General Physics Notes (08042026):

We are going to try to play around with some new visuals and ideas here. I think we'll try to work on replacing neutrino theory with Regge or complex angular momentum equations to describe inertia of fluid nucleons and daughter particles.

> The neutrino is not a real particle. One may replace the theory of the neutrino with complex angular momentum.

There have been so few artifacts describing the neutrino collisions with particles that it makes one think that we have to rework the Standard Model. Particles are usually taught as the liquid drop nucleon. It makes it difficult to find a moment of inertia for a rotating system. Liquid moments of inertia are quite complicated.

Let's start with the liquid drop model of the nucleon and some moments of inertia. (This equation came from 2011 Physics 241 at Stanford - my rival school.)

$$E = a_v A - a_s A^{\frac{2}{3}} - a_A \frac{(A-2Z)^2}{A^{\frac{1}{3}}} + \delta(A,Z) \tag{1}$$

This mess of an equation which is really terrible, does not do justice to the elegance of symmetry, nuclear liquids, or Yang-Mills. It is just a basis for future reference and you can look up more of it later.

$$I = \frac{2}{5} M R^2 \tag{2}$$

This really comes from the inertia summation. It is better if you use the shell instead of the solid sphere.

$$I = \sum_i m_i r_i^2 \tag{3}$$

This has the elements of symmetry from the squared radial term. One can play around with different ideas of the inertia. It is left as an exercise to show.

$$n\hbar\nu_i + m\hbar\nu_f = \frac{1}{2} I_i \omega_i^2 + \frac{1}{2} I_f \omega_f^2 \tag{4}$$

Here we get the quantum correction. Some of the Regge theory involves the analysis of complex angular momentum to generate the wave of the emitted electron in the beta process. We have traditional initial i and final f. Energy is found from quantized angular momentum which will later be complex.