

Sub Quantum Chromodynamics SQCD

Introduction;

Quantum chromodynamics, familiarly called QCD, is the modern theory of the strong interaction. Historically its roots are in nuclear physics and the description of ordinary matter--understanding what protons and neutrons are and how they interact.

In the same pictorial language, QCD appears as an expanded version of QED. Whereas in QED there is just one kind of charge, QCD has three different kinds of charge, labeled by "color." Avoiding chauvinism, we might choose red, green, and blue. But, of course, the color charges of QCD have nothing to do with physical colors. Rather, they have properties analogous to electric charge. In particular, the color charges are conserved in all physical processes, and there are photon-like massless particles, called color gluons, that respond in appropriate ways to the presence or motion of color charge, very similar to the way photons respond to electric charge.

Quarks and gluons

One class of particles that carry color charge are the quarks. We know of six different kinds, or "flavors," of quarks--denoted u, d, s, c, b, and t, for: up, down, strange, charmed, bottom, and top. Of these, only u and d quarks play a significant role in the structure of ordinary matter. The other, much heavier quarks are all unstable. A quark of any one of the six flavors can also carry a unit of any of the three color charges.

Although the different quark flavors all have different masses, the theory is perfectly symmetrical with respect to the three colors.

For all their similarities, however, there are a few crucial differences between QCD and QED. First of all, the response of gluons to color charge, as measured by the QCD coupling constant, is much more vigorous than the response of photons to electric charge. Second, as shown in the box, in addition to just responding to color charge, gluons can also change one color charge into another. All possible changes of this kind are allowed, and yet color charge is conserved. So the gluons themselves must be able to carry unbalanced color charges. For example, if absorption of a gluon changes a blue quark into a red quark, then the gluon itself must have carried one unit of red charge and minus one unit of blue charge.

Sub Quantum Chromo dynamics

What is a sub quantum chromodynamic?

The fundamental particles of the universe that physicists have identified - photon, electron, neutrino, quark and so on, are the letters of all matter. Just like their linguistic counterparts, they appear to have no further internal substructure. CPH theory proclaims otherwise. According to CPH theory, if we could examine these particles with greater precision beyond our present technological capacity, We would find that each is not point-like but, instead consists of a tiny particles containing a lot of sub-quantum field particle that is moving, oscillating, dancing that is called CPH (Creation Particle Higgs).

Everything such as photons are formed of CPH. An electromagnetic wave is moving with two different fields (electric field and magnetic field) that have two different properties. These fields contain a lots of tiny particles that are able to form electric field and magnetic field. But, these particles are so small that cannot appear like a charge particle or a magnet, and they called color charge and color magnet. So, these tiny particles are Sub Quantum Chromodynamics.

Definition of CPH

Suppose there is a particle with mass of m that is moving with speed V_c in an inertial frame. And $V_c > c$ and c is the speed of light. So, its linear momentum gives mV_c . (Figure 1). It is Called CPH (Creation Particle Higgs).

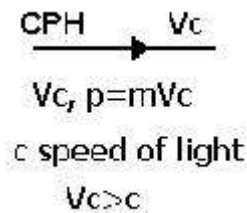


Figure 1

Principle of CPH

CPH is a particle with constant mass m and moves with constant speed V_c .

CPH has the momentum of Inertia I . In any interaction between CPH and other particles/forces, the amount of V_c does not change, so;

$$\text{grad}V_c=0 \text{ in all inertial frames and any space}$$

Explain

According to figure 1, a CPH carries linear momentum of $P=mV_c$. So, CPH has inertia and also has Momentum Inertia I . When an external force is applied on a CPH, then a part of its Linear momentum ($P=mV_c$) converts to angular momentum and CPH takes Spin, so that the amount speed of CPH does not change in any case. When CPH has Spin, it is called GRAVITON. (Figure 2)

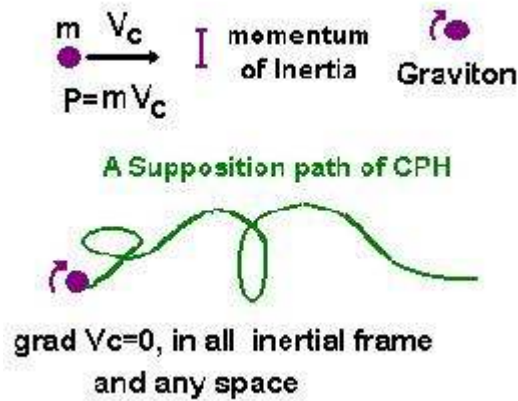


Figure 2

When a graviton works on an object/particle, graviton does disappear and converts to energy. Because it is not acceptable that force acts and produces energy; and force does not have any effect on itself while producing energy. All efforts for finding a unified field theory had no success, because physicists do not consider the conversion of force and energy. Also, a graviton acts on another graviton and produces energy. See Figure 3.

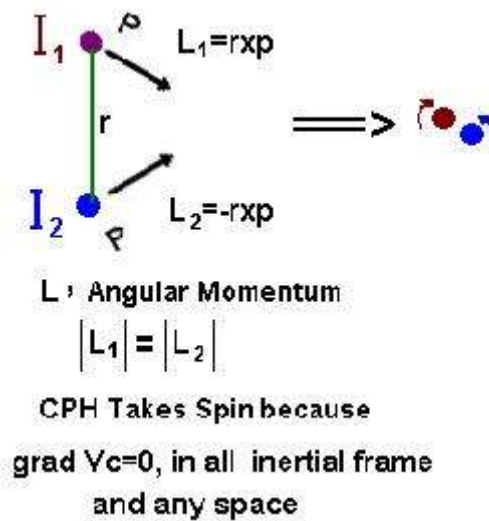


Figure 3

The picture above shows two gravitons with the mass of m , speed of V_c and linear momentum of $P = mV_c$, in distance of r feel each other. They absorb each other and r decreases. But CPH must move with the speed of V_c , so it loses a part of its linear speed and takes Spin.

A Photon is formed by a lot of CPH that they have spin and photon has spin too. So, when a photon is traveling with speed of c , CPH has linear speed of c and it has spin itself, and a speed equal to the speed of the photon (according to the structure of photon).

In a gravitational field, when a photon shifts to blue, gravitons convert to energy. And when the photon shifts to red, energy converts to graviton. And when energy decays, it produces Matter and Anti-Matter. See Figure 4. In fact ever thing formed of CPH.

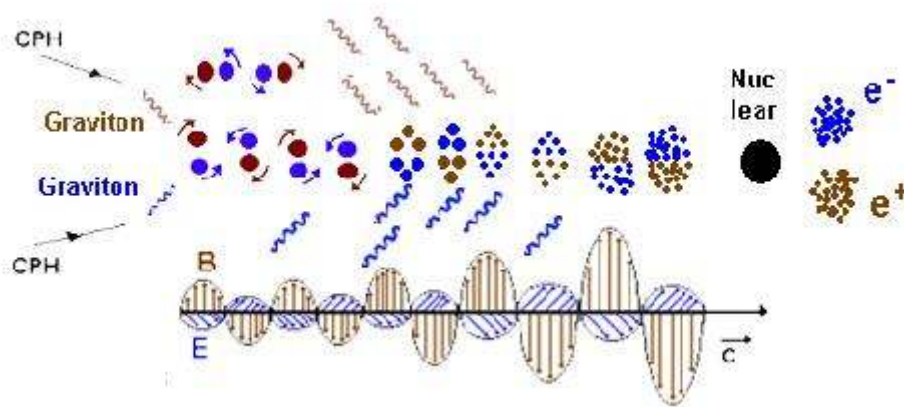


Figure 4

Color charge/Color magnet and CPH

A photon becomes energy-laden by revolving. We know this because the electromagnetic fields around a "ray of light" are electromagnetic waves not static fields. Relativistic ally, the electromagnetic field generated by a photon is much stronger than the associated gravitational field. Further it is not clear at the present time whether the gravitational field of an energy-laden photon is static or oscillatory. It is not understood how the photon generates two sets of fields (electromagnetic and gravitational) of so different intensities. [This is an enigma.](#)

Let's take a new look at behavior of electromagnetic wave in a gravitational field, it can help for resolving this enigma.

As we know an electromagnetic wave has form of two vertical electricity field and magnetic field. Figure 5

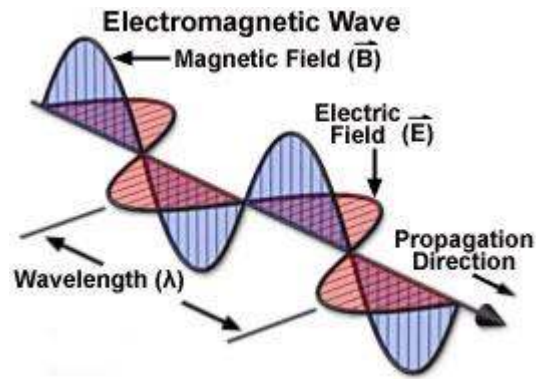


Figure 5

As General Relativity predicted and experiments show, the frequency of photons change in a gravitational field.

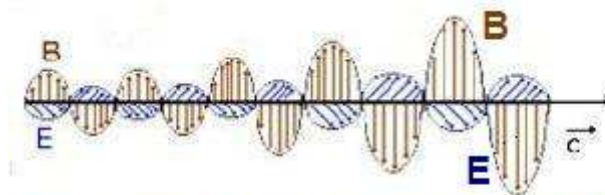
When a photon is falling in a gravitational field, its frequency increases.

What happens in this case?

In totally, gravity force works on photon. According relation:

$$W = \Delta E$$

a part of gravity work converts to electricity energy and other part of gravity work converts to magnetic energy. Figure 6



When a photon falls in a gravitational field, the strongly of magnetic field and electricity field increase.

Figure 6

As I mentioned in top of this page, there is no any explain about this phenomenon in theoretical physics.

So, I will explain it by according [CPH Theory](#).

Color charge and color magnet

When a CPH feels other CPH, they take Spin and is called graviton. A graviton behaves like electricity force and other one behaves like magnetic force, and two vertical electricity field and magnetic field do appear. Figure 4.

The picture above shows two gravitons with the mass of m , speed of Vc and linear momentum of $P=mVc$, in distance of r feel each other. They absorb each other and r decreases. But CPH must move with the speed of Vc , so it loses a part of its linear speed and takes Spin. When CPH takes spin, its color charge or color magnet appears. According graviton has spin, so gravitons are color charge or color magnet. A Photon is formed by a lot of CPH that they have spin and photon has spin too. So, when a photon is traveling with speed of c , CPH has linear speed of c and it has spin itself, and a speed equal to the speed of the photon (according to the structure of photon). In a gravitational field, when a photon shifts to blue, gravitons convert to energy. And when the photon shifts to red, energy converts to graviton. And when energy decays, it produces Matter and Anti-Matter. See Figure4. In fact every thing formed of CPH.

In fact a CPH is a sub-quantum of existence in nature. CPH has mass that is a manifest of matter; its movement is a manifest of energy. CPH has sub-quantum bounding Color charge or Color magnet field around itself. A CPH feels another CPH, when they contact or they are very near (a distance like Plank Length that is equal 1.6×10^{-35} m). In this case their color charge/color magnets are able to act on each other and do combine. Figure 7. Photons (and all subatomic particles) are formed by many CPH that they have spin; and photon has spin too. So, when a photon is traveling with speed of c , CPH has a linear speed of c and it has its own spin and a speed equal to the speed of the photon (in the structure of photon or other subatomic particles).

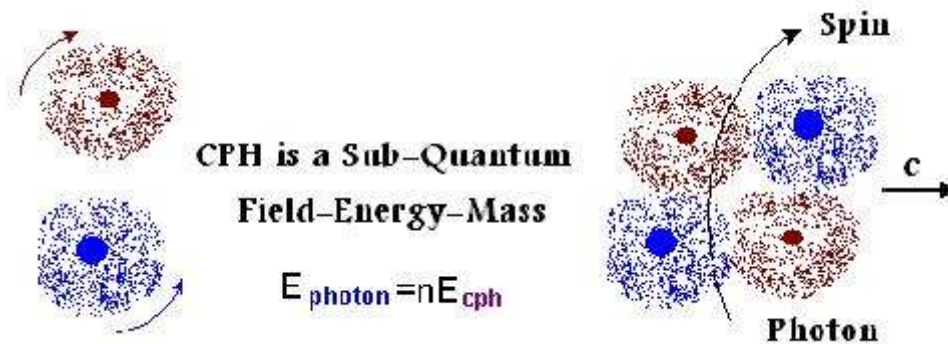


Figure 7

Gravity

According TO CPH Theory, gravity is a currency among objects. For example consider the interaction between the earth and the moon:
 Earth has a gravitational field. The gravitational field is formed by gravitons that are moving toward the earth and they are interacting with each other. Suppose the earth is alone and there are no interactions between earth and other bodies in universe. When gravitons reach the earth, the earth absorbs them. Then gravitons obey all forces around them. But the earth is not alone and it has interaction with other bodies. Take a look at earth and moon. There are two fields; one is around the earth and the other one is around the moon. When a graviton reaches the earth, the other one moves toward the moon and pushes the earth toward the moon. (by its color charge or color magnet). Also when a graviton reaches the moon, the other one moves toward the earth and pushes the moon toward the earth. So earth (In fact every thing) is bombarded by gravitons continuously.

Color charge and magnet equations

Suppose two CPH are moving with linear speed of V_c and feel each other. They absorb each other, according $\text{grad}V_c=0$, they take spin, We can write;

$\text{grad}V_c=0 \Rightarrow ax_i+ay_j+az_k=0$, that ax is accelerating on x axes, ay is accelerating on y axes, az is accelerating on z axes and i, j and k are unit vectors.

Suppose it transfers on x axes, but in an electromagnetic wave, v_x is constant and equal c , in an inertia frame. Figure 8

So, its speed changes on y and z axes only, because $ax=0$ and $ay+az=0$. when $ay=0$, then az is maximum. And when ay is maximum, then $az=0$.

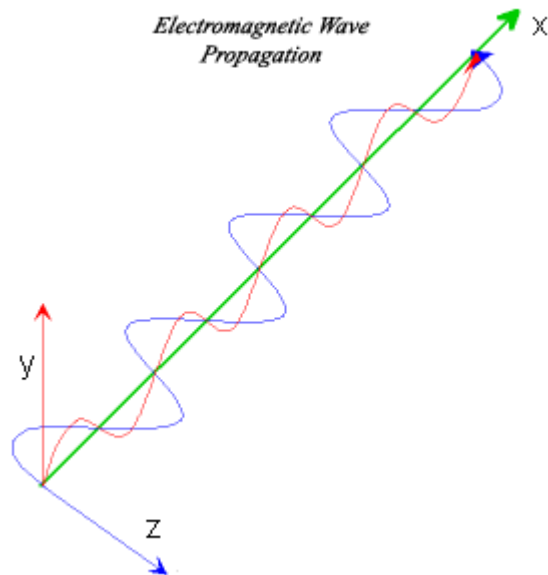


Figure 8

One CPH converts to color charge and we can shows its moving with a wave function as;

$E_c = E_{cm} \cos \omega(t-x/c)$, E_c stand of color charge and E_{cm} is its maximum amount of color charge.

And other CPH converts to Color magnet and we can shwos its moving with a wave function too;

$B_c = B_{cm} \cos \omega(t-x/c)$, B_c stand of color magnet and B_{cm} is its maximum amount of color magnet. Figure 9

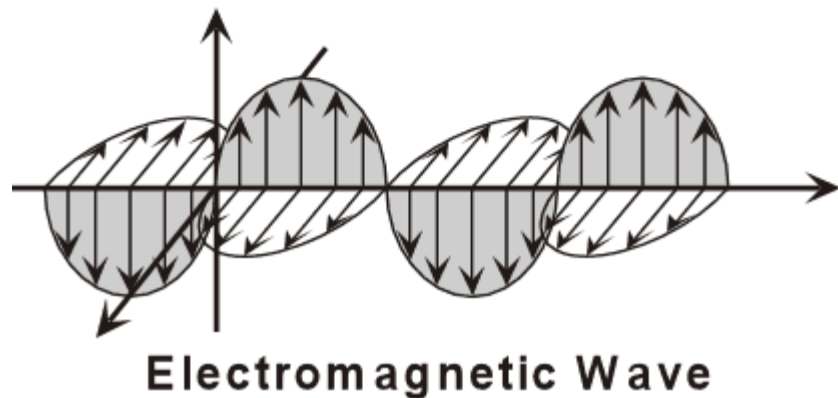
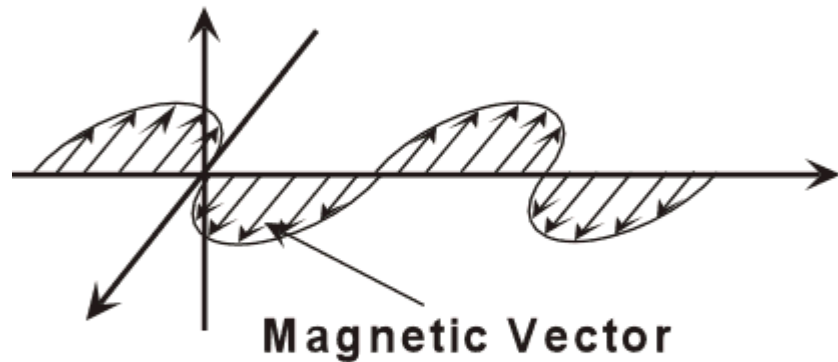
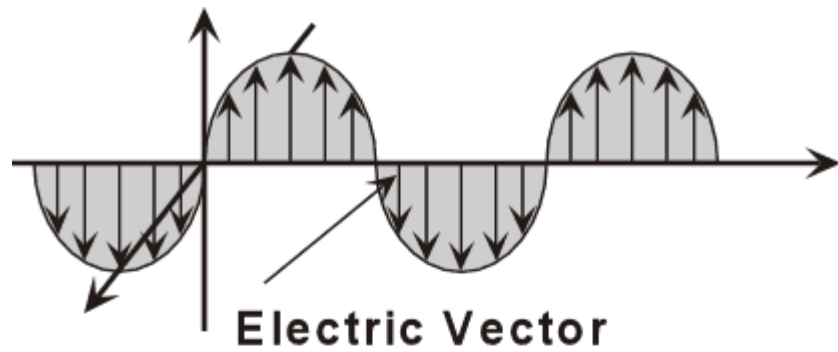


Figure 9

And for $2n$ CPH, in a choices photon we have

$$E = nE_{cm} \cos \omega(t - x/c)$$

$$B = nB_{cm} \cos \omega(t - x/c)$$

When a photon is falling in an gravitational field, n increases. So, the strongly of E and B increase too. It means a lot of CPH enter to structure of photon.

How a charge particle emits electromagnetic wave?

As you know when a charge particle oscillates, it emits electromagnetic energy. In usual case, when a particle charge accelerates, it emits electromagnetic energy.

When a force works on an electron (if $W > 0$), a lot of CPH enter in structure of electron. In fact force converts into energy, or bosons convert into energy. figure 10

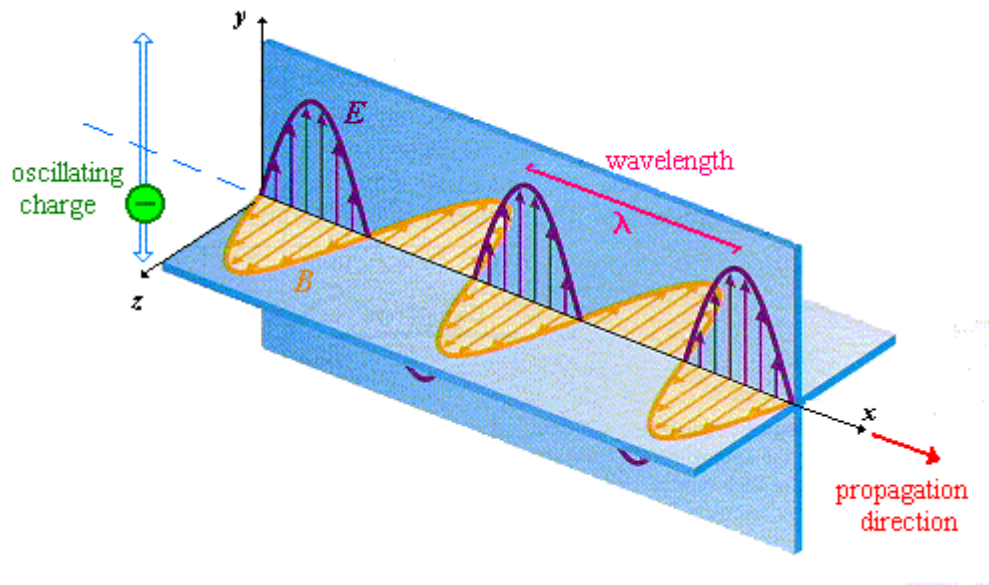


Figure 10

But a charge particle will keep its inherent charge properties. A charge particle (as an electron) is formed of Color Charges only and electromagnetic energy is formed of two different objects, color charge and color magnet. So it emits energy.

How Space-Time produces energy?

Quantum energy is formed by a lot of CPH. Also, CPH (graviton) works on CPH and produces energy.

It happens when the density of the graviton is high. (Figure 11).

According to the size of a gamma photon and the number of CPH in it, we can calculate the density of CPH in the structure of the photon. The diameter of an electron is less than 10^{-18} m. A gamma photon (in pair production) produces an electron and a positron. Suppose the volume of a photon is 2 times bigger than the electron's volume.

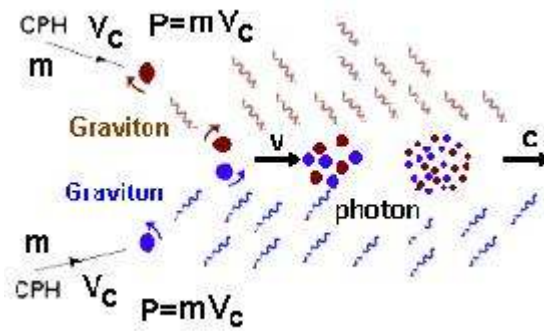


Figure 11

Suppose that the density of CPH in structure of photon is $De(cph)=n$ per m^3 ,

Space is full of gravitons. Gravitons have interaction among each other. They absorb each other and convert to electromagnetic wave. When they convert to energy, that density of CPH reaches to

$De(cph)=n$ per m^3 .

So, for space we have;

Integral on volume of $De(cph)=0$ to $De(cph)=n$ per m^3 on $dDe(cph) = E$, E is electromagnetic energy.

$$\int_0^{D(cph)=n \text{ per } m^3} dDe(cph) = E$$

Figure 12

Integration of gravitons is a projection to production electromagnetic energy.

In the other word, force and energy are equivalent. Force converts to energy and energy changes to force.

Sincerely

Hossein Javadi

[English Version of CPH Theory](#)

Mathematical Model Of CPH