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Communication

Do We Live in a Multiverse, and Are the Extra Universes Timelike?

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This Communication was inspired by the latest IPI lecture - given by Prof. Tejinder Singh from the Tata Institute of Fundamental Research, India. Immediately below is the title and abstract of his talk. Recently, I've been preoccupied with the Holographic Principle and the possibility of the hypothetical multiverse being temporal or timelike. Just to see what I could come up with, I copied Prof. Singh's title/abstract and adapted my thoughts to match it closely. My title/abstract is underneath the Professor's.

Title: Do we live in a 6D space-time, and are the extra dimensions timelike?
Abstract: The E8 x E8 octonionic theory of unification suggests that our universe is six dimensional and that the two extra dimensions are timelike. This in principle offers an explanation of the quantum non locality puzzle, also known as the EPR paradox. Quantum systems access all six dimensions whereas classical systems such as detectors experience only four dimensions. Therefore, correlated quantum events which are timelike separated in 6D can appear to be spacelike separated, and hence non-local, when projected to 4D. Our lack of awareness of the extra timelike dimensions creates the illusion of non-locality whereas in reality the communication obeys special relativity and is local. In principle, this idea can be tested experimentally.

Title: Do we live in a multiverse, and are the extra universes timelike?
Abstract: The multiverse theory suggests that our cosmos consists of a possibly infinite number of universes. The extra universes may be timelike. Science can follow the principle of quantum gravity which may one day go far beyond unifying quantum mechanics and general relativity, to unite everything in space and time. Cosmology's holographic principle - which says the 3rd dimension may be a projection of information in a 2^{nd} dimension - unifies all other timelike universes with the four dimensions of this physical universe. It might do this because quantum events which may be possession of Electric Dipole Moment by particles, and consequent binary digits, enable re-programming of the 2^{nd} dimension which gives rise to the 3^{rd} dimension, causing separation and distance to be deleted between the timelike universes and our 4D space-time. Our lack of awareness of the mutiverse being timelike creates the illusion of its universes displaying non-locality with this universe whereas in reality every-thing obeys the unification of general relativity and quantum mechanics, and

is local. In principle, this idea can be rescued from present NON-manipulation of the holographic principle by believing the following. Today's, and yesterday's, world can interact with tomorrow's holographic manipulations to ensure the timelike multiverse has always been united with this universe if time is like a DVD. Every past, present, and future event on the DVD exists at once since the whole DVD exists but we're only aware of sights and sounds occurring in each tiny fraction of a second.

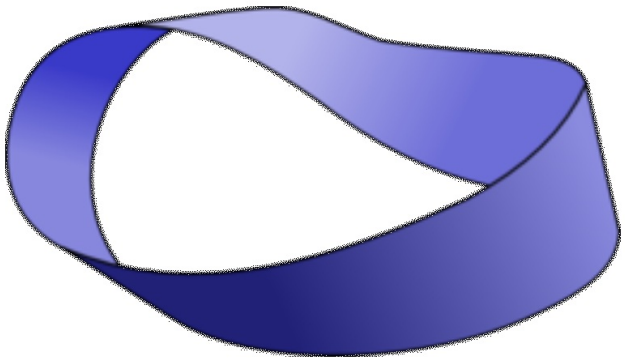

Figure 1: the Mobius Strip, which is two-dimensional and only has one surface. Could this 2D topological shape help explain the universe's topology? Matter's spin ½ is logically like a Mobius strip. This is because a particle of matter has to be turned through two complete revolutions to reach its original quantum state, and you must travel around a Mobius strip twice to reach the starting point. Also, a 2017 science paper says all of the information in the universe is contained in two-dimensional packages trillions of times smaller than an atom [1] (source: http://www.clker.com/cliparts/3/7/ a/9/12205465347817139511ummie$_M$*obius*$_S$*trip.svg.hi.png*)

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