

Update June 2024

Extreme Energy-Symmetry Model and No Baryon asymmetry

This quarter sees the slightly delayed publication of a paper that sets out the basis on which the pre-fermion hypothesis has been founded, but in a new clearer way as the Extreme Energy-Symmetry Model (EESM).

The paper simply lists the underlying tenets on which the model is based and then what the consequences of those tenets are.

The underlying tenets are applicable across all relevant areas of physics but the main one covers the balancing of opposite energies in all systems.

The clearest numerical example of this balancing of energies was set out in the paper that came in last quarter's MTPJ. It looked at the 'standard' meon/anti-meon loop where each momentum is constrained in size to equal Planck's constant. The paper showed exactly what each fundamental or twist momentum (or energy) was for each meon/anti-meon separately so that where the balancing mass to charge momenta are in such a loop was clear.

That paper also showed that despite all those energies or momenta summing to zero over the loop, because every energy is balanced, there are still observable loop energies and momenta.

The latter is due to the directional and charge sign of each meon/anti-meon in how they are summed over the loop.

The example showed the size of mass energy/momenta totaling h for each meon and anti-meon and net mass and magnetic moments due only to the fundamental mass and charges of the meons and anti-meons.

It is possible to allocate the charge moments differently, looking only at the charge components, so that summing across the fundamental and twist charges separately produces half the magnetic moment to each of those components.

It is also that case that despite all energies summing to zero, the meons/anti-meons still chase/are chased in the loop and this rotation, with attached chains of partially merged pairs sweeping through the background, is what produces the effect of gravity/mass and spin of loops.

The EESM paper brings an overarching framework to the pre-fermion hypothesis, so that in any system where there are net energies observable, there is a need to identify where the opposing energies are hidden.

Also included is a paper explaining why there is no baryon asymmetry, why there are no Majorana neutrinos and exploring the historic confusion over negative energy, negative matter and anti-matter.

A further paper shows why it is loops that inflate, not space. It also shows that the Koide formula for mass supports the loop structure of fermions since the inverse area combined in that formula produces the same result.

Another paper compares the pre-fermion interpretation of physics with the currently accepts models.

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