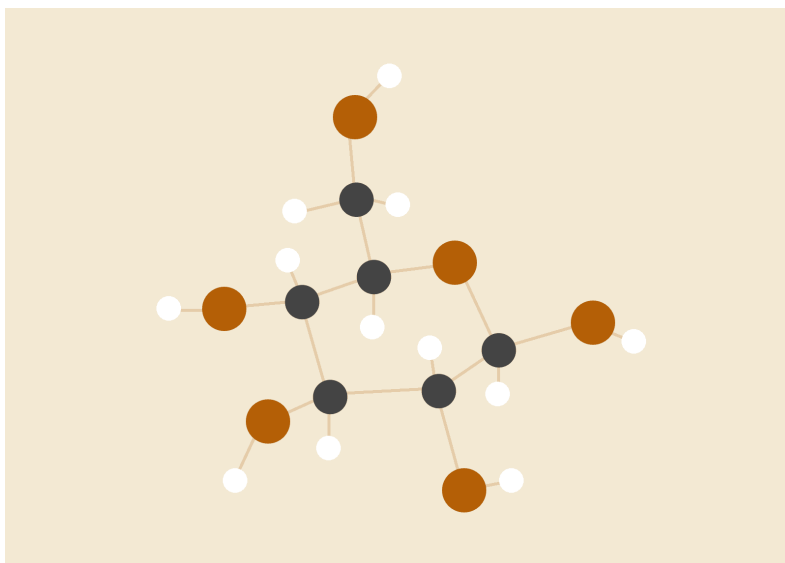


## STRING EXPANDS TO FABRIC

*Jaishwin raj*

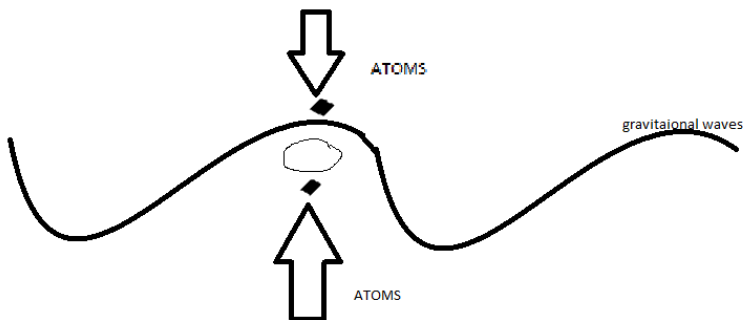
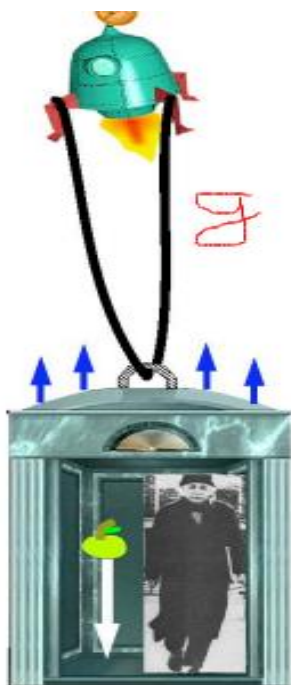


### CONCEPTS I USED –

#### Gravitation vs acceleration

Consider the following experiment: a person is put in a room-size box high above the moon (chosen because there is no air and hence no air friction) with a bunch of measuring devices. This box is then taken high above the lunar surface and then let go: the box is then freely falling. The question is now, can the observer determine whether he/she is falling or whether he/she is in empty space unaffected by external forces (of course the answer is supposed to come before the box hits the surface). The answer to that is a definite NO! The observer can do experiments by looking at how objects move when initially at rest and when given a kick, he/she will find that they appear to move as if there were no gravitational forces at all! Similarly any experiment in physics, biology, etc. done solely inside the box will be unable to determine whether the box is freely falling or in empty space. Why is that? Because of the equality of the gravitational and inertial masses. All objects are falling together and are assumed to be rather close to each other (the box is not immense) hence the paths they will follow will be essentially the same for each of them. So if the observer lets go of an apple, the apple and the observer follow essentially the same trajectory, and this implies that the observer will not see the apple move with respect to him. In fact, if we accept the principle of equivalence, we could find extra dimension in this experiment.

nothing can be done to determine the fact that the observer is falling towards the Moon, for this can be done only if we could find some object which behaved differently from all the rest, and this can happen only if its gravitational and inertial masses are different. The principle of equivalence then implies that the observer will believe that he/she is an inertial frame of reference...until disabused of the notion by the crash with the surface. The principle of equivalence is of interest neither because of its simplicity, nor because it leads to philosophically satisfying conclusions. Its importance is based on the enormous experimental evidence which confirms it; as with the Special Theory, the General Theory of Relativity is falsifiable.



## 2.0 - SPACE CAN BE REFERRED TO A FABRIC IN 2D

### M - THEORY

String theory is one of the most exciting and challenging areas of modern theoretical physics. It was developed in the late 1960s for the purpose of describing the strong nuclear force. Problems were encountered that prevented this program from attaining complete success. In particular, it was realized that the spectrum of a fundamental string contains an undesired massless spin-two particle. Quantum chromodynamics eventually proved to be the correct theory for describing the strong force and the properties of hadrons. New doors opened for string theory when in 1974 it was proposed to identify the massless spin-two particle in the string's spectrum with the graviton, the quantum of gravitation. String theory became then the most promising candidate for a quantum theory of gravity unified with the other forces and has developed into one of the most fascinating theories of high-energy physics. The understanding of string theory has evolved enormously over the years thanks to the efforts of many very clever people. In some periods progress was much more rapid than in others. In particular, the theory has experienced two major revolutions. The one in the mid-1980s led to the subject achieving widespread acceptance. In the mid-1990s a second superstring revolution took place that featured the discovery of nonperturbative dualities that provided convincing evidence of the uniqueness of the underlying theory. It also led to the recognition of an eleven-dimensional manifestation, called M-theory. Subsequent developments have made the connection between string theory, particle physics phenomenology, cosmology, and pure mathematics closer than ever before. As a result, string theory is becoming a mainstream research field at many universities in the US and elsewhere. Due to the mathematically challenging nature of the subject and the above-mentioned rapid development of the field, it is often difficult for someone new to the subject to cope with the large amount of material that needs to be learned before doing actual string-theory research. One could spend several years studying the requisite background mathematics and physics, but by the end of that time, much more would have already been developed, and one still wouldn't be up to date. An alternative approach is to shorten the learning process so that the student can jump into research more quickly. In this spirit, the aim of this book is to guide the student through the fascinating subject of string theory in one academic year. This book starts with the basics of string theory in the first few chapters and then introduces the reader to some of the main topics of modern research. Since the subject is enormous, it is only possible to introduce selected topics. Nevertheless, we hope that it will provide a stimulating introduction to this beautiful subject and that the dedicated student will want to explore further. The reader is assumed to have some familiarity with quantum field theory and general relativity. It is also very useful

to have a broad mathematical background. Group theory is essential, and some knowledge of differential geometry and basics concepts of topology is very desirable. Some topics in geometry and topology that are required in the later chapters are summarized in an appendix.

## HYPOTHESIS

My theory is related to stings and fabric of space , my thought experiment could make it possible to find extra dimensions.

## MY THOUGHT EXPERIMENT

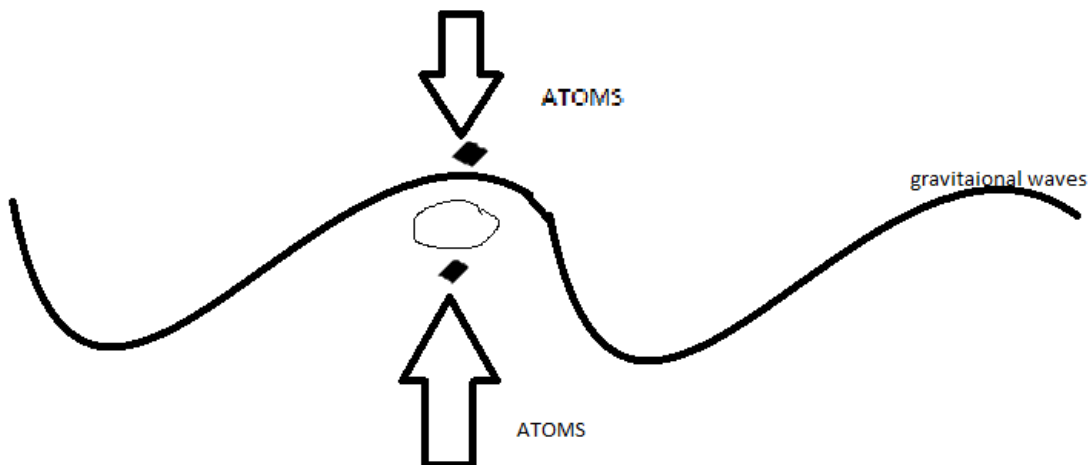
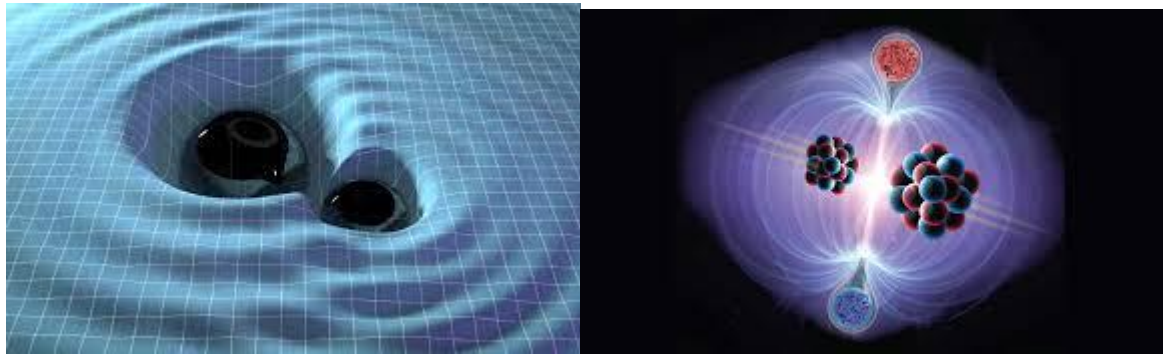
This thought experiment is brought out by already 2 experiments LIGO and LHC.

LHC -A new phase of operations at the Large Hadron Collider — the world’s largest particle accelerator — is scheduled to start in a few weeks, just a day after the 10th anniversary of its greatest achievement so far: the discovery of the long sought-after Higgs boson.

The collider’s reopening (it’s been closed since 2018) is an important event for global science, as what is generally considered one of the biggest science experiments ever conducted has already helped reveal important details about the fabric of reality.

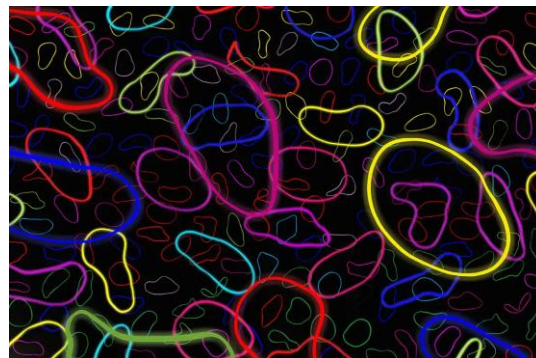
LIGO -Laser Interferometer Gravitational-Wave Observatory (LIGO), astronomical observatory located in Hanford, Washington, and in Livingston, Louisiana, that in 2015 made the first direct detection of gravitational waves. Construction began on LIGO in 1999, and observations began in 2001. Gravitational waves are variations in the gravitational field that are transmitted as waves. According to general relativity, the curvature of space-time is determined by the distribution of masses

I imagined in space these two are linked somehow and when LIGO detects gravitational waves in the LHC releases the particle from 2 ends it crashes the waves also we might see the extra dimensional.



My THEORY —

Well einstein pictured a warm hole which links both of them by particle ,but we know that is not true as given sting are made to fabric



So my conclusion my theory is what if it is the surrounding which makes it linked by warm hole ,since i am not that forward in math i can't prove it mathematically

### My EXPERIMENT

My experiment which could be possible is two electrons or photons in two areas and have a strong same charged magnet with the same power and Spin them as possible at the same angular velocity . If it is entangled then we have proved string theory also Well as a 14 year i know it is silly and childish but i think this could be a idea if einstein happiest thought was a person a person falling of a roofe.

