

Quantum thoughts

The following is a thought experiment, it is designed to make you think whether it is right or wrong.

It is important to remember elegant theories and beautiful mathematics are only that, they may or may not have any basis in reality. Also remember that Physics is not paint, you can not blend two particles to get a third without changing them.

We first establish certain truths.

The charge from an electron or up quark extends in all directions with equal force, it can not be neutralized but can be blocked.

Protons are composed of two positive up quarks and one negative down quark. A Neutron is composed of two negative down quarks and one positive up quark.

A free Neutron decays into a Proton and an Electron. A Neutron is created when a sufficiently energetic Electron slams into a Proton.

The first thing we can deduce is that Protons combine with Neutrons to form a stable bond, the Protons keeping the Neutrons from decaying. Other than Hydrogen no element exists that has less Neutrons than Protons. Although I understood this years before Lincoln Labs proved it, it is nice to have confirmation. Let us look at the implied structure. In the Standard Model in a Proton we have two positive up quarks attached to one negative down quark, the two positive up quarks will orient themselves to be as far from each other forming a line. Similarly a Neutron with two negative down quarks attached at the opposite ends of a positive up quark, again in line because the down quarks repel each other and thus we deduce the positive up quarks of the Proton and negative down quarks attract each other as do the negative down quark of the Proton attracts the positive up quark of the Neutron. The issue with this model is the presence of additional Neutrons in a Neucleus the purpose of the additional neutrons is to offset, by adding additional negative down quarks to keep the up quarks from

repelling each other and causing fission. The issue is that in a linear model the linear down up down pattern of a neutron does not balance in three dimensions and would destabilize the structure.

We now must address Neutron creation and decay. In the standard model an Electron hitting a Proton causes an up quark to change to a down quark implying a change of charge from positive $2/3$ to negative $1/3$ without a major release of energy, seemingly violating conservation of mass and energy laws. Similarly when a Neutron decays and releases the Electron no major energy is employed. Now the decay is easily explained by Planck's constant, the two negative charges repel each other and eventually one pushes the other out of the Neutron converting it back to a Proton.

Thus we can conclude that the Electron in a down quark still exists as a discrete particle, a composite particle with an up quark. When a Proton is broken up the Electron will stick with one of the up quarks. Thus at a macro level it appears as one particle with a negative $1/3$ charge but at a quantum level both charges still exist.

If we logically apply that to an atom we see a three dimensional repeating structure, a central electron with up quarks above, below, left and right, front and back, the additional two electrons on the opposite sides surrounded on three sides by up quarks. This structure fits together with other such structures to form a three dimensional quantum matrix. Spare Neutrons slot into the same structure. Thus the Nucleus of an atom has no discrete Protons or Neutrons as it is a single crystalline like structure.

This would explain several things, the first is the generation of Gamma Rays from fusion. We know that photons are generated by electrons shedding energy thus we need electrons in the Neucleus to generate the gamma rays. Thus we deduce that the electrons in the down quarks shed excess energy by emitting high energy photons as gamma rays, the high frequency is a result of the very limited amount it can vibrate. This also explains why fusion yields less energy the larger the resulting Neucleus, since all charges attract all other charges the Neucleus compresses, at some point it can not compress further. It also explains why fusion

requires so much energy, the two particles repel each other until they get within quantum distances of each other where upon opposite quarks attract.

Now we look at the orbiting electrons. To have an orbit we must have a force pulling it to the Neucleus and a force pushing it away. The up quarks in the Nucleus attract the electrons and the down quarks or specifically the electrons in the down quarks push them away.

Thus we can conclude the strong nuclear force and elctromagnetic force are the same thing, that down quarks are composite particles where both charges still exist.