New Tired-Light Theory Explains Redshift and CMB in a Static Universe

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Abstract. The broadening of supernovae light curves is often put forward as '*direct evidence*' that the universe is expanding. However, these results are in contradiction to the more direct evidence provided by Hydrogen cloud separation (dN/dz). The Lyman alpha forest in the light from distant quasars provides a ticker tape of the history of the dynamics of the universe. In an expanding universe, as we look at greater and greater redshifts we are looking further and further back in time. In an expanding universe the Hydrogen clouds should, on average, become closer and closer together as the redshift increases; but they do not. The lines are equally spaced showing that the universe has been static for at least the last billion years; if not longer – and yet this region includes most of the supernovae which we are led to believe show the relativistic effects of expansion. In a static universe redshifts have some other explanation and the model proposed here is one of '*New Tired light (NTL).*' In NTL photons of light from a distant galaxy are absorbed and reemitted by the electrons in the plasma of intergalactic space which can and do perform SHM. On each interaction the electron recoils. Energy is lost to the recoiling electron and thus the reemitted photon has less energy, a reduced frequency and therefore an increased wavelength. It has been redshifted. The Hubble relationship becomes '*photons of light from a galaxy twice as far away, make twice as many interactions with the electrons in the plasma of IG space, lose twice as much energy and undergo twice the redshift.*' Applying published values of photon-electron collision cross-sections and mean number density (n) of electrons in IG space, the distance (d) redshift (z) relationship is calculated from first principles and found to be $z=\exp(Hd/c)-1$ with the Hubble constant, H given by $H=2nhr/m$ (h Planck constant, r and m the classical radius and rest mass of the electron). For $n=0.5m^{-3}$ NTL predicts a value for the Hubble constant of $2.1x10^{-18}s^{-1}$ or in alternative units, $64\,km/s\,per\,Mpc$. The recoiling electron emits this recoil energy in the form of two photons (one on absorption and one on reemission) and the wavelengths of these photons can be calculated and is found to be in the microwave region. Since plasma clouds are known to emit black body radiation it is proposed that the CMB is local and formed by the radiation from the recoiling electrons. A test of NTL is proposed in that if the CMB is formed by redshifted photons in the visible and UV parts of the spectrum, then the CMB will also be redshifted and there will be a second peak but this time, according to NTL, at a maximum of 220 Hz. Consequently it should be possible to test the theory by looking for an omnipresent radiation centred about this maximum.