

A review on Black holes

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Abstract

In this paper we are introducing with black holes in our universe. How black holes are created and how they are increasing in size and mass and what are their types made by scientist on the basis of their mass and size is also introduced.

Keywords: Black holes, Time Dilation, Event Horizon

Introduction

Black hole when we hear this word, we go in an imagination that in space there will be a big hole having black color. The imagination is correct but not complete. I think it is not completely a hole like structure but it is a vacuum like circular structure in space which is dark in colour.

Black holes have very high force of gravitation, due to which no object can come out of it if it enters inside the black holes. Black hole is a region in space from which light gets completely absorbed inside it.

Creation Of Black Holes

The theory behind the creation of black holes is very interesting. Black holes are created by stars in our universe. The black holes are created when massive star. When the star has no fuel left for burning in its core, due to the gravitational force at the center of black hole it gets collapse inside itself and get burst.

This bursting of star creates a supernova explosion and further it creates a black hole having tremendous amount of gravitational force at its center. This way black hole is created. On the basis of its size and mass scientists classified the black hole in following way

Different Types Of Black Holes

Black holes are mainly classified into three types;

1. Primordial Black Holes
2. Stellar Black Holes
3. Supermassive Black Holes

1. Primordial black holes –

The several experiments showed that the size of primordial black hole is of size of an atom. The mass of these black holes ranges between 10^{-8} kg.

2. Stellar black holes:

It is commonly found black hole in space. It is medium sized black hole in universe. According to scientist the mass of this black holes is ranging between 3 to 10 times solar masses. The size of this black hole is of range 20 miles approximately.

3. Supermassive black holes:

These are extremely large black holes as the name supermassive the mass of these black holes is very high. According to scientists the mass of supermassive black holes is equal to greater than 1 million suns combined. the size of these black holes may be of solar system. These are rarely found black holes. This is how the black holes are classified on the basis of their size and mass.

Some Other Informaton About Black Holes

According to scientists the gravitational force inside the black holes is very much greater than the gravitational force of sun when light enters the black hole due to high gravitational force light does not come out of it hence, they are black.

Event Horizon

It is the boundary line of a black hole beyond which if object goes inside it, then that object cannot come out of black hole. Once object has passed the event horizon it will not be able to come out of it. When any object goes beyond event horizon it experiences the gravitational pull from the center of black hole.

Multiverse And Time Travel Using Black Hole

Scientist believe that we are to do both time and multiverse travel with the help of black hole. They believe that no any black hole is single in universe. All the black holes are connected by a connector called a worm hole. Worm hole is an imaginary concept which says that two black holes are connected by a single worm hole.

Black holes are doors of every universe. Scientist believe that if we entre in one black hole then we will come out from another black hole and we will be in another universe. This is done with the help of worm hole.

As multiverse travel is possible similarly scientist believe time travel is also possible. But there is one condition we can go only in future. We are not able to go in our past. For time travel we need to achieve speed of light and we need to travel nearer to the event horizon of black hole.

According to Einstein theory of the body having some mass in this universe is not able to attain the speed of light, for attaining the speed of light body must be mass less. Even the space ship which we will it should be also mass less so that it can attain the speed of light.

According to theory of relativity the bodies having mass makes a curve in space time. This curve depends upon the mass of body. Larger the mass larger is the curve in space time. When a space ship will go at 90 % of speed of light for it time will slow down because speed of light is a constant quantity and

travel same distance, so to keep the travelling distance same time slows down at 90% of speed of light.

This same happens at the event horizon of black hole and at that time the person in the space ship will experience the time dilation.

Literature Review

Considering all the previous discussions, it can be argued that the black holes are like celestial monster in the universe. Black hole could be a serious concern for the mankind to survive in this beautiful earth though the probability of occurrence of an incident that we all are sucked by the black hole is very small. So there is no need to fear too much for getting spaghettified soon. Now-a day, many scientists are working in this field. Many scientists have given their opinion and explanations about the black hole. But these views are different. This is creating an uncertain situation to be known explicitly about the black hole. There is no independent concrete theory or assumption to interpret this phenomenon-black hole. These researches can be very useful for all of ours for fighting against this astronomical monster. But still there are lots to discover or investigate about the black holes. Many quality researches on black hole are to be continued to find out many interesting things about black hole. Falling into a black hole would be the last thing that we ever can do, but for the scientists, black holes are just the beginning step of our explorations in space, time, and everything in between.

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