Journal of Space Exploration
ISSN: 2319-9822

Journal of Space Exploration

Mini Review | Vol 13 Iss 11

Violation to Einstein's Theory of General Relativity

Vivek Shah*

Department of Physics, University of Delhi, New Delhi, India

***Corresponding author:** Vivek Shah, Department of Physics, University of Delhi, New Delhi, India, E mail: vivek23shah@gmail.com

Received date: 07-Nov-2024, Manuscript No. tsse-24-3291; **Editor assigned:** 10-Nov-2024, PreQC No. tsse-24-3291 (PQ); **Reviewed:** 16-Nov-2024, QC No. tsse-24-3291 (Q); **Revised:** 20-Nov-2024, Manuscript No. tsse-24-3291 (R); **Published:** 28-Nov-2024, DOI. 10.37532/2320-6756.2023.13(11).266

Abstract

Before proposing the violation of the Einstein's theory of general relativity we should know that what is the Einstein's theory of special relativity in deep. In 1905, Albert Einstein, in his theory of special relativity, determined that the laws of physics are the same for all non-accelerating observers and he showed that the speed of light within a vacuum is the same no matter the speed at which an observer travels. As a result, he found that space and time were interwoven into a single continuum known as space-time. Events that occur at the same time for one observer could occur at different times for another.

***Keywords:* General relativity; Einstein's theory; Law of gravity; Violation**

Introduction

There are theoretical and experimental reasons to think that GR should be changed when gravitational fields are strong and space time curvature is high. The majority of these experiments examine the theory in the weak-field domain. Black holes and neutron stars, whether alone or in binary systems, are the ideal astrophysical laboratories to study strong-field gravity. We go over the causes for thinking about GR expansions. We give an overview of our current knowledge of the structure and dynamics of compact objects in these modified theories of gravity, as well as a (necessarily partial) catalogue of modified theories of gravity for which strong-field predictions have been computed and compared to Einstein's theory. We examine the limits on modified gravity that have been established by cosmology and binary pulsar measurements, and we emphasize the possibility of further gravitational.

Literature Review

Numerous Einstein field equation solutions have closed time like lines as causal anomalies. It would be interesting to learn if there are any such lines in the cosmos. In specifically, the question of whether it is conceivable for humans to control matter in order to generate such lines if they do not currently exist in the universe. Specifically, if a time machine could be created. The study shows that the shift to the causality violating regime will be followed by singularities. This topic is addressed by looking at a variety of exact solutions that might mimic a time machine. This idea is subsequently investigated using broad methodologies, and several theorems are shown that, in the general situation, time machines. In 1915 Einstein's theory of general relativity which is a part of the special relativity he determined that massive objects cause a distortion in space-time (space sheet), which is felt as gravity. We can take the help of the below figure to understand it in brief. Now as accepted from past we know that at the time of Big Bang some bodies were given a little push and they started moving in space and according to the Newton's 1st law of motion we know that an object at rest stays at rest, and an object in motion stays in motion unless an external force acts on it.

Citation: Shah V. Violation to Einstein's Theory of General Relativity, J Space Explor. 2024; 13(11).266.

Now, this bodies started revolving around the Sun as the distortion by the sun in space sheet will be large (due to its larger mass) in compare to earth and thus we can say that anybody revolve around the another body having larger mass or revolves around it. For example, the Sun has the greater mass than Earth, so Earth revolves around the Sun and in the similar fashion the Moon revolves around the Earth. Although according to this theory we can say that anybody having mass will have some impact on the space sheet. This revolving body doesn't loose its energy again because of Newton's 1st law of motion (Figure 1).

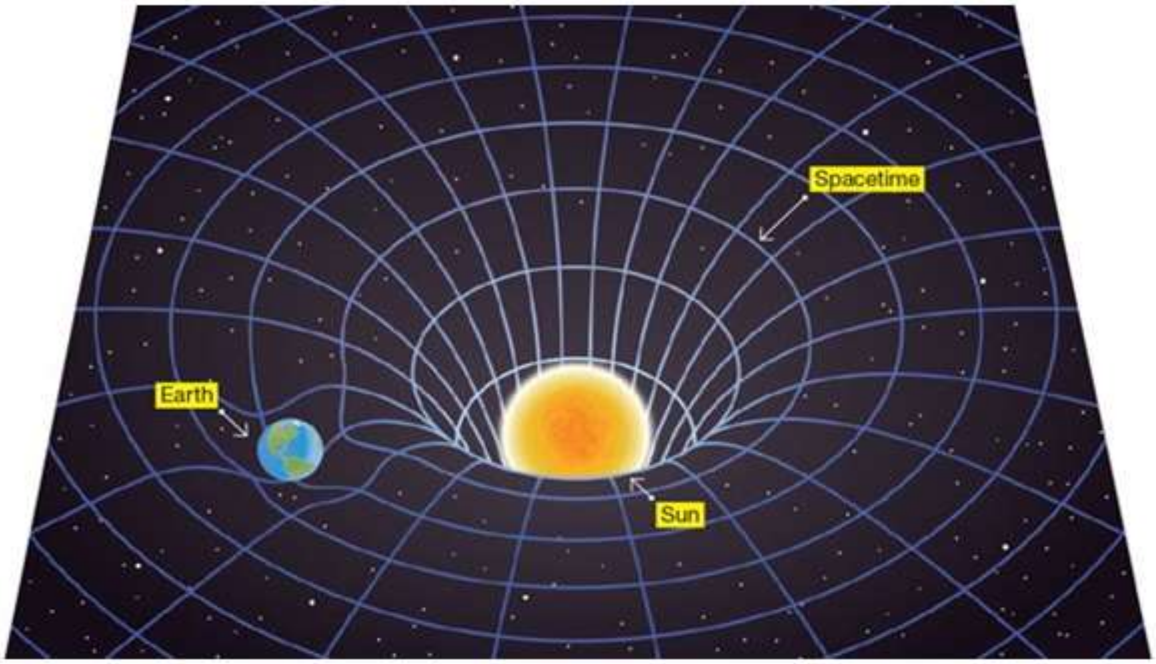

FIG. 1. **Distoration in space time.**

Discussion

Problems regarding Einstein's theory of general relativity

Well, this theory has some of the loopholes and unanswered questions. Firstly, we know that "Space is a void and not a matter" which is not supported by this theory as it includes space-sheet which can be distorted, and only matter can be distorted as far as we know. Another condition with this theory attached is that, it is only true for the planets and moons revolving in the solar system with respect to the Sun. It doesn't give any clarification regarding other celestial bodies like meteors, asteroids, stars, etc. some of the meteors revolve but that aren't all the meteors in the space [1]. Thus, other celestial bodies which move in random directions or which doesn't move are also neglected by this theory.

Another and major problem with this theory is regarding the "Black Hole". After the long period of time now scientists have the information regarding the black hole, and we know that it exists somewhere out there in the universe. So, how black hole is the problem to this theory? As far as we know about the black hole is that it is a region of spacetime exhibiting gravitational acceleration so strong that nothing (no particles) or even electromagnetic radiation such as light can escape from it. Another thing we know about singularity of black hole is that it is highly densed, *i.e*; almost equal to infinity. And from classical physics we can say that density and mass are proportional to each other and by this we can conclude that at black hole is largest massive object existing in the universe. Now, if the black hole is the largest massive object existing in the universe then the distortion by black hole will also be enormously large compare to all the other celestial body out there and it will be so large distortion that every object will be pushed towards it and will be destroyed in seconds [2,3]. But as we know that is not happening right now and Einstein's Theory of General Relativity doesn't answer this question.

Violation of Einstein’s theory of general relativity

This theory of “Violation of Einstein’s theory of general relativity” suggests the wider phenomena to explain the moving and revolving objects in the space. This is divided into 2 portions; one is based on the classical law of gravity given by Newton and another is quantum levitation (Quantum Trapping).

By Newton’s classical law of gravitation, we know that any two objects in space are under a certain force with each other and this force of attraction is known as gravitation. To explain in more detail first we need to understand how it works on earth. So, basically the gravitation pull is there on earth which helps us to stick to the Earth’s surface. Although this gravitation pull is not such high that any object gets pulled to the core, it is restricted by earth’s surface [4,5]. For easy understanding we can imagine the Earth surface a one boundary that we cannot cross, so if we jump in air we are going to pulled again by the gravitation upto the border line that is earth’s surface so in a similar fashion sun attracts earth by its gravitational pull, but earth cannot cross a certain boundary, that is may be formed by different molecules and this fixes the orbit of the earth. Also, this boundary differs from planet to planet as every planet are differently formed. The another concept which can support this can easily be experimented anywhere, just take a tank filled with liquid nitrogen and add some bubbles in it, you will see that the bubbles will neither go up nor down, instead will just levitate in the tank and the reason for this is the bubble wants to go down by can’t go beyond certain point (boundary) formed when liquid nitrogen is exposed to air. This phenomenon only explains the position of the celestial bodies in the universe. But for the motion of it we need to take a glance at quantum levitation [6].

In Quantum levitation there is permanent magnet placed and above it any superconductor is placed (which will be dipped in liquid nitrogen) and by this that superconductor levitate in the air [7]. This can be applicable to the space also, as in quantum levitation the object’s position is fixed by quantum trapping, we can say that there is some electromagnetic field going around in the space which can easily do the quantum trapping.

Conclusion

For a consideration this electromagnetic fields are around the solar system in a concentric ring formation. Thus, adding the fact that during the big bang some objects were given a little push due to the collision and according to the Newton’s 1st law of motion the planets move around in space due to quantum levitation and this also fixes the orbit of the planet. This theory clearly answers all the unanswered questions of Einstein’s theory of general relativity like the boundary formed are the main reason that bodies are not fully pulled by the black hole. Also, this supports the statement “Space is a void and not a matter” as electromagnetic field can be formed and moved in void. And for the celestial bodies which are not moving we can say that they are trapped by this electromagnetic field and will only move if any external force will be given.

REFERENCES

1. Berti E, Barausse E, Cardoso V, et al. Testing general relativity with present and future astrophysical observations. Class Quantum Grav. 2015;32(24):243001.
2. Yunes N, Siemens X. Gravitational-wave tests of general relativity with ground-based detectors and pulsar-timing arrays. Living Rev Relativ. 2013;16(1):1-24.
3. Hehl FW, von der Heyde P, Kerlick GD. General relativity with spin and torsion and its deviations from Einstein's theory. Phys Rev D. 1974;10(4):1066.
4. Damour T, Polyakov AM. String theory and gravity. Gen Relativ Gravit. 1994;26:1171-6.
5. Vishwakarma RG. Einstein and beyond: A critical perspective on general relativity. Universe. 2016;2(2):11.
6. Hawking S, Israel W. General relativity: An Einstein centenary survey. Cambridge University Press, UK, 2010.
7. Sciama DW. The physical structure of general relativity. Rev Modern Phys. 1964;36(1):463.