3D space bosons in their symmetrical 5D field $=R_{\mu\nu}-\frac{1}{2}Rg_{\mu\nu}=\frac{8\pi G}{c^4}T_{\mu\nu}$

GuiHyeon Hwang
South Korea
November 19, 2023

Abstract:

3-dimensional space bosons in their symmetrical five-dimensional field is the bending of four-dimensional space-time. 3D space bosons in their 5D field is in a stable state of energy. However, by the principle of time-energy uncertainty, their time become unstable. That explains Einstein's field equations in quantum mechanics. Because, the 5D field is in a state of flux, it's able to ascend to a higher dimension or to descend to a lower dimension. The dimensions are relatively asymmetrical. Therefore, their space bosons are relatively in a stable state of time. This means that the probability of converting energy into matter increases in space.

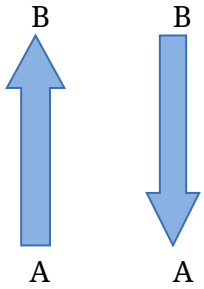
1. Introduction

No matter how far apart they are, if a particle in a state of quantum entanglement is measured, the other's state is fixed promptly. The mechanism is explained by introducing a dimension field which has a positive field, a negative field, and a superposition field. It is also useful to explain why a proton contains two up quarks in a charged area without introducing quantum chromodynamics(QCD). In addition to that, A neutron is explained by the mechanism as well. The structure of a neutron is the same as it of an antimatter, however, it is changed to a neutral matter particle due to the interaction with its field.

It is not needed dimensions higher than the 6th thing for my boson-field theory to explain quantum mechanical phenomena of the universe so far. Fields over the 6th dimension are multi-charged things. For example, (+)(-)(+), (-)(+)(-), etc. In such a state, up-down-up quarks are able to exist in a boson(triple). Of course, the universe is space capable of being happened anything. It might be needed more things to describe the universe in the future. I wish my boson-field theory will help many people to understand the universe at that time

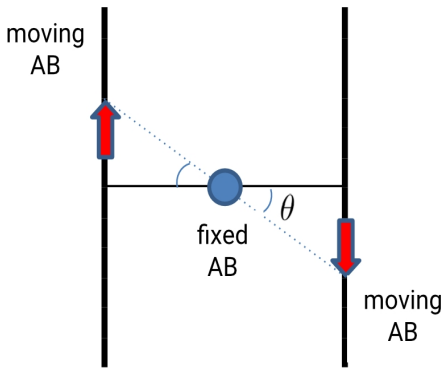
2. The mechanism of long-range interactions

If two particles relatively move away from each other, the number of such cases can be shown as follows.



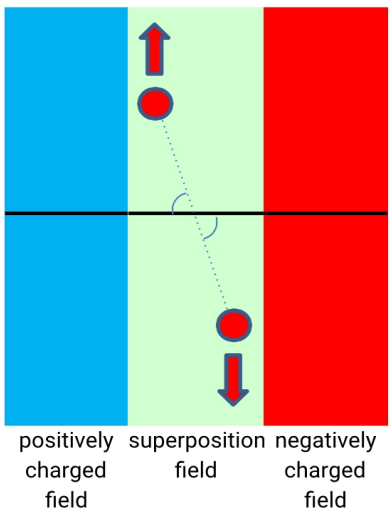
A is fixed and B is moving or B is fixed and A is moving.
Because the two states exist at the same time,
fixed A, B are superposed and moving A, B are superposed.

This can be shown as follows by introducing space-time concepts.



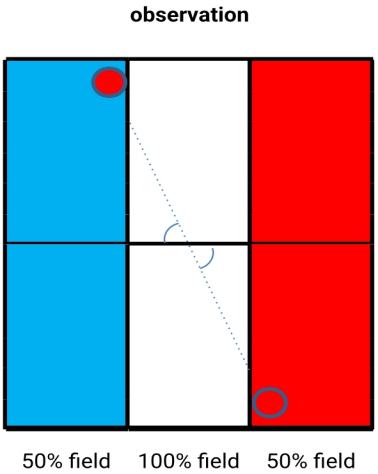
(θ: angle of time)

This shows that two particles relatively move away from each other have time angular velocity against the fixed point in the center. Now it is considered that two particles in a state of entanglement belongs to their field.



If its angle of time was in a state of getting larger and larger than zero, quantum is in a unstable state of time. On the contrary to this, by the principle of time-energy uncertainty, quantum is in a stable state of energy. However, the situation will be changed when a particle in the superposition field is observed by light.

Each of particles have its own quantum clocks in a field. And each of fields have its own probability. That is to say positively and negatively charged fields have 50% probability each other, and the superposition field has 100% probability. If quantum is in a state of boson and is in the superposition field, two particles of a boson will have two quantum clocks and they have 50% probability each other.

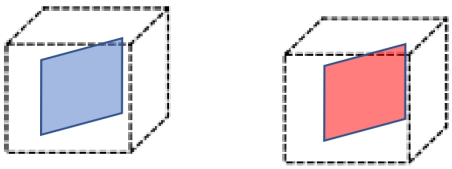


When a particle of a boson is observed by light,
it gains its energy and moves to a 50% field.
Because its angle of time is fixed by the light.

When one side of a boson moves to the blue field, the other side is not able to remain the 100% field anymore. The reason is because the 100% field does not allow a particle having a 50% of quantum clock of a boson to stay in it.

3. The mechanism of a proton being capable of including two up quarks in a field.

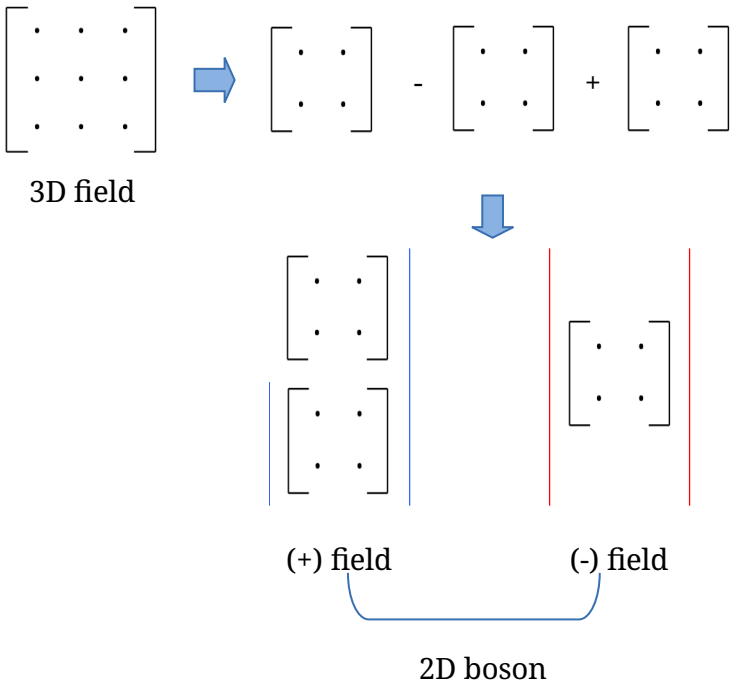
The dimension of a field is basically higher than that of a boson in it.



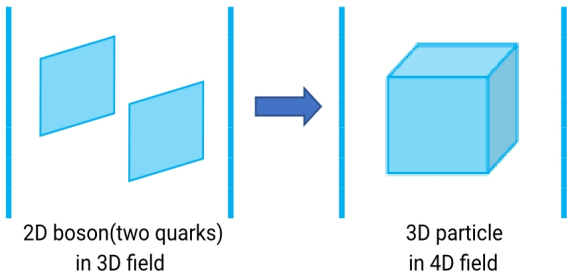
(+) field (-) field

A 2D boson is in its 3D field.

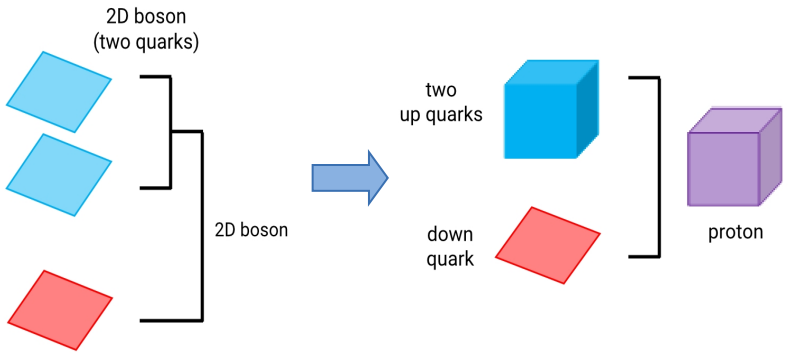
Actually a 3D field consists of three fermions and it is expressed as a 3×3 determinant.



Now the (+), (-) fields should be attained a higher level because the (+) field contains two fermions in it at the same time. That is, the dimension of the fields is raised to 4D with the 2D boson. As a result, the two fermions is recognized as a 3D particle because a 4D field is able to recognize 3D bosons.



Finally a proton is described as follows.

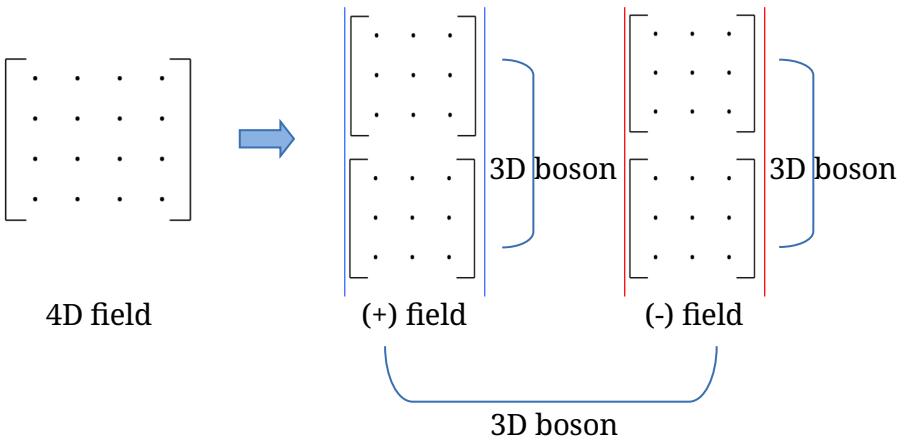


(In 3D field) (In 4D field)

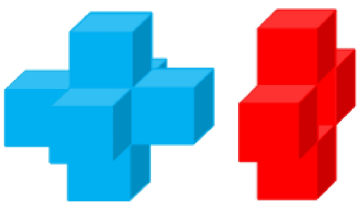
According to this logic, it is defined as the strong force which is the energy required to raise 3D to 4D in the case of a (+)(-)field without changing the number of inner bosons.

4. The mechanism of the bending of four-dimensional space-time

A 4D field consists of three 3D bosons and it is expressed as a 4×4 determinant.



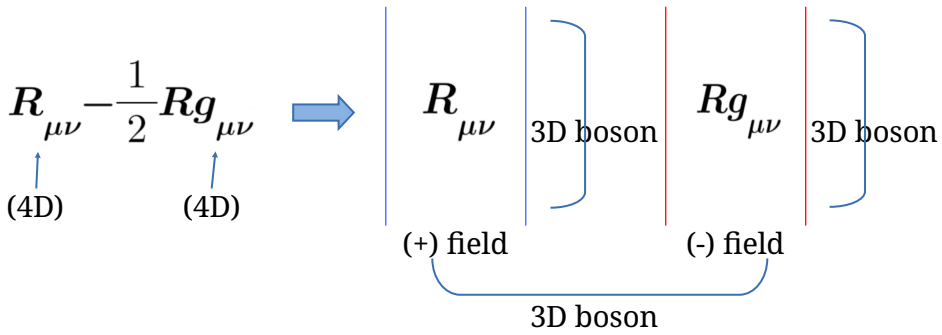
The bosons at this time are space things. The (+) and (-) fields are electrically completely asymmetrical. Therefore, space bosons in such a field are easy to make magnetic fields. In order to stabilize the energy of space, the dimension of the fields are raised to 5D.

5D field 

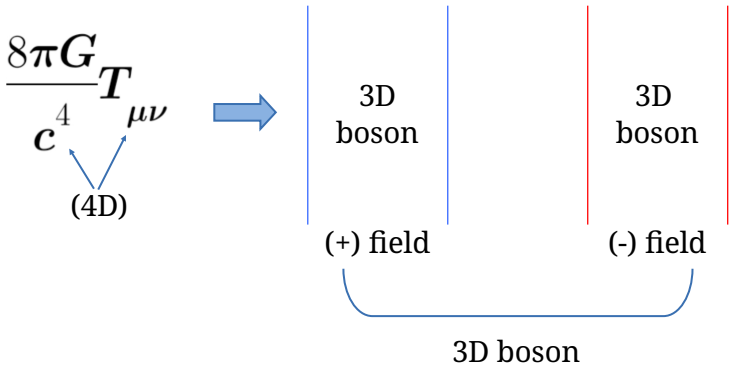
Because 5D field is electrically symmetrical, it is a stable state of energy relatively. By the principle of time-energy uncertainty, 3D space bosons in 5D field are an unstable state of time. That is, the angle of time becomes larger than before. In such a situation, when 3D space bosons are observed by mass, the angle of time will be fixed and the speed of time will be slow down.

5. The field-dimensional analysis of Einstein's field equations

$$R_{\mu\nu}-\frac{1}{2}Rg_{\mu\nu}=\frac{8\pi G}{c^4}T_{\mu\nu}$$



Because 3D bosons are recognized as 4D things in their 5D field, therefore, it means that the left term of the equations are 3D bosons in its 5D field.



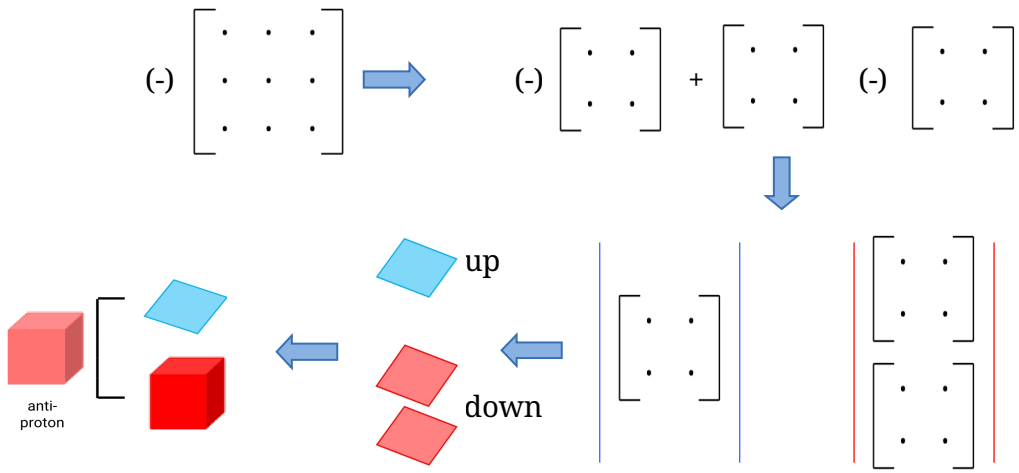
It means that the 4th power of c is 3D light bosons in their 5D field. Therefore, the 4D energy-momentum tensor is divided by a 5D electromagnetic field.

6. Conclusions

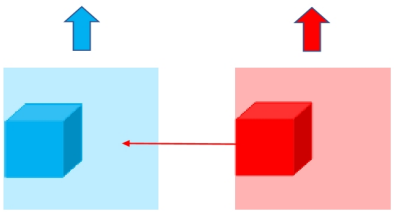
My boson-field theory is based on quantum mechanics and it is effective to explain various quantum phenomena. Einstein's field equations are conceptually explained by it as well. Finally, the boson-field theory is simply unified with Einstein's field equations as follows.

$$\text{3D space bosons in their symmetrical 5D field} = R_{\mu\nu}-\frac{1}{2}Rg_{\mu\nu}=\frac{8\pi G}{c^4}T_{\mu\nu}$$

Appendix: neutron



In 4D field In 3D field



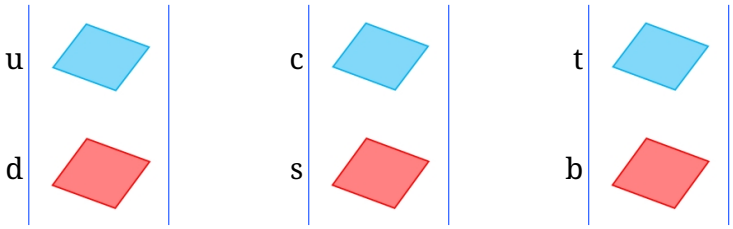
(+) field (-) field

Both a proton and an anti-proton are in the fields which move toward the same direction. That is, the direction of time is the same for each field. In such a situation, if the anti-proton's angle of time is fixed, it will move to the (+) field.

proton neutron

The anti-proton is neutralized to meet the (+) field.

Appendix: hierarchy of quarks



In 4D field In 5D field In 6D field

The higher the dimension of the field is, the heavier the mass of the quark is.