Update September 2024

Black Hole Laws and Potential Energy Reinterpreted

This quarter covers the subject of black hole laws and potential energy. The four black hole laws try to define what black holes should follow in order to be in line with the laws of thermodynamics.

Unfortunately it is only massive black holes that follow all four laws. The meon and anti-meon building blocks that are the components of our fermions do not follow all those laws.

This implies that either the laws are wrong, they do not apply to the foundation level or they need to be more specifically defined in the scope of which systems they cover.

Using the figures from an earlier paper, each of the systems from the most simple to the most complex, the laws are considered from the perspective of whether or how they apply.

It is apparent that only the mass energy characteristics of black holes are really considered important in the current definitions, even though charge and spin changes are included.

In the meon and anti-meon foundations, the charge energies are as important as the mass energies.

The EESM and pre-fermion hypothesis proposes that there are always equal amounts of mass and charge-related energies in all systems, such that the total across all energies is always zero.

It is the balance of each type of energy that changes when transferring energies amongst systems, and that is what is currently measured as the conservation of energy.

The calculations of each type of potential energy interaction, at meon and anti-meon level, up to loop level, are also considered.

The conclusion is that fundamental mass potential energy of the meons and anti-meons is relative, in that the direction of energies or actions depends on which of the two moves first.

It cannot be said that a meon or anti-meon has either a passive or an active mass type. It is the case that to produce a chasing/chased effect means that both have a relative type whose effect depends on the actions of the other.

The relevant paper is dated 1st March 2024 and has since been published on Researchgate.

M Lawrence

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