

Wave Assembly Line Theory of Quantum Entanglement

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Abstract: Dr. David Joseph Bohm an American scientist who theorized quantum mechanics in the most ordinary and understandable way, which is somewhat referred to as the “Pilot Wave-model”. Also he prophesized in neuropsychology, and gave the Holonomic model of brain affecting our view of the quantum mechanics. His theories suggest that the phenomenon of “NON LOCALITY” or quantum entanglement is due to the famous “frame dragging” phenomenon predicted by Sir. Albert Einstein’s theory of relativity.

Bohm’s theory also suggests that time doesn’t exist in the way we think it does as stated by “THE BIG CRUNCH” theory. According to it time exists due to the interacting frequencies of the waves due to particle vibrations in space and that the universe never began.

In this paper existence of quantum entanglement is used to question the degree of correctness of the Space-time fabric theory.

Keywords: Alternate Theory- Bohmian Mechanics- Gravity Probe B- Pilot Wave- Quantum Entanglement- Space Time.

1. INTRODUCTION

- 1) Does Space-Time Fabric exists?
- 2) And if it does exists what proof do we have?
- 3) Then how do we answer the nonexistence of time and existence of quantum entanglement with Bohm’s model of quantum mechanics?

By the time you start scratching your head this paper brings you to a fascinating theory that might bring your irritations about quantum mechanics to a pause... until someone finds a better theory. So are we open to suggestions, or are we singing the old rhythm of the “orthodox science”?

2. SPACE-TIME’S EXISTENCE

Einstein’s theory of relativity is based on a very huge fallacy that, the speed of light is the maximum attainable speed. But recent research says that speed of light through cosmic vacuum isn’t the same throughout. The existence of quantum mechanics itself questions Einstein’s theory of Relativity. The EPR paradox and its resolution by Bell’s theorem is the most misunderstood results of science, on basis of which an experiment 15 years later proved that superposition exists.

NASA sent GRAVITY PROBE-B (GPB) in the search of the same question. Which had 3 ultra-calibrated gyroscope rotors made of unpolished fused quartz. Three physical characteristics of any gyroscope that may cause its spin axis to drift other than general theory of relativity are:

- 1) Imbalance in mass density distribution inside the gyroscope.
- 2) An uneven surface on the exterior of the gyroscope.
- 3) Friction between bearings and axel of gyroscope.

These are all those characteristics stated by NASA. Some problems with the probe are suggested here:

- 1) Magnetically levitated gyro rotors, can be affected by any magnetic field other than the gravitomagnetic fields.
- 2) Minimized classical torques by translation control system cannot prevent the undetermined torque from non-classical cosmic fields, dark matter, dark energy etc.

So did we get the answer to existence of space time, by such a costly experimental setup? In a scientist's view we might have, but in an engineer's view we don't yet have the technology. The prospective of space time still remains open to questioning. But still a four dimensional space could exist, where some other dimension instead of time may exist, which could be a deterministic property of the space itself. Something similar to length, breadth and width. Something which human eyes can't perceive or the human mind can't comprehend. For now let it be the soul of the particle or its "Pilot wave".

3. QUANTUM ENTANGLEMENT'S ENGAGEMENT WITH THE PILOT WAVES

Can pilot wave mechanics without any space-time fabric still predict the communication of particles faster than the speed of light? Might be.

Earlier it was assumed that quantum entanglement was because of the frame dragging which caused ripples in time and space due to which the both particles remain entangled.

Alternative suggestion is as follows:

Particles generate waves while vibrating in the medium are not alone their wave's wave function affects the other waves in the space due to other particles out there. When two particles are separated over a wide distance the instantaneous change in any one of them affects their waves. These waves interfere with waves in their vicinity, which has an effect on the waves in their vicinity, and so on. In this assembly line pattern the message from one particle reaches to other particle, which is obviously faster than the direct approach method or the space time ripple detection method.

Did we get the entanglement theory now? Even without space time? Only with Bohmian mechanics? Well it is just a theory, open to experimentation, suggestions, verifications, and modifications, questioning or even throwing in the garbage bin. Still a better theory than other weird things.

4. CONCLUSION

Finally, what does this paper suggests? The assembly line of waves can be used to convey message between two entangled particles without the need of any space time fabric rectifying the weirdness of quantum entanglement. Further, it also answers the dilemma of Sir. Albert Einstein that did god play dice with the universe. To which this theory answers in the most simplistic way, "NO", but in-turn it questions Einstein's own theory.

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