**The Infra-matter Research Center**

**Assumptions of Current Theory**

**Aran David Stubbs**

**Basic Assumptions**

All laws of classic, electro-magnetic, and relativistic physics are assumed to be correct in the context they were generated in. Classical physics has known deviation in relativistic settings. For velocities near c to infinity the laws of classic physics are a poor guide.

**Additional Assumptions (or Conclusions, depending on perspective)**

1. All Tardyons (any object moving slower than the speed of light) are structures, and all structures are tardyons.
2. The fundamental forces of electro-magnetism, gravity, and the strong force are the result of wave on wave refraction. This slows the wave causing an attraction for the tardyons, and a repulsion for the tachyons.
3. Tachyons become trapped in structures when Lv>λ. The Lv in question is the length from the tachyon’s perspective of the orbiting tardyons with Lv ~L0 v/c.
4. Centripetal force is 2Ek/r for all types. Where v is small, this reduces to mV2/r.
5. The granularity constant h relates the total energy of a photon to its frequency. The standard form E=hν only applies for the photon. The individual pieces follow a more general law E=hc/λP\*, where λ is the wavelength, and P\* is the number of energy equivalent pieces in a photon (12). This E is the kinetic energy. This form holds for the constituents of each of the elementary particles.
6. This granularity constant is generated by the gravitons within the structure.
7. Other granularity constants are generated by other tachyons.
8. Kepler’s laws are only applicable in a Newtonian framework. Where V is large, a more general form using energy is required. For an electron in isolation near a charge, the stable 1s orbit occurs where r = a0/z, where z is the ratio of the charge on the structure to the charge on a proton, a0 is Bohr’s radius, and r is the distance between the centers of mass of the structure and the electron. The Kinetic Energy of the orbits of the charged structure and the electron total z2E1 where E1 is the energy for z=1. Velocity is derived, not proportionate to z.
9. The electrons have eccentric orbits, aside from the s, with focal length f proportionate to *l* number. P (*l*=1) has f of 1s radius /√2 so 2p has eccentricity e of √2/4, 3p has e of √2/6, etc. D (*l*=2) has twice the focal length of P, so 3d has e of √2/3.
10. The vectors of angular momentum producing charge are perpendicular to the plane of vectors producing color.