

Continuum Theory (CT): major implications of the 'particle-tied aether' concept for gravitation, rotational effects, the strong nuclear force and cosmology₁

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1. Introduction.

My paper with the filename *ptaeth2.pdf* (hereinafter 'Paper 1') sets out the foundations of the aether theory that I am developing, and from which my results on gravitation spring. In essence, not only is there an aether, which is a superfluid continuum of electric charge of huge charge density, but the entire Universe is made from it, particles and all. This revalues Maxwell's equations for TEM waves, transmitted by and through the aether, but no longer are they the perfect messenger required by Einstein to provide a link between different frames of reference; they get modified in transit by the random motion of the aether, a spatially averaged representation of the random motions of particles within it. In rejecting the function of an aether Einstein overlooked that it might be in random motion.

If the particles or particle-assemblages (e.g. atoms) are electrically neutral their effect upon the surrounding aether is limited to their gravitational aether-pumping effect (see below) but, if they are charged or their assemblage has unbalanced charge, their random motion has an enormously greater effect upon aether random motion. The mean charge density of the aether is determined by the need to make electrons and positrons from it, one with more aether (charge) in it and the other with less, which may approach zero (which is still a high relative density, of the opposite sign, relative to the mean). These particles contain (on electron-positron scattering evidence of their size³) the highest charge densities known for any particles, far higher than that given by the 'classical' radius of the electron. The huge mean charge density of the aether provides the basis for the development of very large forces if the means of altering the density from place to place exist. Conversely, more commonplace levels of force involve comparatively trivial proportional modifications of aether density.

I have named my theory Continuum Theory (CT) because it sees the whole of physical nature as a continuum; there are no point singularities. This is in total contrast to Relativity, in which everything is regarded as punctate, even TEMwaves, all inhabiting a 'perfect vacuum' possessing finite physical attributes. PIRT, the 1996, 1998 and 2000 (= 'PIRT 7') meetings at which earlier parts of this work were presented, stands for Physical Interpretations of Relativity Theory, a series of 3-day biennial conferences at Imperial College, London, under the auspices of the British Society for the Philosophy of Science.