon_0}\ \frac{q_0\ \ q}{r}$$

$$\frac{\epsilon_0 \mathcal{E}_\mathrm{k}}{\mathrm{q}} = \frac{1}{4\pi}\ \mathrm{q}_0\ \frac{1}{r}$$

$$\frac{\epsilon_0 \mathcal{E}_k}{q} \frac{\mathbf{v} \times \mathbf{r}_1}{r} = \frac{q_0 \, \mathbf{v} \times \mathbf{r}_1}{4\pi \, r^2} = \mathbf{H}$$

$$\mathbf{H} = \frac{\epsilon_0 \mathcal{E}_k}{q} \frac{\mathbf{v} \times \mathbf{r}_1}{r}$$

$$\mathbf{H} = \frac{\epsilon_0 \mathrm{m} \, c^2}{q} \left(\frac{\mathbf{v} \times \mathbf{r}}{r^2} \right) = \frac{\epsilon_0 \, c^2}{q} \left(\frac{m \, \mathbf{v} \times \mathbf{r}}{r^2} \right)$$

$$\mathbf{H} = \frac{1}{\mu_0 \, q} \left(\frac{\mathbf{p} \times \mathbf{r}}{r^2} \right)$$

$$\mathbf{H} = \frac{1}{\mu_0 \, q} \frac{\boldsymbol{\hbar}}{r^2} \quad \dots\dots\dots\dots\dots\dots\dots\dots (\ 2.2\ )$$

Where **ħ** is the determination of the amount of traffic

2.3 - The relationship between the amount of movement and intensity of the magnetic field

From Equation (2.2)

$$\mathbf{H} = \frac{1}{\mu_0 \, q} \frac{\boldsymbol{\hbar}}{r^2} \qquad and \qquad |\mathbf{H}| = \frac{1}{\mu_0 \, q} \frac{\boldsymbol{\hbar}}{r^2}$$

Where | **H** | absolute value of the field strength

On the other hand if the q_m intensity of the magnetic pole, $\mathrm{K_m}$ static magnetic attraction

so

$$\mathbf{H} = \mathrm{K_m} \frac{q_m}{r^2} \, \mathbf{a}_r \qquad and \qquad |\mathbf{H}| = \mathrm{K_m} \frac{q_m}{r^2} \qquad (\mathrm{B/m})$$

Then

$$|\mathbf{H}| = \frac{1}{\mu_0 q} \frac{\boldsymbol{\hbar}}{r^2} = \mathrm{K_m} \frac{q_m}{r^2}$$

$$\mathrm{K_m} \, q_m = \frac{1}{\mu_0 \, q} \hbar = \frac{1}{\mu_0 \, q} \, |\mathrm{p} \times \mathrm{r}| = \frac{1}{\mu_0 \, q} \, (p \, \mathrm{r} \, \sin\alpha)$$

$$\mathrm{K_m}\ q_m = \frac{1}{\mu_0\ \mathrm{q}}\ (p\ sin\,\alpha)\ \mathrm{r} = \frac{1}{\mu_0\ \mathrm{q}}\ \mathrm{p\ r}$$

Where we assume that p is the amount of movement of the physical point and given by the equation

$$\mathrm{p} = p\ sin\,\alpha$$

Then

$$\mathrm{K_m}\ \frac{q_m}{r} = \frac{1}{\mu_0\ \mathrm{q}}\ \mathrm{p}$$

$$\mathbf{H} = -\nabla\left(-\,k_m\ \frac{q_m}{r}\right) = \frac{1}{\mu_0\ \mathrm{q}}\,(\nabla\,\mathrm{P})$$

and therefore

$$\mathbf{H} = \frac{1}{\mu_0\ \mathrm{q}}\,(\nabla\,\mathrm{P})\ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.\ (\ 2.3\ )$$

2.4 - the relationship between the amount of movement and Magnetic Flux

The equation number (2.3) So

$$\mu_0\,\mathbf{H} = \frac{1}{\mathrm{q}}\,(\nabla\,\mathrm{P})$$

$$\mathbf{B} = \frac{1}{\mathrm{q}}\,(\nabla\,\mathrm{P})\ \ldots\ldots\ldots\ldots\ldots\ldots\ldots..\ (\ 2.4\ )$$

3 - The relationship between the amount of movement and intensity of the current emerging

$$\mathbf{H} = \frac{1}{\mu_0\ \mathrm{q}}\,(\nabla\,\mathrm{P})$$

$$\mathbf{H}\ .\ \boldsymbol{dr} = \frac{1}{\mu_0\ \mathrm{q}}(\nabla\,\mathrm{P})\,.\boldsymbol{dr} = \frac{1}{\mu_0\ q_0}\ \mathrm{d\,P}$$

$$\int \mathbf{H}\,.\,\boldsymbol{dr} = \frac{1}{\mu_0\,\mathrm{q}} \int (\nabla\,\mathrm{P}\,)\,.\boldsymbol{dr} \;=\; \frac{1}{q_0\,\mu} \int \mathrm{d\,P}$$

$$\int \mathbf{H}\,.\,\boldsymbol{dr} = \frac{1}{\mu_0\,\mathrm{q}}\ \mathrm{P}\ + \mathrm{b}$$

$$\int \mathbf{H}\,.\,\boldsymbol{dr} = \mathrm{I} = \frac{1}{\mu_0\,\mathrm{q}}\ \mathrm{P} + \mathrm{b}$$

$$b + \frac{1}{\mu_0\,\mathrm{q}}\ \mathrm{P} \;=\; \mathrm{I}$$

$$\frac{1}{\mathrm{q}}\ \mathrm{P} \;=\; \mu_0\ \mathrm{I}\ +\ a\ \ \ldots\ldots\ldots\ldots\ldots\ldots(\,3\,)$$

Where a, b amount of static

Abstract:

Since any point material is the amount of mobile movement and kinetic energy, then we can deduce from equations (1), and the number (2.3) that must be generated by the movement of any point material areas are perpendicular electric and magnetic fields

Applications

The following will assume that ⍰ is the kinetic energy of the body and **E** is the intensity of the electric field and **B** is the magnetic flux density

Application (1)

The energy equation takes the following form

$$\mathcal{E}^2 = (\mathcal{E}_0)^2 + (\,\mathrm{Pc}\,)^2$$

And therefore

$$\left(\frac{1}{\mathrm{q}}\nabla\right)^2 \mathcal{E}^2 = \left(\frac{1}{\mathrm{q}}\nabla\right)^2 (\mathcal{E}_0)^2 + \left(\frac{1}{\mathrm{q}}\nabla\right)^2 (\,\mathrm{Pc}\,)^2$$

$$\left(\frac{1}{\mathrm{q}}\nabla\,\mathcal{E}\,\right)^2 = \left(\frac{1}{\mathrm{q}}\nabla\,\mathcal{E}_0\right)^2 + \left(\frac{1}{\mathrm{q}}\nabla\,\mathrm{Pc}\,\right)^2$$

$E^2 = \quad (E_0)^2 + (Bc)^2$

Application (2)

Equation of energy conversion in the theory of relativity is

$$\grave{\mathcal{E}} = \gamma\ (\mathcal{E} - \mathrm{v}\ P_x)$$

Where

$$\gamma = \frac{1}{\sqrt{1-\frac{v^2}{c^2}}}$$

And therefore

$$\frac{1}{q}\nabla\ \grave{\mathcal{E}} = \gamma\ \left[\frac{1}{q}\nabla\mathcal{E} - \frac{1}{q}\nabla(\mathrm{v}\ P_x\ )\right] = \gamma\ \left(\frac{1}{q}\nabla\ \mathcal{E} - \mathrm{v}\ \frac{1}{q}\nabla\ P_x\right)$$

Then

$$\grave{E} = \gamma\ (\mathbf{E} - \mathrm{v}\ \mathbf{B})$$

Directional formula to offset the conversion is

$$\grave{E}_y = \gamma\ \left(E_y - \mathrm{v}\ B_z\right)$$

$$\grave{E}_z = \gamma\ \left(E_z + \mathrm{v}\ B_y\right)$$

But we will not care about the access to this formula which is now directional, and they're going to this in another search.

Application (3)

Conversion equation is the amount of traffic

$$\grave{P}_x = \gamma\ (P_x - \frac{v}{c^2}\ \mathcal{E}\ )$$

And therefore

$$\frac{1}{q}\nabla\ \grave{P}_x = \gamma\ \left[\frac{1}{q}\nabla\ P_x - \frac{1}{q}\nabla(\frac{v}{c^2}\ \mathcal{E}\ )\right]$$

$$\frac{1}{q}\nabla\ \grave{P}_x = \gamma\ \left(\frac{1}{q}\nabla\ P_x - \frac{v}{c^2}\ \frac{1}{q}\nabla\ \mathcal{E}\ \right)$$

Then

$$\grave{\mathbf{B}} = \gamma\left(\mathbf{B} - \frac{v}{c^2}\ \mathbf{E}\right)$$

Directional formula to offset the conversion is

$$\grave{B}_y = \gamma\left(B_y + \frac{v}{c^2} E_z\right)$$

$$\grave{B}_z = \gamma\left(B_z - \frac{v}{c^2} E_y\right)$$

As we said earlier, We will not get the formula now and directional we're going to this in another search.

Conclusion

The theory is considered as a fraction of the group working to unite the theories of the equations and the physical sciences, I will in the future deploy of more of these theories and scientific ideas.

References

1 - Idinmstr, Joseph, 2000, a series of summaries of tattoos - Electromagnetisms,

Volume I, first edition, the home of the international cultural investments, Cairo - Egypt,

page : 145