

## Golden Relativity Theory

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The philosophical meaning of the physical laws is limited to what we can see. I would like to introduce a super relativity theory which unifies gravitational and electromagnetic fields .

### Postulates:

Mass is a subject of the gravitational field

Charge is a subject of the electromagnetic field.

If we have a charge moving in an electromagnetic field, so that it has kinetic energy and momentum, there is no mass because there is no gravitational field. The observer will observe this charge obeys Newton's laws. At high speed, the charge obeys the laws of relativity.

We can say the momentum of charge equals

$$P = Q v$$

and kinetic energy

$$E = 1/2 Qv^2$$

At high speed

$$Q = Q ( 1 - v^2/c^2 )^{-1/2}$$

And momentum

$$P = Q v$$

So, we can say the energy of the charge equals

$$E_q = Qc^2$$

Energy can transform to charge. We have

$$E_m = Mc^2 , \quad E_q = Qc^2$$

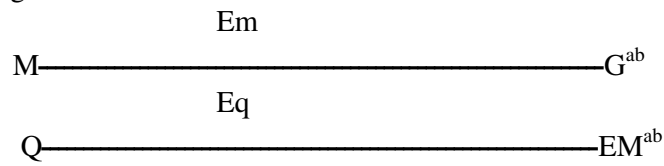
Mass can transform to energy, and charge can transform to energy. Also, the observer will observe the electromagnetic field is a curvature of space – time

$$EM^{ab} = k T^{ab}$$

Where  $EM^{ab}$  is electromagnetic tensor  
 $T^{ab}$ ; is the energy momentum tensor of charge.  
 $k$ ; is constant  
 $C$ ; speed of light.  
 \* The Gravitational field tensor  
 $G^{ab} = G T^{ab}$   
 $T^{ab}$  is the energy – Momentum tensor of mass  
 $G$ ; is constant

Gravitational energy ( $E_m$ ) connect Mass and gravitational field called gravitational energy glass.

Electromagnetic energy ( $E_q$ ) connect Charge and electromagnetic field called electromagnetic glass.



So, the unification field needs “golden energy”  $E_g$  which is the connection between mass and charge, gravitational field and electromagnetic field.

The “golden energy” must equal:

$$E_g = G E_m$$

$$E_g = K E_q$$

if we have observer has a mass, detect a charged object so he determine the object has a mass  $M$  and the field between them is gravitational field to obey afifi postulates. The charged observer will detect the mass object has charge and the field between them is electromagnetic field so the mass must equal:

$$M = S Q$$

$$E_m = S E_q$$

Where  $S$ : is the afifi constant  $S = (K/G)$

$$S = 1.35 * 10^{20} \text{ kg/coul}$$

Mass can transform into charge and charge transform into mass. The “golden” gravitational field and electromagnetic field equal:

$$G^{ab} = (T^{ab})_g, EM^{ab} = (T^{ab})_g$$

Where  $(T^{ab})_g$  is the golden energy momentum tensor.

$$(T^{ab})_{\text{mass}} = S (T^{ab})_{\text{charge}}$$

So, the unification field equation is:

$$G^{ab} = EM^{ab}$$

\* Now, we can produce electromagnetic field from gravitational field and vice versa.

$$\begin{array}{c} \text{M} \text{-----} \text{Q} \\ \text{G}^{\text{ab}} \text{-----} \text{EM}^{\text{ab}} \end{array}$$

- The Maxwell equations of the electromagnetic field is

$$\begin{array}{ll} \text{div Ee} = \text{pe} & \text{Curl Be} = \text{Je} \\ \text{Curl Ee} = \text{zero} & \text{div Be} = \text{zero} \end{array}$$

Where pe is the density of charge.

- The Einstein – Maxwell equations of Gravitational field:

$$\begin{array}{ll} \text{div Eg} = \text{pg} & \text{Curl Eg} = \text{zero} \\ \text{Curl Bg} = \text{Jg} & \text{div Bg} = \text{zero} \end{array}$$

Where pg is the density of mass.

So, we can unify Maxwell's equations of the electromagnetic field and Einstein – Maxwell equations of the gravitational field.

$$\begin{array}{l} \text{Div Eg} = \text{div Ee} \\ \text{Curl Bg} = \text{Curl Be} \\ \text{Curl Eg} = \text{Curl Ee} = \text{zero} \\ \text{Div Bg} = \text{div Be} = \text{zero} \end{array}$$

If we apply the ricci tensor we have;

$$\begin{array}{l} \text{G}^{\text{ab}} = \text{R}^{\text{ab}} - 1/2 \text{g}^{\text{ab}} \text{R} \\ \text{Em}^{\text{ab}} = \text{z}^{\text{ab}} - 1/2 \text{g}^{\text{ab}} \text{z} \\ \text{G}^{\text{ab}} = \text{EM}^{\text{ab}} \\ \text{R}^{\text{ab}} - \text{Z}^{\text{ab}} + 1/2 \text{g}^{\text{ab}} \text{z} - 1/2 \text{g}^{\text{ab}} \text{R} = \text{zero} \end{array}$$

So, if you would like to see the gravitational field you must wear gravitational energy “glasses”; the same in the electromagnetic field.

If you would like to see the electromagnetic and gravitational fields, you must wear “golden” glass.