Maldwyn Centre for Theoretical Physics

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This quarter has only the paper showing how a linear viscosity redshift is arrived at using the meon structure of photons and is attached as Astronomical Redshift Reinterpreted.

It is a great step forward in what is still termed Ring Theory, in that the explanation of how the redshifts of celestial objects has been shown mathematically to be caused by viscosity and is linear in action.

In the past, the ability to explain how a ***Z*** shift could be linearly reducing with distance when the change in energy of a photon from emission to observation always contained the observation frequency was thought impossible.

The struggle was only resolved by using the model of a photon on which Ring Theory is based, although even then it was not obvious.

The realization was that firstly there is no way to separate out the Z shifts due to velocity and viscosity from the initial and final frequencies – they are both the same at the start and end, and so need to be producted by their different ***Z*** shifts.

Secondly, it is not possible to simply count the difference between emission and observation frequencies. Even though two differences may be identical in number, and thus energy change, they represent different fractions if their emission frequencies, at the same distance, are different and so different ***Z*** shifts.

What matters is only the distance that the meons travel from emission to observation. The six partially merged pairs always travel through the background against its viscosity no matter what the frequency of the photon that they represent.

A high frequency photon has the same six merged pairs as a low frequency photon and they experience the same fractional reduction in energy (***Z*** shift) due to viscosity in both photons over the same distance.

It does not matter that the actual path length of the meons is longer that the path length of their photon because the relationship is always the same. So using the total path length of the photon as the distance travelled is still correct, although the fractional figure f would need adjustment.

That figure for the fractional energy loss ***f*** is a constant like ***c*** in reverse. Where there is a lot of matter/energy then ***f*** will be high and ***c*** low (but still local ***c***), and where matter and energy is low then ***f*** will be low and ***c*** high. So over long distances in 'empty' space both ***f*** and ***c*** can be considered constants.

By choosing the accepted Hubble constant as the starting point for the viscosity redshift of all objects, obviously the result was a linear viscosity ***Z*** shift at the right rate. This will need another source of proof in order to be accepted.

However, the use of a Seyfert galaxy at ***Z*** = 0.06147 as an example implied that it was in motion outwards although at a much reduced velocity. This enabled the calculation of a much lower Hubble velocity constant, suggesting that our big bang is expanding slower, but is also older and larger than currently accepted.

The value for ***f*** was calculated as 7.16×10^{-11} Ly^{-1}, which is not measurable except at very long distances. It was also shown in the pre-print paper attached that this new interpretation of viscosity ***Z*** shift eliminated the need to consider the expansion of space, which Ring Theory considers not to occur because the foundation particles are of size 1 in adjusted Planck units and changing them changes nothing.

There is also the introduction of a possible new universal constant ***k*** = ***f c***, representing the energy required to move by six meon pairs in a photon against the background viscosity of 'empty' space. It may be that this value varies when photons are at rest, but it is likely to be true in most circumstances.

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