What is Gravity?

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The force of gravity is one of the main forces in nature. It is also the most common force that man has to deal with in his daily life. That is why, particularly over the last 400 years, man has developed solid and reliable theories regarding the laws that govern its behavior.

Mr. Galileo proved that all objects regardless of their density fall towards the earth at exactly the same rate. Mr. Keppler formulated the laws governing the motions of the planets around the sun. Mr. Newton, with the help of an apple, provided the basic laws of gravity which apply not only to all objects on this planet, but also to all of the contents of this universe.

Using Newton's theories, man has gained remarkable amount of knowledge about the structure of the universe. Of course, such theories as the general theory of relativity proposed by Mr. Einstein in 1917 tried to relate the force of gravity to the imaginary curvatures in the three dimensions of the physical space.

The famous transformation equations provided by Mr. Lorentz in 1904 (relating space and time) and the equations developed by Mr. Maxwell in 1865 (expressing his electromagnetism theory) which are still valid and in general use today were based on the existence of a medium which was referred to as aether. Aether was believed to be the medium through which light and other electromagnetic waves were transmitted.

In 1905, Mr. Einstein came up with his special theory of relativity, which was based on Mr. Lorentz's transformation equations (Principles of Relativity). However, Mr. Einstein rejected the existence of aether and also claimed that the speed of light is the fastest in vacuum and basically nothing can even approach that speed.

Interestingly enough, since 1933, starting with Mr. Zwicky, some new terms have entered the scientific vocabulary, namely the dark matter and dark energy. Dark matter and dark energy are found to be literally everywhere. The amount of dark matter in the universe is calculated to be more than five times the amount of regular matter which all stars and planets are made of. The density of the dark matter is known to be greater towards the outside of the solar systems and galaxies. In fact, there seems to be halos of dense dark matter particularly surrounding galaxies. In other words, there is no such thing as a vacuum, since dark matter is literally everywhere.

According to various theories, black holes are unique entities in this universe which possess such a strong gravitational force that not even light or any other type of electromagnetic wave can escape from them.

One of the basic mysteries (and the greatest) about the force of gravity is the speed at which it acts. All gravitational computations regarding the navigation of any inter-planetary probe is done using the instantaneous location of every planet and not where they look to be from the probe's position at any given point in time. Also, according to direct physical observations and data collected, at any given instant, the planet earth is pulled towards the true instantaneous location of the sun and not where it looks to be.

In other words, even though it takes about 8.3 minutes for the sun's light to reach the earth, apparently it takes no time at all for the force of gravity to travel this very same distance. This is in direct contradiction with the underlying principle of special relativity. According to Einstein's theory of relativity nothing can travel faster than the speed of light in a vacuum, while the force of gravity has been doing so all along and will keep on doing so from now on, as well. In short,

At the present time, there are no theories that can explain the instantaneous effects of the sun's gravity on the earth as well as the other planets.

Again, what is gravity?

To explain the force of gravity and its properties, one has to first acknowledge the following known facts concerning gravity in this universe.

1- Galileo's experiments,
2- Accumulative effects of gravity,
3- The governing laws of gravity,
4- The bending of light, as it passes nearby a star or a distant galaxy,
5- The extreme force of gravity near black holes,
6- The existence of dark matter in the entire universe,
7- The density gradient observed in the dark matter concentrations in the solar systems and galaxies,
8- The existence of dense halos of dark matter surrounding galaxies,
9- The instantaneous effect of the gravitational force, with speeds that by far exceed the speed of light in space,
10- The widening of the planetary orbits around the sun.
11- No direct interaction between dark matter and regular matter,
12- The Michelson and Morley experiments, and
13- The initial sudden and yet temporary expansion of the universe during its infancy. Also,
14- How can the gravitational force of a celestial body be presented graphically?

The simplest way to explain what gravity really is and how it operates, is through providing explanations on how all of the known facts mentioned above are possible.

A New Theory

This theory is based on two assumptions:

1- The dark matter which has been confirmed to exist everywhere in this universe, since 1933, is in fact aether (one of its forms), and

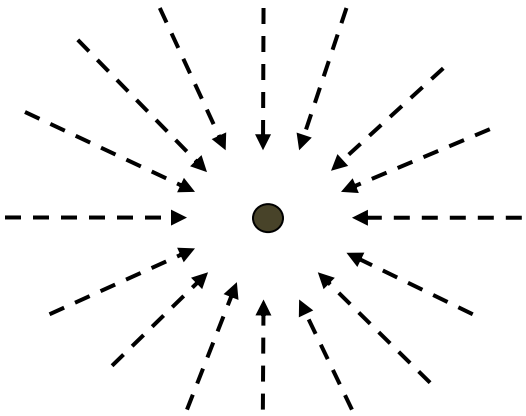
2- Any and all sub-atomic particles in this universe are in fact tiny drain holes (not black holes, but drain holes), just like tiny tubes, through which aether which is at much high pressure inside this universe flows to its accompanying universe.

Note that, the accompanying universe also has 3 dimensions and it is accessible only under certain conditions.

The accompanying universe is not a duplicate of this universe in any shape or form. It has its own duties to perform. It is a complementary part of this universe. Its existence enables this universe to function properly.

As a first step, for simplicity, consider one sub-atomic particle that is freely floating in space. The incoming flow of aether to this sub-atomic particle will be from all spatial directions. The flow will extend literally to the end of space, and it will always be directed towards the location

of the subatomic particle. The flow of aether, towards this particle, is shown below (shown in a plane, due to simplicity).



The flow of aether is directly towards the particle, from all spatial directions.

Figure 1

As it is shown below, any other particle would experience the effect of this induced aether flow as a drag force towards the sub-atomic particle.

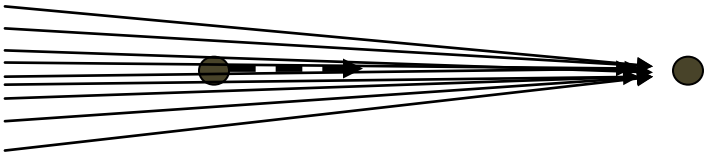


Figure 2

The drag force will always be towards the true location of the sub-atomic particle.

<u>This drag force is the force of gravity that is experienced by anything and everything in this universe.</u>

Now, let us explain each and every one of the known gravitational phenomena, using <u>this new theory</u> which states that <u>gravity is in fact the drag force induced by the flow of aether</u>.

1- Galileo's experiment

All objects are made of the very same three elementary particles, namely protons, neutrons and electrons. All of the elements are only different combinations of these three particles. And, different objects in nature are made possible by different combinations of various elements.

According to this theory, each and every particle experiences the force of gravity (such as that of the earth) independent of all other particles. Therefore, either they are as individual particles or as parts of an atom, a molecule, or an object of any size or type, they all will be pulled towards the earth at the very same rate, given there be no air resistance (collisions).

This is how Mr. Galileo was able to propose that even a feather and a piece of Iron will fall at the very same rate, if there be no air resistance.

"The constancy of the gravitational acceleration (g factor) at any given elevation is also due to the constancy of the drag force induced by the flow of aether at that particular elevation (from the center of mass of earth), regardless of the longitude and latitude."

2- Accumulative effects of gravity

Since the speed of aether rushing towards any given region of space depends only on the overall number/size of openings or drain holes available, the more the number of sub-atomic particles present the more aether is automatically allowed to go through. This is analogous to a strainer; more open holes automatically lead to more fluid flowing through the strainer as a whole.

Therefore, as many sub-atomic particles are grouped together and form a variety of atoms, molecules, objects, planets, stars or even galaxies, the overall induced aether flow towards them is cumulative and hence the force of gravity generated becomes stronger and stronger.

3- The governing laws of gravity

It is clear that the aether flowing towards any sub-atomic particle is coming from the volume surrounding the particle. Since the surface area of the sphere covering all around any particle is given by the formula, $(4\pi r^2)$, one can see that the total surface area of the sphere will change by the square of the distance (radius, r) to the particle.

Therefore, in order for the flow of aether to be consistent, the speed at which aether has to move towards the particle also has to change accordingly. For example, at half the distance the spherical surface area surrounding the particle is reduced to a quarter. Therefore, the speed of aether has to quadruple. Hence, the drag force generated by the motion of the aether will also be quadrupled.

Note that, the speed at which aether flows, changes by a bit more than the quadruple, at half the distance. This is due to minute reductions in the aether density/pressure as it approaches the sub-atomic particles or their collectives, such as planets or even stars.

4- The bending of light, as it passes nearby a star or a distant galaxy

In this case, one has to first understand the true nature of light itself. According to existing theories, light is an electromagnetic type of wave made of weightless particles, namely photons, which travel through the vacuum of space. This definition of light was introduced by Einstein through his special theory of relativity.

To come up with a better understanding of the true nature of light one has to first accept the existence of aether as the medium used by light to travel through, the very same aether that was accepted by the nineteenth and the early twentieth century scientists.

Light in aether acts exactly as sound does in air. Light and all other electromagnetic waves are in fact phase vibrations in the medium of aether which exists everywhere. Therefore, all laws governing the propagation of sound waves in air also apply to propagation of light in aether.

Just as sound waves get deflected/dragged by passing through a cross wind, so do electromagnetic waves as their associated phase vibrations pass by a star which induces relatively high speeds of aether cross flow towards its respective center. This cross flow of aether literally drags the phase vibrations associated with light and other electromagnetic waves towards the star.

The similarities between the bending of sound waves and light waves are demonstrated in the following figures.

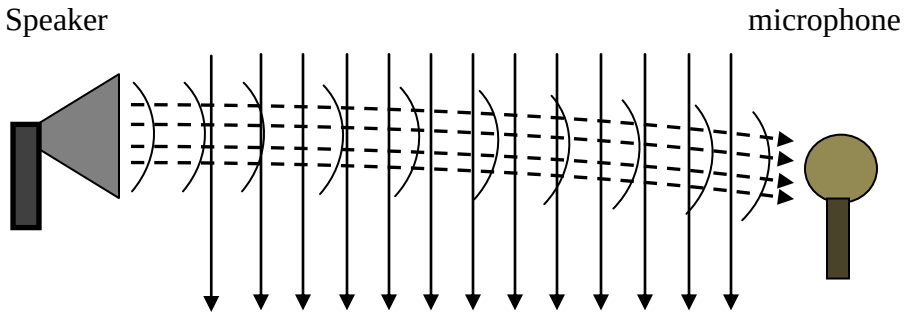
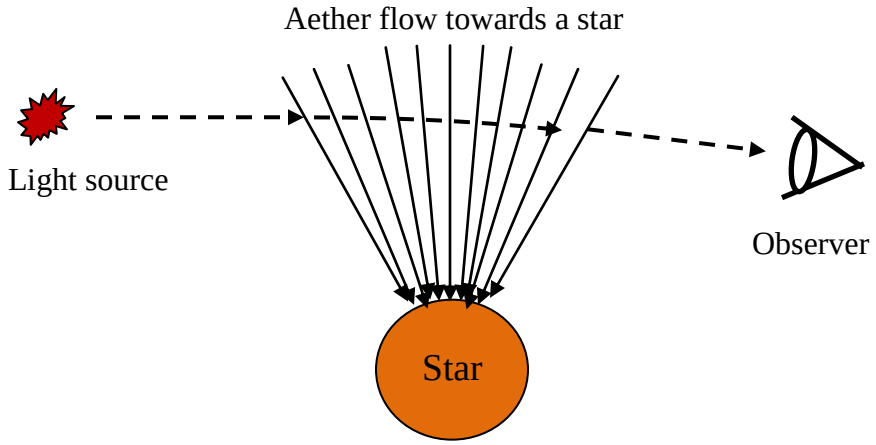


Figure 3



Only a section of the aether flow is shown in the figure.

Figure 4

5- The extreme force of gravity near black holes

Let us first consider what happens to sound propagation in air as the air itself is encouraged to move in the opposite direction at a speed greater than the speed of sound. In this case, the sound waves cannot compete with the flow of air in the opposite direction. Therefore, no sound propagation takes place in the forward direction.

One may use a supersonic wind tunnel to perform the following test. He needs to install a speaker (which is attached to a stereo system) near the outlet and a microphone (which is connected to a headphone set) near the inlet of the supersonic portion of the wind tunnel.

By starting the wind tunnel and gradually bringing it up to its supersonic speed, while listening to his favorite music; he will notice that the sound becomes more and more low pitched. And, eventually as the sonic barrier is crossed, he will not hear the music at all.

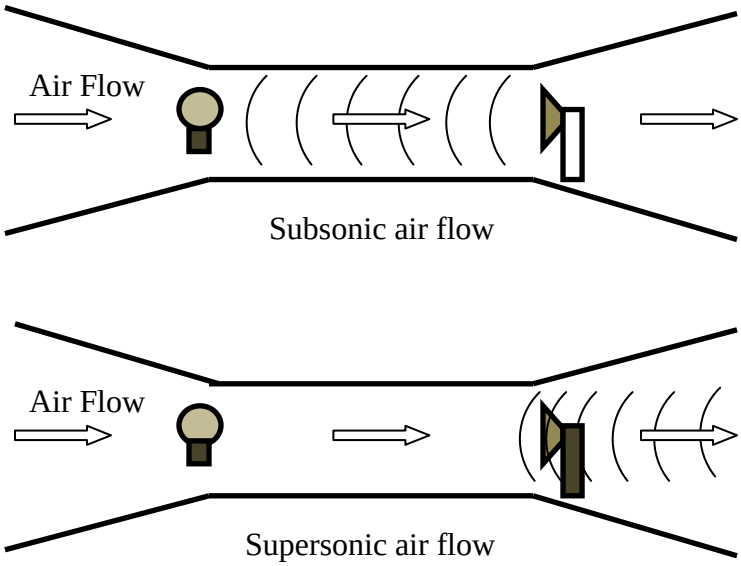


Figure 5

This type of test clearly demonstrates the effects caused by the motion of the medium on the transmitted phase vibrations. This is exactly what is taking place in the immediate vicinity of a black hole. A black hole is made of an enormous amount of matter particles (drain holes) gathered together in a very small volume of space. The induced inward flow of aether at close proximity of any black hole is so great that the aether is moving faster than phase vibrations such as light or other kinds of electromagnetic waves in that medium.

Therefore, light simply cannot travel up-stream fast enough to counter the speed at which aether itself is flowing in the opposite direction and into the black hole, and hence it gets dragged into the black hole.

6- The existence of the dark matter in the entire universe,

7- The density gradient observed in the dark matter concentrations in the solar systems and galaxies, and

8- The existence of dense halos of dark matter surrounding galaxies

The flow of aether into sub-atomic particles is pressure driven, meaning the aether in this universe is at a much higher pressure as compared to the aether that is in the accompanying universe. Therefore, there is a slight gradient in the density of aether over long distances. This density gradient is due to the flow of aether and also encourages its flow, as well. Even though aether's density gradient is very gradual, it becomes more pronounced over long distances and especially around larger aggregates of particles, such as stars, solar systems and particularly galaxies.

Note that, the slopes of the induced gradients are greater at shorter distances and gradually decrease to their minimum values with increasing distance. For this very reason, it is expected to find the outer regions of the solar systems and especially galaxies to be hosts to thicker and denser concentrations of aether.

9- The instantaneous effect of the gravitational force

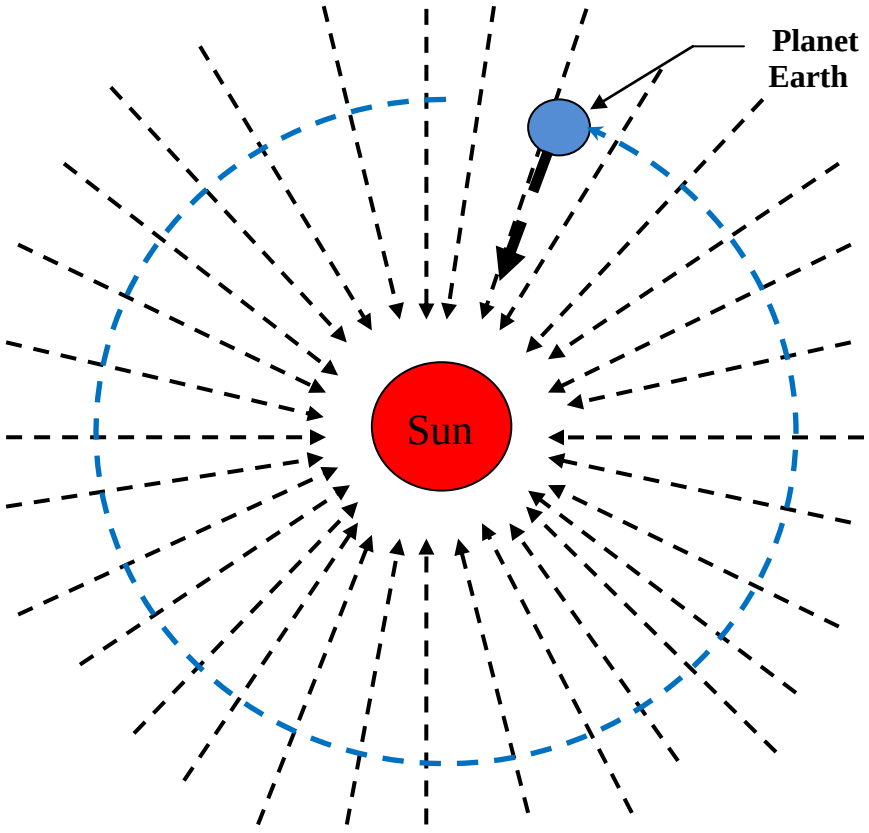
The flow of aether and hence the force of gravity induced by any object, be it a star or be it a planet, is done independent of any and all other celestial bodies. Other bodies experience

the force of gravity as they are pulled or dragged by the flow of aether present at their particular locations. This is why the earth is affected by the sun's force of gravity in a direction which is towards sun's instantaneous position.

Note that, the force of gravity generated by the sun in its surroundings has nothing to do with the force of gravity generated by the earth or any of the other planets in their respective surroundings. However, each of these heavenly bodies, namely the sun, the earth and the other planets, at their current respective positions, are instantaneously affected by the forces of gravity that are generated by the others.

The flow of aether created by and towards the sun, for instance, is from all around and it is totally independent of the existence of other celestial bodies such as planets.

The force of gravity generated by the sun is always directed towards its center. Therefore, as planets, including earth, go around the sun, they are literally affected instantaneously by the crossflow of the aether; a flow which at all times is directed towards the center of the sun. Hence, the reasoning for the detection of the gravitational force of the sun on the earth being towards sun's instantaneous location and not where it looks to be, at any given point in time. The motion of the earth around the sun and how the earth experiences the sun's gravity is graphically shown below.



The flow of aether is always directly towards the instantaneous location of the sun.

Figure 6

The flow of aether in space follows a straight path, towards a star or even a planet. Any object that enters this flow, it is affected instantly, and not after a few seconds or minutes. It instantly experiences the drag force that is induced by the flow. The exerted force is always directly towards the current location of the planet or star.

Note that, the flow of aether due to the existence of planets and stars is always there, regardless of the other physical objects being present or not.

In fact, the sun and the earth (and all other celestial bodies in this universe) don't know that any other celestial body of any size even exists. At any given instant, any celestial body literally independently generates an influx of aether towards itself, a flow that induces a drag force on objects that happen to be in its path. This drag force manifests itself as the force of gravity that is experienced by all objects in this universe.

10- The widening of the planetary orbits around the sun

As the aether's density is decreasing over time, due to its expansion as well as leakage into the accompanying universe, it is becoming less effective in dragging objects that happen to be in its path.

Therefore, stars are gradually, apparently exerting less of a gravitational force on their respective planets. This simply means that stars are gradually losing their grip on their planets and consequently,

"The planetary orbits are gradually becoming wider."

This side effect of decrease in aether's density has already been detected (in regards to the planet earth). According to the collected data, the orbital path of the planet earth is widening by about 7 meters (about 23 feet) per century.

Of course, a small portion is justifiably due to the sun losing mass as it is continuously transforming some matter into energy and also as it is literally throwing some matter into space as solar storms.

11-No direct interaction between aether and matter

Even though matter is one of various ways that aether manifests itself, aether does not interact with matter, other than dragging it along its path.

Matter and anti-matter particles can even be considered as chunks of ice that are literally floating in and also dragged by the flow of water in an ocean.

12- The Michelson and Morley experiments

The Michelson and Morley experiments were all performed on a level setting, since they were expecting that earth is literally floating in a medium that is stationary. They had not taken other affecting phenomena such as the force of gravity associated with the earth, the moon, the sun and the center of the galaxy into account. Therefore, their apparatus could not perform the task for which it was intended.

However, if such experiments are repeated in the future, while taking such effects into account, the apparatus would detect the motion of the earth relative to aether, as well as the effects associated with the gravitational forces of the earth, the moon, the sun and the center of the galaxy.

13- The initial sudden and yet temporary expansion of the universe during its infancy.

As it is presented in this article, the force of gravity is literally the drag force that is induced by the flow of aether towards drain holes, namely the matter and anti-matter particles.

Since there were no matter and/or anti-matter particles present when the initial sudden expansion started, even though aether was experiencing its highest pressures ever, it could not experience any such force as gravity, because **there was no aether flow**. Even during its sudden expansion process, it was not confronted by any kind of resistive force such as gravity. That is why the expansion process went on for a while until the density of aether was reduced to a certain level that allowed the formation of matter and anti-matter particles.

Matter and anti-matter particles were literally holes that were formed in the fabric of space (just like tiny tubes) through which aether could escape this universe and enter the accompanying universe. That was when and how the force of gravity was actually born. In other words,

"The very formation of matter and anti-matter particles marked the Birth of the Force of Gravity."

The very formation of matter and anti-matter particles and their sudden abundance to the point of saturating the whole medium of aether caused two major side effects:

1- Due to their abundance, matter and anti-matter particles allowed unrestricted flow of aether from this universe into the accompanying universe. In a relatively short period of time, the aether pressure was reduced drastically, the same pressure that was the driving force for aether's expansion.

2- Due to their abundance, matter and anti-matter particles generated/imposed such a strong gravitational force towards each other that literally acted like a braking system and slowed their expansion process in the whole universe. As most of the matter and anti-matter particles united and annihilated each other, leading to severe reduction in the force of gravity present, the leftover matter particles continued with their expansion process in this universe, but at a much slower pace.

"The formation of matter particles (in general) literally drastically slowed down the spreading of the contents of the universe, and the expansion of space."

In other words,

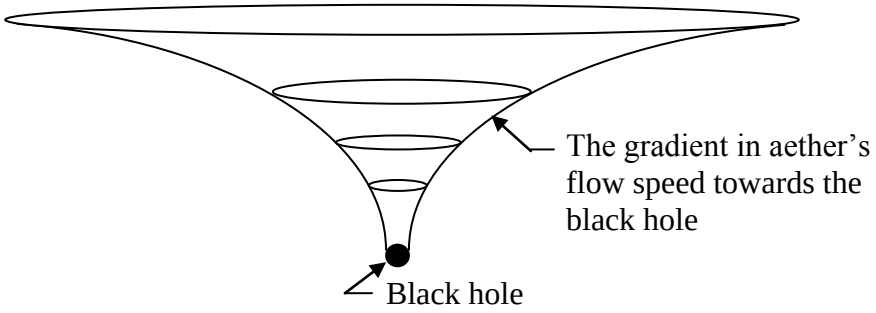
"The very function performed by the matter and anti-matter particles was literally like an effective braking system that drastically slowed the sudden expansion process of the universe, once it had reached a certain stage."

14- How can the gravitational force of a celestial body be presented graphically?

The topographical presentations of the gravitational forces near massive stars and even galaxies give the impression that the spatial dimensions are curved, while they are not. The curvature that is detected is not due to the spatial dimensions themselves but rather due to the gradients that exist in the flow speeds of the local aether that is headed towards the local star, the galaxy or even a black hole.

Stars and galaxies (on their own scales) are dense matter concentrations in relatively small or limited regions of space. Denser matter concentrations mean more available drain holes for aether to flow through, in a given volume of space. This effect automatically translates into higher flow rates of aether towards that particular region of space. The speed of the aether flow is also dependent on the distance to the matter particles (or their aggregates, such as stars or even galaxies) according to the inversed square law, as explained earlier.

Particularly, the strength of the gravitational force of any black hole (in its surrounding space), as shown below, can be presented as a funnel type of a shape that has a smooth surface with gradually increasing slope towards the black holes' event horizons.



The flow of aether is from all directions

Figure 7

However, the gradual increase in the slope of the funnel shaped surface towards its center, shown in the figure, *does not represent any kind of curvature in the spatial dimensions, but rather the gradient that exists in the ever increasing speed of the aether as it approaches the black hole's event horizon.*

The very same is also true about the gravitational influences of other celestial bodies such as stars and galaxies. However, in their cases, the central portion does not become so pronounced in its slope.

Conclusions

According to the new theory presented in this article, aether exists. Its flow towards each and every sub-atomic particle, all of which act as drain holes, induces a drag force on all other particles and hence objects of all sizes in its path. The drag force experienced is in fact the force of gravity which everyone is familiar with.

One has to be reminded that aether is not a stationary medium, as it was assumed by the 19th century physicists such as Mr. Lorentz, Mr. Maxwell, Mr. Michelson and Mr. Morley. It is a dynamic medium. The variety of the flow patterns that concurrently exist in aether, due to the

forces of gravity associated with a variety of objects and even celestial bodies, as well as the local magnetic and electric fields, can be visualized just like the variety of the flow patterns that are constantly experienced by the air molecules in the atmosphere or by the water molecules in the oceans. In summary,

"The force of gravity experienced at any given location in space is due to the drag force induced by the net flow of aether."

One should also note that, as aether is escaping through matter and anti-matter particles (as well as through black holes), the pressure and hence the density of aether in this universe is decreasing. This in turn means that aether is becoming less effective in inducing the drag force which is the force of gravity. Therefore, as time goes on, the force of gravity is gradually becoming weaker. Eventually, as the aether pressure in this universe and the aether pressure in the accompanying universe equalize, the force of gravity will literally fade away. In other words,

"Just as the very formation of matter and anti-matter particles caused the birth of the force of gravity, their continued existence will eventually cause it to vanish."

From: "Aether: Past, present and Future of the Universe", Bahram Esmailzadeh, Xlibris, USA, 2012

About the Author:

Bahram Esmailzadeh was born in Iran, in 1960. He received his Master's degree in Nuclear Engineering from the University of Missouri-Rolla, USA, in 1984.

Due to his sense of curiosity, ever since his teenage years, he has conducted extensive research into various physical and spiritual phenomena.

He published part of his findings as a book, titled "Understanding the Creation", in 1991. The book "Innovative Theories" which covers various fundamental topics in physics was published in Canada, in 2011.

In 2012, he published "Aether: Past, Present and Future of the Universe", "The Evolution of Spirits" as well as "Purpose of Life in This Universe" which have been the results of the continuation of his personal thoughts and contemplations, over the last twenty years.

Over the last 3 years, he has also published numerous articles in different magazines.