

Update 22 February 2021

This quarter has been mainly concerned with the specifics of meons within loops. Within an electron loop, their dynamics require that the positive meons have the same velocity and rotational radius and the negative ones have a different velocity and rotational radius, each due to the sign of twist charge on the meons. However, looking at the overall relationship of each meon's velocity and rotational radius requires that they all have the same energy and momentum, positive or negative as necessary. This requires that although it is always the case that $v = rw$, the angular frequency of all the meons is $\frac{1}{2} w$. It is this $\frac{1}{2}$ that confuses some aspects of physics, such as the electron g-factor being twice as large as would be expected and the appearance of $\frac{1}{2}$ in the energy of a stable orbit, but not the force equation. It is the meon's motions within a loop that explains these issues. Also mentioned is the different way in which the energy of the individual meons and of a stable electron orbital system, through angular frequency, is composed. The meons each have h of angular momentum together with $\frac{1}{2} w$ of angular frequency producing $h(\frac{1}{2} w)$ energy, whilst the electron loop in orbit has $\frac{1}{2} h$ of angular momentum together with w of angular frequency which also produces $(\frac{1}{2}h)w$ of energy. The angular frequencies in each case may be different, as well as how the components are weighted, but the overall structure of the energy is the same $\frac{1}{2}hw$.

A factor denoted f is used throughout the papers included and represents the amount by which the expansion of the relativistic factor needs to be increased relative to v^2 or w . Although the factor includes higher dimensions of v or w it is not what these represent at any velocity or angular frequency that matters here. It is only where f appears that is of interest and following it through the momentum and energy equations enables the split of velocity, rotational radius and angular frequency to be compared between loop and orbital systems.

The specific momentum, energy, force, magnetic field and electric field of meons within a loop are explored. The treatment is of three rotating dipoles, being a positive meon opposite a negative meon rotating about a centre set by mass momentum balancing of the two. The results all conform to the generic format for each property, although a central test mass or charge is required in some instances to provide the correct dimensionality for the property, but without any actual central body the specific equations are different. Although some of the properties are not in balance for an individual dipole, because there are three such dipoles symmetrically situated, the net result is always that the electron loop, and other symmetric loops, is stable. The mass-equivalent dimensionalities for electric and magnetic fields are explored as hypothetical fields, although only one possibly exists as viscosity.