

Wave/Particle Duality in Electromagnetic Radiation

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Wave/particle duality causes conceptual difficulties for many people. Light can behave as a coherent flow of mass, yet it also exhibits distinct wave behaviour. In 'The Telegraphy Equation' at,

<http://www.wbabin.net/science/tombe49.pdf>

it was explained how the sinusoidal behaviour in the electromagnetic wave equation was attributed to the fine-grained vortex flow of the aether around the rotating electron-positron dipoles on the picoscopic scale, and not to any compressions or rarefactions in the aether. That does not however mean that the flowing aether might not also be compressing and rarefying as it flows. The important thing is to realize that any compressions and rarefactions that occur in the vortex aether flow, are not related to the electromagnetic wave equation.

The electromagnetic wave equation describes a propagation of angular acceleration. In order to reason how an angularly accelerating vortex transmits this angular acceleration to its neighbour we tend to imagine the aether emerging from one dipole in a state of compression. This inter-vortex pressure will then yield so as to angularly accelerate the next dipole in sympathy. The aether will then flow into the next dipole in a rarefied state. The pressure will build up at the far end once again, and the cycle will be repeated.

This alternation of pressure along the path of the electromagnetic radiation is not described by the electromagnetic wave equation. No compression pulse is actually propagating, and Ampère's Circuital Law is not concerned with issues relating to variation in aether pressure (charge). We are dealing with a flow of aether whose pressure alternates along its path according to whether it is inside a dipole or between

two dipoles, and it is only the actual aether flow that is of importance in Ampère's Circuital Law and the electromagnetic wave equation.

We must further not confuse any kind of cyclic behaviour, that is associated with the electron-positron dipoles on the picoscopic scale, with any larger scale cyclic behaviour which is associated with the transmission source. The cyclic behaviour inherent in the electromagnetic wave equation only relates to the undulations in the aether that is associated with traversing the electron-positron dipoles. A transmission source can radiate large scale electromagnetic radiation at a frequency of 50Hz. This 50Hz does not relate in any way to the picoscopic undulations in the aether flow that are associated with the electron-positron dipole vortices. The cycle that is associated with the 50Hz frequency will relate to the actual amount of aether flow at a point in space, as opposed to any alternation in its pressure.