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Insight on Some Interesting Models of Parallel Universe

Rimo Sarkar*

Physics Department, University of Kalyani, India

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ABSTRACT

The theoretical perspective on universe is the most intriguing subject of discussion. Human curiosity made them wandered about the origin and form of the universe and because of the attempt to find those answers the idea of the parallel universe came into the light. This study has been undertaken to investigate and gain insight about some models of parallel universes. We have described models that are most fascinating. The inquiry isn't if the multiverse really exists or not but if they exists how are they like and where they might be.

Introduction

Maybe there is a person like you on a distant planet in a distant galaxy whose life has been identical to yours in every possible way, but from now on, both lives are diverging.

You may find this thinking abnormal and unrealistic, and I have to admit that this is my gut response too. But it seems we need to live with it because currently, the easiest and best-known cosmological models predict that this individual actually exists in a galaxy about 10^{29} meters from our observable galaxy. Your inner adjustment is essentially an approximation of the assumed cosmological model, which agrees with all current observational evidence and is used as the rationale for most of the predictions and demonstrations introduced at cosmological encounters. Interestingly, options such as fractal universes, closed universes, and duplicate-associated universes have been thoroughly tested by perception.

The furthest you can notice is the distance that light has traveled in the fourteen billion years since the big bang. The most distant visible object today is about 4×10^{26} meters, and a sphere with this radius characterizes our visible universe, also called the Hubble volume, or our universe. Besides, your previously mentioned twin universe is a sphere of the same size focused around there, none of which we can see or have causal contact with yet. This is the most complex illustration of a parallel universe.

Advance technological experiments therefore broadened the frontiers of physics to incorporate increasingly abstract concepts like a spinning round Earth, an electromagnetic field, slowing down of time in high speed , quantum superimpositions, curved space and black holes. In this paper different models of parallel universe is discussed and the main question isn't if multiverse exist but how are they like and where they might be.

*Correspondence email: sarkar.rimo00@gmail.com
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Methods

The research method used here is a literature review. It is the search and evaluation of available literature in a particular subject area or topic. In this case, the topic is parallel universe models.

Result and Discussions

Six models of parallel universes are as follows:

Model 1 Parallel Universes

1) Introduction

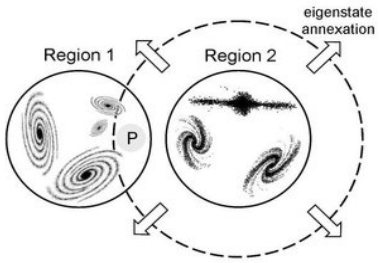
In the infinite space (if it is) there could be infinitely many other inhabited planets with people with the same looks , names and experience and memories. So there could be infinitely many regions like our universe. This is model 1 parallel universe.

2) Description

The physical science description of the world is generally divided into two parts: the initial conditions and the laws of physics that determine how the underlying conditions advance. People living in parallel universes in model 1 observe the exact same laws of physics as we do, but with different initial conditions than those in our observable universe. The currently preferred hypothesis is that the initial conditions (densities and motions of different kinds of matter since the beginning) were created by quantum changes during the inflationary epoch. This mechanism creates random initial conditions, resulting in density fluctuations described by the so-called ergodic random fields. And the simple meaning of ergonomics is that whatever happens in a certain place has happened in a distant place as well. Inflation does produce all possible initial conditions with non-zero probability, most likely to be practically uniform with changes at the 10^{-5} level intensified by gravitational clustering to form different galaxies, stars, planets, and structures.

This implies both that basically all possible matter configuration happen in some Hubble volume far away, and furthermore that we ought to anticipate that our own Hubble volume should be a genuinely regular one — essentially typical among those which contain onlookers. An unrefined gauge proposes that the nearest indistinguishable duplicate of you is around 10^{29} m away and Around 10^{115} m away, there ought to be a whole Hubble volume indistinguishable from our own. Model 1 parallel universe diagram can be seen in Figure 1.

Figure 1
Diagram of Model 1 Parallel Universe



Model 2 Parallel Universes

1) Introduction

The chaotic theory of inflation predicted there can be an infinite number of distinct universe with some maybe with various dimensionality and diverse physical constants. This is the concept of model 2 universe. These different domains are more than limitlessly far away as in you would never arrive regardless of whether you went at the speed of light for eternity.

2) Description

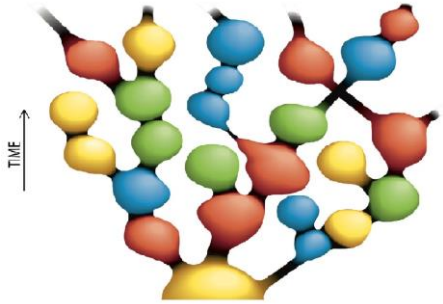
The common view is that the physics we are concerned with today is simply a low-energy breaking point from a much more symmetrical hypothesis that reveals itself at very high temperatures. This basic key hypothesis may be 11-dimensional, supersymmetric and include the extraordinary unification of the four major forces of nature. The distinctive element in such speculation is that the potential energy of the field driving inflation has several distinct minima compared to the various methods of breaking this equilibrium and, thus, to various low energy physics. For example, everything except the three spatial dimensions can be positioned to produce a decent three-dimensional space like ours, or less able to spin away from 7-dimensional space. The quantum changes that drive chaotic inflation can cause different symmetry breaking in the various bubbles, resulting in different individuals of the model 2 multiverse having different dimensions. Many of the symmetries seen in particle physics also result from the explicit way in which symmetries are broken, so there might be a model of 2 parallel universes in which there are, say, two rather than three generations of quarks.

The model 2 multiverse is thusly liable to be more different than the model 1 multiverse, containing areas where the initial conditions contrast, however maybe

the dimensionality, the rudimentary particles and the physical constants contrast too.

Prior to continuing on, let us momentarily remark on a couple firmly related multiverse thoughts. if one model 2 multiverse can exist, endlessly self-imitating in a fractal design, then, at that point, there likely could be boundlessly numerous other model 2 multiverses that are totally detached. A thought proposed by (Smolin, 1997) includes a group comparable in variety to that of model 2, however transforming also, growing new universes through black holes rather than during inflation. This predicts a type of a characteristic choice inclining toward universes with maximal black hole creation. Model 2 parallel universe diagram can be seen in Figure 2.

Figure 2
Diagram of Model 2 Parallel Universe



Model 3 Parallel Universes

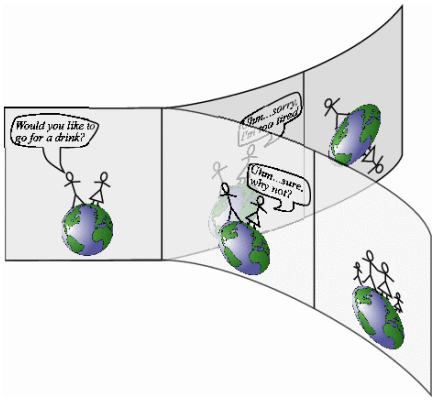
1) Introduction

There might be a third kind of parallel universes that could be said not so far but here. at whatever point a quantum occasion happens to have an random result, all results truth be told happen, one in each branch. This is the model 3 multiverse.

2) Description

When talking about parallel universes, we really want to recognize two distinct methods of review a physical hypothesis: the external view and within view. From the external viewpoint, the model 3 multiverse is straightforward: there is just a single wavefunction, and it develops without a hitch also, deterministically over the long run with no kind of parting or parallelism. The theoretical quantum world portrayed by this advancing wavefunction holds inside it a huge number of parallel classical storylines , consistently parting and converging, just as a number of quantum phenomena that don't have classical description. According to her internal viewpoint, be that as it may, every eyewitness sees just a minuscule part of this full reality: she can just see her own Hubble volume (model 1) and decoherence keeps her from seeing model 3 equal duplicates of herself. At the point when she is posed an inquiry, makes a snap choice and replies, quantum impacts at the neuron level in her mind lead to various results, and according to the external point of view, her single past branches into various futures. According to their internal points of view, however, each duplicate of her is unaware of different duplicates, and she sees this quantum branching as simply a slight haphazardness. Thereafter, there are all things considered different duplicates of her that have precisely the same recollections up until the moment that she addresses the inquiry. Model 3 parallel universe diagram can be seen in Figure 3.

Figure 3
Diagram of Model 3 Parallel Universe



Model 4 Parallel Universes

1) Introduction

Mathematical existence and physical existence are equivalent, so all mathematical structures also exist physically. That is the model 4 multiverse.

2) Description

The manner in which we use, test and conceivably preclude any hypothesis is to figure probability distribution for our future insights given our previous discernments and to look at these forecasts with our noticed result. In a multiverse hypothesis, there is regularly more than one SAS (self-aware substructure) that has encountered a previous existence indistinguishable from yours, so there is no real way to figure out which one is you. To make forecasts, you along these lines need to register what parts of them will see what later on, which prompts the following forecasts:

• Assumption 1: The mathematical structure portraying our reality is the most conventional one that is predictable with our perceptions.

• Assumption 2: Our future perceptions are the most nonexclusive ones that are predictable with our past perceptions.

• Assumption 3: Our previous perceptions are the most conventional ones that are steady with our existence.

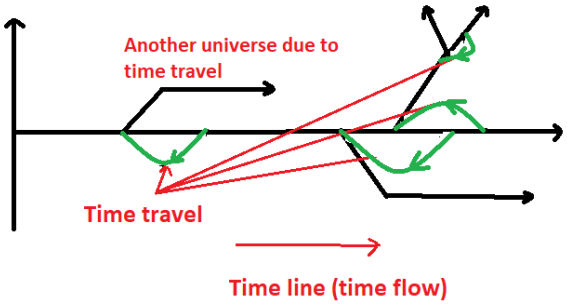
one striking element of mathematical structure, discussed in detail in (Tegmark, 1997) is that the further types of symmetry, the invariance properties responsible for the directness and organization of our universe are often non-exclusive, more standard than specific. case —mathematical structures will generally have them naturally, and additional confusing axioms have to be added to eliminate them. Overall, because of this and the selection effect, we shouldn't really expect life in the Model 4 multiverse to be a scattered wreck.

Model 5 Parallel Universes

1) Introduction

Time is one of the most important aspect to understand the universe. There can be yet another type of parallel universe that will be created when someone from the main timeline travels back to the past. This is model 5 parallel universe, that can be seen in Figure 4.

Figure 4
Diagram of model 5 parallel universe



2) Description

In model 5 parallel universe travel back in time is possible and there will be no infringement of actual laws of the universe just as there wont be any conundrum like "grandfather paradox". Every time we travel back to the past we will create a new universe that will grow in a different timeline but all the physical laws as well as the conditions will be same. However, in those universe events that will occur might be different and independent of each other. A rare phenomena like converging of different parallel universe can also occur when everything (events, particle etc) will be indistinguishable in every term. In that case they will lose their individuality and will flow in a certain timeline. it is likewise conceivable to venture out to an alternate parallel universe in this model of parallel universe.

This model 5 universe just as solves many problems also raise question that can not be answered. How times flows? What is the quantum form of this universe? If the "self heal theory of universe is wrong.

Model 6 Parallel Universes

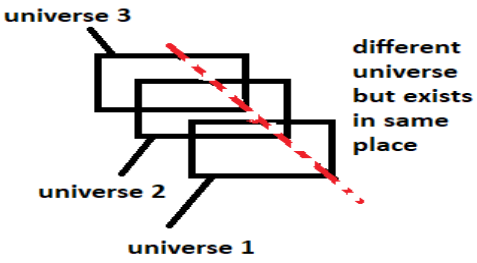
1) Introduction

The universe is full of mysteries and yet another mystery is there could be another model of parallel universe just like the other five. In this model all the parallel universe exists in the same place but is somehow manages to exists as a individual one with there individual laws and dimensionalities. This is model 6 parallel universe, that can be seen in Figure 5.

2) Description

In the time of big bang not only one but many numbers (can be infinite) of universe created and they all exists in the same place but without interacting with each other. In this model 6 multiverse big bang happened in a hyperspace and a observer from hyperspace can not see big bang has actually occurred. To him it will be a like a point where nothing is going on. But to the inside observer the big bang had already happened and observer of different parallel universe will experience and observe different events. The physical laws that governs those parallel universe can vary dramatically with each other. In this model too there if we travel back to time there is no possibility of occurring of events like "grandfather paradox". It also supports the idea of "self heal universe".in this model travelling to another parallel universe is possible.

Figure 5
Diagram of model 6 parallel universe



Conclusions

We have examined probably the most captivating models of parallel universe and perceived how they will resemble if the exists. From the insight of the models we may say that Model 1 has just unique initial condition while model 2 and model 6 just as model 4 might have diverse physical laws. In Model 3 and 5 parallel universes are made by plausible irregular quantum occasions and time travel. These model of parallel universe addresses a great deal of secrets of the universe and yet it brings up a ton of new issues as well. There can be some other models of parallel universe but these 6 models are the most suitable ones and its also possible that all these models might exists simultaneously. In future we could possibly demonstrate the presence of parallel universe in principle as well as by some experimental technique.

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