Universal Physics

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There can now be little doubt remaining that the so-called 'dark matter' is the ether and 'dark energy' is the intrinsic energy of the ether.

All ideal gases[1] satisfy the thermodynamic relation $E/v = A(S)T^{\gamma/(\gamma-1)}$ where E denotes energy per unit mass, v specific volume, S entropy and T temperature. γ is the constant first adiabatic index and the number of degrees of freedom of the constituents is $\alpha = 2/(\gamma-1)$. A(S) is a function of entropy.

The so-called 'radiation equation' is mis-written as $E = A_0T^4$ in which E stands for energy *per unit volume*. In thermodynamic notation, however, where E denotes energy per unit mass, it becomes $E/v = A_0T^4$ and thus immediately identifies the ether as an ideal gas for which $\gamma = 4/3$ and whose constituents have 6 degrees of freedom[1].

The intrinsic energy per unit mass of an ideal gas is $E = c^2/\gamma(\gamma-1)$ where c is the speed of sound for material gases and is the common wave speed of condensational oscillations and electro-magnetic waves in the ether[2,3]. Thus the intrinsic energy of a mass m of ether is $9mc^2/4$[1].

It is not surprising, therefore, that recent estimates of the magnitude of the 'dark energy', based on observations, find it to be "about $2mc^2$" where m is the estimated mass of 'dark matter'.

It is now established both theoretically[3] and observationally that the Universal expansion is accelerating so that all material observers have a rest-frame accelerating away from the centre of the Universe. Galilean transformation to an accelerating frame of reference introduces an equal acceleration, or force per unit mass, in the opposite direction. Thus all observers, in their rest-frames, experience a force per unit mass *towards* the centre of the Universe.

It is, again, not surprising, therefore, that the fluid dynamics of ethereal cosmology[3] shows that this accounts completely for gravitation and Newton's 'law'.

The so-called 'Einstein's equation' is also mis-written as $E=mc^2$ in which E, this time, stands simply for energy. In thermodynamic notation, however, where E denotes energy per unit mass, it reduces to $E=c^2$.

In an ideal gas, whose constituents have $\alpha(\geq 3)$ degrees of freedom, three of these provide the components of velocity of the constituents and thus, together, account for the kinetic energy per unit mass, namely $\overline{c}^2/2$, where $\overline{c}$ is the root-mean-square speed of all the constituents. Equi-partition of energy then decrees that each degree of freedom contributes $\overline{c}^2/6$ to the total energy per unit mass, which is thus $\alpha\overline{c}^2/6$.

The ether has been shown[1] to be an ideal gas for which $\alpha=6$ and $\gamma=4/3$, so its intrinsic energy per unit mass is $E=\overline{c}^{\,2}=9c^2/4$, whence $\overline{c}=3c/2$[1]. The thermodynamic equation $E=\overline{c}^{\,2}$ for the ether is thus the true relation corresponding to Einstein's relativistic version, $E=c^2$, usually written as $E=mc^2$.

This high intrinsic energy per unit mass is locked up in matter. In any reaction, however, such as atomic fission or nuclear fusion, in which some matter is converted into ether, it is released and may be used to power atomic or nuclear explosions or, under controlled rates of release in a reactor, to generate electricity.

Once it is accepted that the classical basic mathematics of Euler and Riemann negates the concepts of no-ether and non-Newtonian relativity[4], all such problems become much easier to understand and elucidate. If Maxwell had been acquainted with Euler's general equations of fluid motion he would have derived the general electromagnetic equations for an ether in general motion rather than the particular equations for a uniform stationary ether. No one, then, would ever have heard of Relativity.

References

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