# Possible Explanation for the Quantum Entanglement

**Hasmukh K. Tank**

Indian Space Research Organization, 22/693 Krishna Dham-2 Ahmedabad 380015 India

e-mail: tank.hasmukh@rediffmail.com, hasmukh.tank1@gmail.com

**Abstract:**

Quantum entanglement of pair of particles is now an established fact as described in [1]. But its theoretical explanation is yet to be found. So this letter attempts to propose one possible explanation, based on this author's previous works: In a paper titled: "Some conjectures on the nature of energy and matter"[2] and its latest version " On the emergence of physical world from the ultimate reality" [3] it was proposed that 'space' or 'vacuum' can be viewed as a 'super flexible continuum (SFC), and 'particles' of 'matter' as 'spherical standing wave patterns' of fluctuations generated in SFC. Since, in a continuum, when a labeled dot moves from point A to A' the point B behind it has to move from B to B'; and this chain of displacements has to complete a closed circular path, whose radius can be as small as a few nano-meters or as large as a few thousand kilometers. This motion of point A completes a small circle on the surface of a spherical shell in a time *t* , giving rise to a wave in the radial direction. The propagation of this wave in the radial direction is at the speed of light; whereas the displacements of points on the surface of spherical shell are instantaneous; because of the continuum nature of 'space'. When such a wave of fluctuations moves in radial direction, it mirror-wave, of the same frequency and amplitude, has to move in radially opposite direction, giving rise to a pair of pulses moving apart in r adial directions. Since, the spin and polarization of 'photons' are in perpendicular to the direction of their motion, they are in the tangential-direction of the spherical shell, on which displacements of points take place instantaneously. This is what is known as 'entanglement' of 'photons'. The observed entanglement of photons, and other particles, imply the presence of an underlying 'super flexible continuum' (SFC) , as was anticipated in [1] in the year 1988.

**References:**

[1] http://en.wikipedia.org/wiki/Quantum_entanglement

[2] Tank, H.K. "Some conjectures on the nature of „energy" and „matter", *Science and Culture* (Published by Indian Science News Association, Kolkata) Vol.54, 1988; p.106-113.

[3] Tank, H. K. "On the emergence of physical world from the ultimate reality" http://vixra.org/pdf/1312.0084v1.pdf