

An Alternate View of Sub-atomic Structure: Overview

Aran David Stubbs

Abstract

This is a brief overview of my theories of sub-atomic structure. It has links to the main articles for each major topic.

Overview

The structure of matter is similar at a sub-atomic level to that observed at a larger scale. The atom has orbiting electrons and a central nucleus with the bulk of the mass, reminiscent of the solar system. Like the planets, the electrons have understandable structures. The [nucleus](#) resembles a crystalline solid. It is comprised of monoquarks and diquarks bound together, surrounded by a [photon-like shell](#) based on the net charge. Each of these resembles a soap bubble with all the mass at the surface and a balance of forces pushing in and out.

A [least surface](#) function provided a good mapping to known isotopes. These typically involved octahedral structures arranged to minimized [dipole](#). From the analysis of structure of the nucleus and its constituents, it was possible to analyze the [size](#) of some of the simpler cases. As the standard arrangement of the table of isotopes was not helpful, a more [compact](#) view was generated. With the elimination of baryons within the nucleus, an alternate [energy](#) function was also generated: treating energy as a function of the isotope by stripping the energy content of the electrons from the known atomic energy values usually given, then dividing by the diquark count.

Since Schrödinger has done a good job looking at the wave nature of matter, I primarily focus on the [particle](#) nature. In order to understand the complete structure both views are required. I have assumed both sets of laws for modern physics: relativity and quantum mechanics, but with a few demurrals. No virtual wavicles and the [centripetal](#) force in a relativistic view is $2E_k/r$.

The fundamental forces are the result of wave on wave [refraction](#), with the tardyons attracted by refracting (since slowing them causes an energy drop), while the tachyons are repulsed (since slowing them causes an energy increase). All of the energy of matter turns out to be kinetic at some level. No actual luxons were found, as at least a trivial amount of rest energy always showed up, but any wavicle travelling between .99c and 1.01c act like luxons, mostly.

The quarks, diquarks, leptons, and photon are simple structures comprised of proto-matter orbiting above pairs of gravitons. The proto-matter in turn is a set of simple structures with infra-matter in similar orbits. The [graviton](#) is a low-energy tachyon, and like all tachyons is a form of [infra-matter](#). Gravitons become trapped between pairs of proto-matter causing the gravitational force. Under extreme conditions of pressure, the gravitons can escape the proto-matter structure.

The simplest wavicles are the [neutrinos](#). These have a few proto-photons (usually 2) above a pair of gravitons, often in unbalanced orbits so they have net angular momentum. The integer quantity of the angular momentum is characteristic of the various flavors. The photon can be considered a neutrino with 6 pieces and no net angular momentum. While the photon is generally considered a luxon, it has trivial rest energy from the proto-photon structure, so routinely travels slightly below c.

The proto-photon is the simplest kind of proto-matter. They consist of one or a few infra-matter luxons (or luxon-like tardyons) above a pair or so of tachyons. The only non-tachyon infra-matter is a neutral very low energy wavicle (an infra-photon: as above). Proto-photons become trapped above net charge in any structure, generating the electro-magnetic force. These may also get trapped between 2 discrete structures with opposing charges, above a pair of gravitons. The mutual refraction at the outer or inner surface causes the electro-magnetic effects.

Other proto-matter wavicles have 1 or more additional infra-matter tachyons trapped within their structures. These additional tachyons are in 2p orbits,

with the largest radius at the overall radius of the proto-matter wavicle (about 4.66×10^{-36} m). These include a charge bit, with a kinetic energy about 16.1 KeV, and a color bit with a kinetic energy around 2.25 MeV. The 6 possible orbits have co-planar vectors of angular momentum 60° apart. Due to the slight eccentricity of the 2p orbits, these generally come in trios 60° or 120° apart, but sometimes in pairs 180° apart, to keep L constant summed over the orbits.

Much of the observed behavior of matter comes from the angular momentum of the infra-matter wavicles. This excludes the gravitons which have so much angular momentum, they always come as pairs. Each of the varieties of infra-matter generates an angular momentum granularity constant, of which the graviton's is a form of h : $L_h = \hbar/12c$. The gravitons h value is largest, with the other tachyons having 10^{-20} to 10^{-42} as much energy at an equivalent radius. The L_h does not reflect this, with charge about 3.5 gravitational L units, and color about 480.

Structures with net color have white proto-diquarks orbiting, causing the strong force. Here structure can mean a sphere within a nucleus, as larger structures with net color are not observed. The weak interaction occurs when proto-matter collides, exchanging bits.

Besides the monoquarks and diquarks comprising the nucleus, there are isolated [triquarks](#). These have 3 color units, no charge, and are unable to bind to any other wavicles. I call them negrons, but they are commonly referred to as dark matter. These are important in the long scale history of the universe, especially under conditions of high [pressure](#). Under low pressure conditions they act as an ideal gas.

Several minor items also came up as sidebars. These include the electron orbits in the high-z elements beginning with [ununennium](#). A [history](#) of my work developing this theory is also given.