

MTPJ Update September 2021

This quarter has seen two papers published on the extremes of size.

Relative motion of our contracting Big Bang and atomic dark matter ratios

The first paper looked at the evidence for the expansion of our Big Bang and found that, in a universe where photons lose energy to the background as they move, the better explanation for observations was that the tired light effect is greater than the Hubble constant combined with a Big Bang contraction.

This result may seem obtuse, but given the difficulties of explaining, for example, the early existence of black holes, other than in a universe where there are failed big bangs randomly situated, that our Big Bang has passed its maximum extent and is now on the way to becoming a failed big bang itself, would account for such issues because our Big Bang is older than currently estimated.

Also in the paper is an analysis of the ratios of dark matter to normal matter and of atomic matter to non-atomic matter. The basis is that only odd pair-number loops can form atoms, since they will always require all the asymmetries of their loops to become a stable stack and that stack will always have a total spin of $\frac{1}{2} h$. This stack spin will then need to be balanced by an orbiting loop of the same total charge as the stack with spin $\frac{1}{2} h$. Even-pair-number loops will only produce 0 spin full-asymmetry stacks that cannot balance a charged and kinetic energy spin $\frac{1}{2} h$ orbiting loop.

The result is surprisingly that, depending on whether 1-pair loops are included or not, the ratio of atomic dark matter to total dark matter is around 23% and the ratio of atomic matter to all matter is 75%.

Anomalous magnetic moments as evidence of a pre-fermion lepton structure

The second paper looked at why there is an anomalous magnetic moment in loops and why it has specific values in the electron and muon.

The result was that even a stationary lepton loop has a small anomalous moment, whilst a loop in a Penning trap or cyclotron will have exactly the expected multiplier value of 1 when it is rotated at the magic velocity, set when the relativistic energy increase is Q/q size.

This result shows that if all the meons in a loop were rotating along the central path of the electron or muon, the meon charges would be travelling along that path and would sum to the expected net charge of q_e .

That means that the meon charges cannot all be travelling along the central path and thus that the electron and muon have structure.

The conclusion is that the positive and negative meons in a loop are affected differently in an orbit in a trap or cyclotron.

That difference is hypothesized to represent an average offset by which each meon type is deflected from the central path. To produce the moments observed at the magic velocity requires the offsets to be about jq^2/Q^2 .

This means that the anomalous magnetic moments are variable and take different values at different velocities and other parameters. So the reason why QED, EW and Hadron radiative corrections take the accurate values that they do compared with observations is because the magic energy or velocity is reproducible and in that state requires all available loop-loop interactions in order to maintain the lepton at its original Big Bang inflation-set locked-in frequency against the local density of the background viscosity.

Beyond LQG and String Theory

Also included is a draft of a possible article which pulls together all the strands of RingTheory into one comprehensive outline, although it does so without the detail that a normal scientific paper would provide.

It was based partially on some emails to senior scientists across various specializations where the pre-fermion ideas should help their work.

Mike Lawrence

Maldwyn Centre for Theoretical Physics

22nd August 2021