

Absolute Time and Retrocausality

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Abstract— I am going to present some concepts related to nature of quantum particles which are link to space-time and can defined absolute time and show in which case retrocausality is possible.

Index Terms—Quantum particles and time, retrocausality, what is time, role of quantum particles in space-time curve, absolute zero temperature and absolute time.

1. Introduction

I am going to present some concepts related to nature of quantum particles which are link to space-time and can defined absolute time and show in which case retrocausality is possible. For prerequisite read my published papers 'Theory of Anything' and 'Theory of Nothing' which were published in IJSER and my book 'Detail Geography of space'

2. What is Time?

Time is Evaluation of space

We know that our universe is ever expanding from the point where its appears to manifested, and the composition of three modes of nature's all creators, insects, rivers, mountains, plants, animals, stars, galaxies, and so on ever changing means at the evaluation of universe if we take snapshot of space more than one times we can't get exactly same picture of composition of modes of nature in both pictures.

The composition which was at the starting of manifestation was totally different from now and it will change future and keep changing. Now the reason of change or evaluation is basically motion of space in forward direction. Motion is responsible due to Rajas mode of nature.

Through Sattwa we can compare the stages of evaluation by observing the representation of universe but these different stages are possible due to change or movement or Rajas. So, we can say that time is evaluation of space due to Rajas mode of nature.

3. Space time pendulum

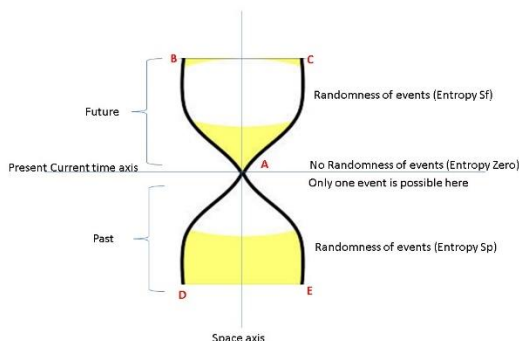


Figure: 1

Suppose area BCADE of Figure:1 is any space-time curve which contains many possible quantum particles. Suppose axis which is going from point A is current time axis and we are observing effects of events exactly at point A.

So, if you look at the point A in figure:1 which represent present time on which we are observing the outcome of our observation. Area ADE are those events outcomes which were already happened or we can say that Area ADE is heap of past. Similarly, Area ABC is region which contains all possible outcomes of future events which we will observe.

We know that line BC is represent some future time and line DE represent already past time while A is current time at which we are observing outcome of an event. It is clear that as our observation time come close (At point A) the chances of random result is decreases. It means at line BC of time axis there are many possible effects of a cause but when we observe the effect of any cause at point A than result must be single or if we talk about quantum particles language

So, if we see all the examples and definition of time we find a motion whenever a property of outcome exactly at point A, it is certain that only one outcome is observe or we can say that at point A we have minimum possible time duration which is observable under quanta of nature or value h (plank quantum). It means below that time limit we can't observe.

Now again as particle with certain output represented by energy/mass and some other properties of quantum particles, leaves point A or as it passes the current time. Soon it become past and as time passes the chances of that particle to interact with other particles increase due to which we got cone structure of past events or area ADE.

So, for any isolated system in space time curve. We can represent the past, present and future as in figure. Here isolated system means at line BC and DE there are all possible particles are considered which can influence our observation of effect of any cause at point A.

Suppose Entropy of future cone is S_f and of past cone is S_p .

Now according to second law of thermodynamics: Entropy of an Isolated system is increase with time or randomness in isolated system is increases with time or in very simple

words more and more information is required to tell state of any isolated system as time passes.

It means S_f is always greater than S_p or $S_f > S_p$

If we consider the Just Minimum Observable Time(JMOT) after the present event at point A means just next time slice below point A, separately and also consider Just Minimum Observable Time(JMOT) before the present event at point A separately means Just Next Upcoming Time Slice(JNUTS) above point A. it is clear that after an event happened at point A, if we observe Entropy of future at Just Next Upcoming Time Slice(JNUTS) of time it will be $S_f = S_p + \text{Entropy of event at A}$ (because for that Just Next Upcoming Time Slice(JNUTS) only one event has been passed)

Or can write

$S_f = S_p + S_n$ ($S_n = \text{Entropy now or at Entropy of current time at point A}$)

But Entropy at point A is constant or we can say S_n is constant.

So $S_f - S_p = S_n$ (Constant)

What is signifies?

It means all the particles in an isolated system whose observation we are measuring at point A must belongs to the cone of past or all the possible particles and their combinations of Area BCA is same as of Area ADE.

It is only possible when space-time curve of that isolated system must be a torus shape joining at point A inside bend space-time curve. It means all possible matter and energy for an isolated system is coming and going in a cycle and that torus shape makes retrocausality possible.

But in this case also there are two types of leakage one is internal and not affect retrocausality and second is external to our isolated torus space-time and will interact with another torus space-time curve. Which reduces possibility of retrocausality to very very less.

First types of leakage are not actually leakage but called dark matter (to understand concept of dark matter and why it is not observable read my book: detail geography of space) which is shown as Hollow space between space-time torus is dark matter having constant entropy in figure:2.

Second types of leakage are particles responsible for Dark energy (to understand concept of dark energy and why it is not observable read my book: detail geography of space) which have such a great energy that they go outside the our isolated torus space-time system and can interact with other isolated space-time systems, which is shown as Dark energy in figure:2.

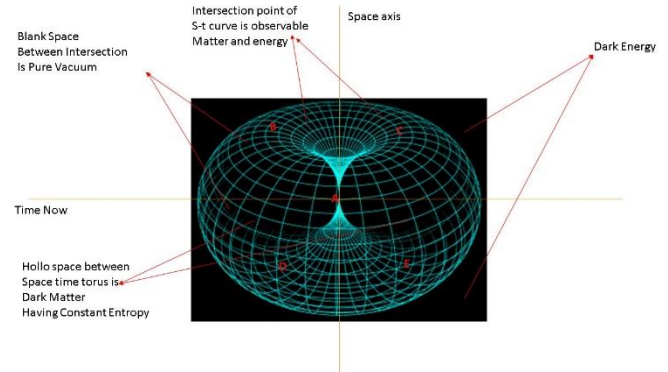


Figure:2

Our universe is an uncountable interconnecting torus system which can and will interact with each other with the help of Dark energy and makes whole universe as one interconnecting system Figure:3

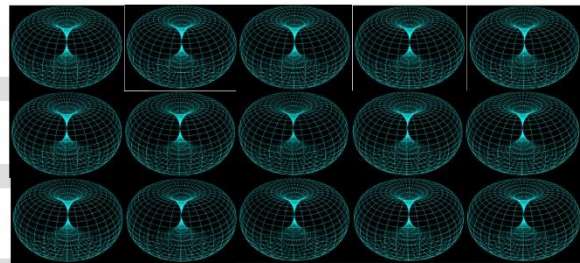


Figure:3

What happen if we cool this torus system to absolute zero? Third Law of Thermodynamics says that: The entropy of a system approaches a constant value as the temperature approaches the absolute zero.

It means at absolute zero temperature there is no leakage outside our isolated torus space time system. It means either whole Dark energy is converted in to observable mass/ energy particles or in to not observable Dark matter or combination of both.

It means at absolute zero temperature or more correctly when entropy of an isolated system is reaches to constant then that system doesn't have any hidden Dark energy because it is either converted to in to observable mass/energy particles or in to not observable Dark matter or combination of both.

It also means that our all past events will appear as future events for an isolated torus space time system at constant entropy. It means retrocausality is possible in that case.

Again, constant Entropy means no change in configuration and/or states of our isolated torus space time system. No

change in space means no feel of time or you can say
constant space time or Absolute Time.

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