

Mass-Energy Conformity Principle $E=mbc$

The momentum of the magneton inside the fermion due to its rotation is given by $p=mb$. The amount of the energy, **SSNF**, generated is expressed by $E=mbc$ based on **Mass-Energy Conformity Principle**. This principle has three criteria which discuss the concept of the energy of the moving system which conforms to its moving mass.

First, in classical macro system, the kinetic energy of the moving mass, which is described by $E_k=\frac{1}{2}(mv_1)v_2$, the **first** velocity v_1 will be multiplied with the mass to give the momentum of the system while the **second** velocity v_2 is considered as a simple **unit conversion factor** to convert the momentum unit to joule unit. The calculated energy here is a mathematical function for that moving mass. This means that the essential issue in this term $E_k=p(\frac{1}{2}v_2)$ is the momentum p while the other two factors (i.e. $\frac{1}{2}$ & v_2) are trivial or insignificant as they do not have any physical meaning. The factor ($\frac{1}{2}$) is redundant and v_2 is unit conversion factor. This concept is a general rule for the calculation of mathematical kinetic energy for any moving mass in the macro system.

Second, in quantum micro system, the so-called kinetic energy of the moving mass, which is described by $E=(mb)c$, the (mb) term represents the momentum and the second speed c is considered as a simple mathematical **unit conversion factor** to convert the momentum unit to joule unit. This concept is applied to the all moving non-accelerated particles such as neutron, proton and electron and fission product heat (Q-value). This concept is a general rule for the calculation of mathematical the kinetic energy for any moving mass in quantum micro system. The heavier particle will be described by $E=mb^2$

Third, in the fermionic atto system that is composed of spinning-rotating magnetons, which are described by $E=(mb)c$, where the second speed c is a conversion factor and its multiplication with momentum (mb) will give the real amount of the energy which will be generated due the spin-rotation of the magnetons inside the fermion. The non-relativistic mass-energy equivalence $E=\Delta mbc$ gives 187.607 MeV/bc to one atomic mass unit u . In fission reaction we apply second and third items i.e. the energy released from this reaction can be calculated from $E=mb^2 + \Delta mbc$ + delayed gamma and beta energy.

Based on **Mass-Energy-Conformity Principle**, the amount of the energy created or released from the fermion is equivalent to the summation of the mass of the spinning-rotating magnetons. According to this concept, the magneton or its antimagneton will generate 0.05035 eV E/bc (or 0.25 eV E/c² for purpose of comparison with the literature) inside the fermion. When these packages of magnetons leave the fermion texture, during nuclear processes, they will carry this energy to the environment as gamma rays and they finally disintegrated to single magnetons (or v_e). In NMT, all the nuclear activities calculated are based on this principle. The overall surplus of the strong self-nuclear forces **SSNF** will create an **outer charged electromagnetic shell**, OCEM-shell (columbic field) around the nucleus. The OCEM shell protects the nucleons: to not run away from the nucleus, to control their stability in regard to the disintegration, to assign the effective radius, and to control binding the electrons in quantized orbitals. This OCEM shell will be torn at very high temperatures in the stars which let the nucleons to be free for a short time to fuse to create new nuclides. The OCEM (columbic field) is behind the fuzzy surface of decreasing nuclear density.