

# **Apparent Source Theory - a link between the Michelson-Morley experiment and free energy, reactionless thrust, 'anti-gravity'**

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## **Abstract**

Apparent Source Theory ( AST ) is a new interpretation of absolute motion already proposed by this author. AST has been shown to easily explain many light speed experiments, including the Michelson-Morley experiment, the Sagnac effect and moving source experiments. AST has also been extended to govern the behavior of electrostatic fields. After I completed developing the major part of AST, I came across an idea that, if two oppositely charged spheres are fixed to the two ends of a rigid rod , and the system is set into absolute motion, according to AST, the charge-rod system will be subjected to a net electrostatic force and hence accelerate, implying free energy and reactionless thrust ! Obviously such a possibility would be very exciting, if it really existed. But I was also disappointed because, if free energy doesn't really exist, this would imply that my theory (AST ) is wrong. I had never heard of such an effect before. Later I found in the internet that such an effect in fact exists and is known as the Biefeld-Brown effect and with unknown origin. Although AST neatly predicts this effect and can be a very compelling explanation, I feel that it still needs to be developed . The purpose of this paper is to invite and inspire theoretical and experimental researchers to work on the problem and advance AST. Exciting possibilities have been presented for this purpose. For example, according to AST, it is possible to produce by a small free energy device, made by stacking large number of capacitors, a net force that can lift an object as massive as an aircraft carrier. It is shown that the net force on the capacitor is directly proportional to the square of the electric field strength, directly proportional to the area of the capacitor plates, directly proportional to the third power of the relative permittivity of the dielectric material, and directly proportional to absolute velocity for absolute velocities much less than the speed of light.

## **Introduction**

I have already proposed Apparent Source Theory (AST) in several papers [1][2][3][4]. AST successfully explains almost all light speed experiments including the Michelson-Morley experiment, the Sagnac effect and moving source experiments. AST was also extended to electrostatics and revealed a mysterious nature of electrostatic fields that would never have been discovered otherwise.

After I completed developing the major part of AST, one day, as I was just pondering on the application of AST in electrostatics, I suddenly came across an idea. If two oppositely charged spheres are attached to the ends of a rigid, absolutely moving rod, according to AST, the system ( charge-rod system) will be subjected to a NET electrostatic force and will start to accelerate!

With this I was both excited and disappointed at the same time. I was disappointed because, if free energy doesn't really exist, this would have devastating consequences to my AST theory.

AST predicts that a parallel plate capacitor charged to a high voltage would, in absolute motion, develop a significant net force. I thought " how is it possible for such an effect to exist without being noticed, as people have been working on high voltage capacitors for nearly a century ? If such an effect existed, physicists would have long reported it ". I decided to test this myself by constructing a parallel plate capacitor and a high voltage source.

An idea happened to me to search on the internet if such an effect existed. I googled " anomalous behavior of high voltage capacitors ". To my surprise, I found a lot of papers and websites discussing this effect, including[7]. I learned that the effect is long known as the Biefeld-Brown effect. However, the origin of this effect is completely unknown to this date. Searching further in the internet I also learned about 'ion thrusters'. I had never heard of such effects before.

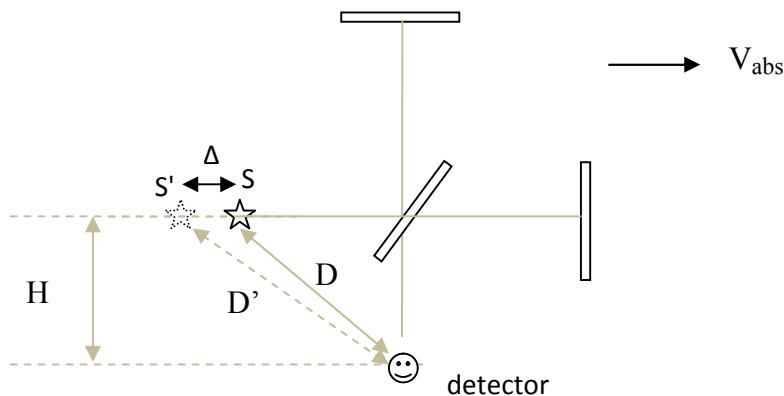
The purpose of this paper is to announce a compelling, yet incomplete, prediction and explanation of free energy/ reactionless thrust in order to inspire theoretical and experimental researchers.

We will first introduce briefly AST. A comprehensive description is found at [1][2][3][4].

### Apparent Source Theory

Let us see how AST can easily explain the Michelson-Morley (MM) experiment null result.

Consider the MM experiment setup below.



Perhaps the best way of introducing AST explanation of Michelson-Morley experiment is to start with a simple question:

What is the effect of slight *physical* change of the position of the light source on the interference fringes?

The logical answer to this question is that no (significant) fringe shift will occur. For example, if the light source is slightly shifted backwards as shown, intuitively, both the longitudinal and transverse light beams will be affected identically and hence no fringe shift will occur. Likewise, slightly changing the position of the light source to any position (up, down, left, right, forward, backward, ... ) will not result in any (significant) fringe shift.

The trick of nature that eluded physicists for more than a century is this:

*the effect of absolute motion of the Michelson-Morley experiment is just to create an apparent change in the position of the light source relative to the observer. And apparent change in source position will not result in any (significant) fringe shift for the same reason that an actual, physical change of source position will not result in any (significant) fringe shift.*

This simple yet subtle trick explains almost all light speed experiments including the Michelson-Morley experiments, the Sagnac effect, the Silvertooth experiment, the Marinov experiment, the Roland De Witte experiment and moving source and moving mirror experiments.

The apparent position of the light source is determined from the following equations. A detail explanation is found at [1].

$$\frac{D'}{c} = \frac{\Delta}{V_{abs}}$$

and

$$\overline{D'^2 - H^2} - \overline{D^2 - H^2} =$$

This is a new interpretation of absolute motion. The scientific community was stuck with a presumption that absolute motion is motion relative to the ether. The ether doesn't exist but absolute motion does exist.

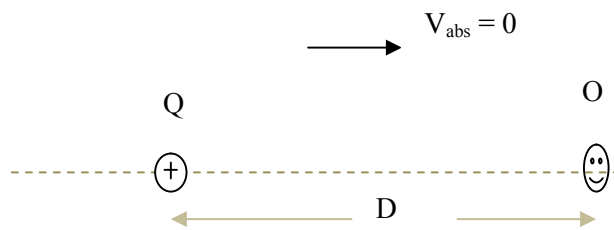
The Michelson-Morley experiment is the evidence that the ether doesn't exist. The Silvertooth, the Marinov and the Roland De Witte experiments are evidence that absolute motion exists. The Michelson-Morley experiment was capable of detecting the ether, which doesn't exist, but was incapable of detecting absolute motion, which really exists.

## Apparent Source Theory and electrostatics

After I was able to explain many light speed experiments, I started working on static fields: electrostatic fields and gravitation. Two articles [6][7] were vital in guiding me in my discovery of the mysterious nature of electrostatic fields. Apparent Source Theory governs not only the speed of light, but also electrostatics. ‘Source’ is a light source or a source of electrostatic field ( i.e. charge ).

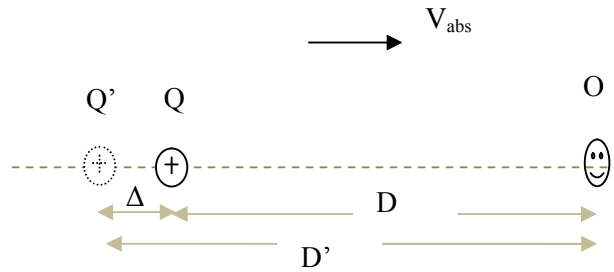
A comprehensive discussion on this is found in [1]. We will present only the results here.

First consider a charge Q and an observer O both at absolute rest.



In this case, the electric field caused by charge Q at point O is determined by Coulomb’s law.

Consider absolutely co-moving charge and observer, with the absolute velocity is directed to the right as shown below.



Although the charge is physically at Q, it appears to the observer that the charge is at Q’. There will be an apparent change of charge position as seen by the observer. The charge appears to have shifted backwards, away from the observer.

The apparent position ( $D'$ ) of the charge and the apparent change in charge position ( $\Delta$ ) is computed as follows[1].

$$\frac{D'}{c} = \frac{\Delta}{V_{abs}}$$

and

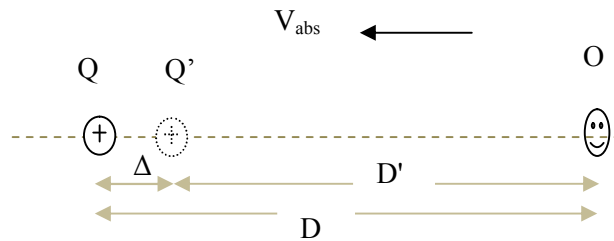
$$D' = D + \Delta$$

The observer uses the distance  $D'$ , and not the distance  $D$ , to correctly predict the electric field at point O using Coulomb's law. (Actually Coulomb's law should be modified for absolutely moving charge, as will be seen later). If the observer experimentally measures the electric field at point O, he/she will get an electric field intensity corresponding to distance  $D'$  and not to distance  $D$ . The observer will measure an electric field intensity which will be less than if the charge and observer were at absolute rest. Coulomb's law applies only to a charge that is at absolute rest.

From the above equations

$$D' = D \frac{c}{c - V_{abs}}$$

If absolute velocity is directed to the left, the situation will be as follows.



The apparent position ( $D'$ ) of the charge and the apparent change in charge position ( $\Delta$ ) is computed as follows.

$$\frac{D'}{c} = \frac{\Delta}{V_{abs}}$$

and

$$D = D' + l$$

In this case the observer will measure the electric field intensity which will be greater than if the charge and the observer were at absolute rest. The charge appears to have shifted its position towards the observer.

From the above equations

$$D' = D \frac{c}{c + V_{abs}}$$

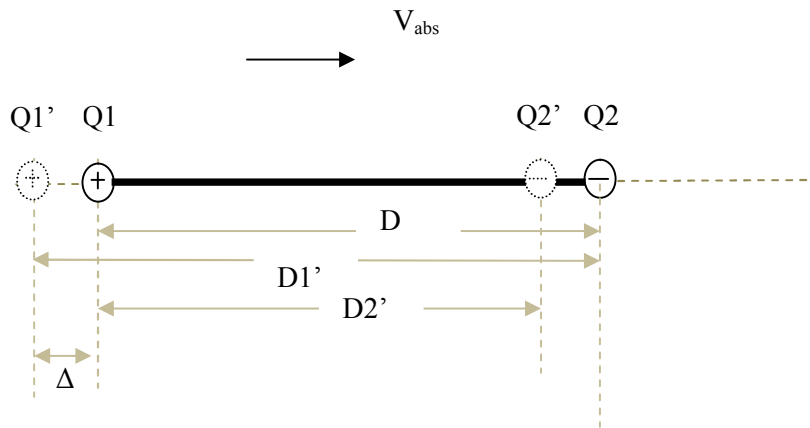
The procedure of analysis for absolutely co-moving charge and observer is:

1. replace the real charge by an apparent charge
2. apply Coulomb's law to the apparent charge to compute the electrostatic force at O
3. multiply by a factor :

$$1 - \frac{V_{abs}^2}{c^2}$$

### Absolutely co-moving charges

Consider two opposite point charges attached to the ends of a rigid rod, thus forming a rigid charge-rod-charge system.



\$D\$ is the actual, physical distance between real charges \$Q1\$ and \$Q2\$. \$D1'\$ is the apparent distance of \$Q1\$ as seen by \$Q2\$. We can also say that \$D1'\$ is the distance of apparent charge \$Q1'\$ from real charge \$Q2\$. \$D2'\$ is the apparent distance of \$Q2\$ as seen by \$Q1\$. We can also say that \$D2'\$ is the distance of apparent charge \$Q2'\$ from real charge \$Q1\$.

Now the electrostatic force exerted by \$Q1\$ on \$Q2\$ will be:

$$F_{12} = \epsilon_0 \frac{Q1 Q2}{(D1')^2}$$

The electrostatic force exerted by \$Q2\$ on \$Q1\$ will be:

$$F_{21} = \epsilon_0 \frac{Q1 Q2}{(D2')^2}$$

where

$$D1' = D \frac{c}{c - V_{abs}}$$

and

$$D2' = D \frac{c}{c + V_{abs}}$$

The net force on the rod will be:

$$F = F_{21} - F_{12} = \epsilon_0 \frac{Q1 Q2}{(D2')^2} - \epsilon_0 \frac{Q1 Q2}{(D1')^2} = \epsilon_0 Q1 Q2 \left( \frac{1}{(D2')^2} - \frac{1}{(D1')^2} \right)$$

$$F = \frac{\epsilon_0 Q1 Q2}{D^2} \left( \frac{4 V_{abs}}{c} \right)$$

There is a net force on the system ! The force is directed in the direction of the absolute velocity.

Now consider a parallel plate charged capacitor, with plates named A and B, and with an air (vacuum) dielectric. For ease of discussion, assume that the capacitor dimensions are so large that there will be no fringing effect and the electric field lines are parallel to each other and perpendicular to the capacitor surfaces.

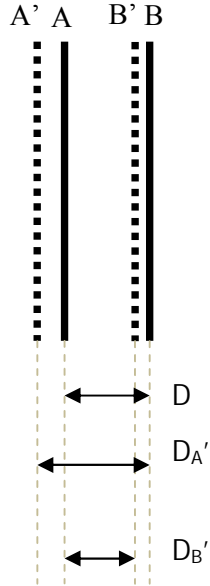
A' is the apparent position of plate A as seen by plate B. And B' is the apparent position of plate B as seen by plate A.

The electrostatic force between the plates of a parallel plate capacitor is given by:

$$F = \frac{\epsilon_0 A V^2}{2D^2} = \frac{\epsilon_0 A}{2} \frac{V^2}{D^2}$$

where  $V$  is the potential difference across the capacitor,  $D$  is the plate separation distance and  $A$  is the area of each plate.

This is the formula for the force exerted by one plate on the other.



$D_A'$  is the apparent distance of plate A as seen by plate B.  $D_B'$  is the apparent distance of plate B as seen by plate A. More precisely, to a point charge on one capacitor plate the opposite plate is not a plane but somewhat curved, according to AST. However, we can use the above simplistic assumption to a good approximation.

Now we determine the force exerted by plate A on plate B.

$$F_{AB} = \frac{\epsilon_0 A}{2} \frac{V^2}{(D_A')^2}$$

And the force exerted by plate B on plate A will be:

$$F_{BA} = \frac{\epsilon_0 A}{2} \frac{V^2}{(D_B')^2}$$

The NET force on the capacitor will be:

$$\mathbf{F} = F_{BA} - F_{AB} = \frac{\epsilon_0 A}{2} \frac{V^2}{(D_B')^2} - \frac{\epsilon_0 A}{2} \frac{V^2}{(D_A')^2}$$

But

$$D_A' = D \frac{c}{c - V_{abs}}$$

and



$$D_B' = D \frac{c}{c + V_{abs}}$$

From which,

$$-F = \frac{\epsilon_0 A}{2} V^2 \left( \frac{1}{(D_B')^2} - \frac{1}{(D_A')^2} \right)$$

$$F = \frac{\epsilon_0 A}{2D^2} \frac{V^2}{c} \frac{4V_{abs}}{c} = \frac{\epsilon_0 A}{2} \left( \frac{V}{D} \right)^2 \frac{4V_{abs}}{c} = \frac{\epsilon_0 A}{2} E^2 \frac{4V_{abs}}{c}$$

where E is the electric field strength.

From the above formula, we can see that the net force on the capacitor is :

- directly proportional to the square of electric field strength
- directly proportional to the area of the plates
- directly proportional to the absolute velocity

If there is a dielectric between the plates, dielectric constant  $\epsilon$  will have double positive effect on the net force: the 'speed' of the electrostatic field ( $c$ ) will be reduced and the electric field strength E will be increased.

$$c' = \frac{c}{\epsilon} \quad \text{and} \quad E' = \epsilon E$$

Therefore

$$F = \frac{\epsilon_0 A}{2} E'^2 \frac{4V_{abs}}{c'} = \frac{\epsilon_0 A}{2} (\epsilon E)^2 \frac{4V_{abs}}{\left(\frac{c}{\epsilon}\right)} = \frac{\epsilon_0 A}{2} E^2 \epsilon^3 \frac{4V_{abs}}{c}$$

Therefore, the net force on the capacitor is also directly proportional to the third power of the relative permittivity of the dielectric material.

That the net force is directly proportional to the square of the electric field strength (E) implies that dielectric materials with the highest dielectric strength are vital to the realization of free energy devices. Diamond has the highest known dielectric strength, about 2000 MV/m.

In [1] further modification has been applied to the above formula.

$$F = \left( \frac{\epsilon_0 A}{2} E^2 \epsilon^3 \frac{4V_{abs}}{c} \right) \left( 1 - \frac{V_{abs}^2}{c^2} \right)$$

## Discussion

Let us see what is possible. Consider a parallel plate capacitor with diamond as the dielectric material.

$$A = 1\text{m}^2, \epsilon = 5.5, \text{ dielectric strength} = 2000 \text{ MV/m}$$

We the absolute velocity of the earth,  $V_{\text{abs}} = 390 \text{ Km/s}$  and  $c = 300000 \text{ Km/s}$

$$F = \frac{\epsilon_0 A}{2} E^2 \epsilon^3 \frac{4V_{\text{abs}}}{c} = \frac{8.85 \cdot 10^{-12} \cdot 1}{2} (2000 \cdot 10^6)^2 \cdot 5.5^3 \cdot \frac{4 \cdot 390}{300000}$$

$$F = 15313155 \text{ N} = 1531315.5 \text{ Kgf}$$

This is an enormous net force !

Now let us push the limits even further. We can increase the amount of the net force enormously by stacking up hundreds of thousands of such capacitors.

Assume each capacitor has a thickness of 50 nm , which is the sum of the thicknesses of the two plates and the dielectric. If we construct a capacitor stack containing 20 million such capacitors, all of them connected in parallel to a voltage source of 100 V, the total thickness of the stacked capacitor will be 1m, the net force produced will be:

$$F = 1531315.5 \cdot 20000000 \text{ Kgf} = 30.6 \text{ trillion Kgf} !$$

This is the weight of about 300,000 aircraft carriers.

Thus, with a free energy device that has a size of only  $1\text{m}^3$  , we can produce a force that can lift 300,000 aircraft carriers.

Even if one part in a million of this were true, all our energy needs would be fulfilled.

The purpose of this calculation is just to inspire readers on what is possible if the theory proposed above is correct. Although the new theory (AST) neatly predicts free energy and reactionless thrust, I feel that it is still incomplete and needs development.

### Experimental evidences

One of the evidences for AST in predicting free energy is the report by Brown that the effect continuously varies, including variation with sidereal time. We know that earth's absolute has sidereal variation.

However, AST doesn't explain ( or I haven't figured out yet) why the force is always towards the smaller electrode, in the case of asymmetric capacitors. The other issue is that the force is mostly

directed upwards relative to the Earth's surface, although there are also reports that sometimes it is also directed downwards. According to AST, the force is directed in the direction of our absolute velocity in space, which is towards Leo constellation.

There are also some reports that the force is always directed towards the positive electrode. According to AST the net force depends on the direction of absolute velocity and is independent of polarity of the electrodes.

In [8] it has been reported that the effect ceases in Faraday cage. At this point I propose that the Silvertooth and the Marinov experiments be repeated in a Faraday cage.

Another variable is the frequency of the applied voltage. The experiment should be performed with DC, AC, RF and microwave frequencies. It should be noted that dielectric strength drastically drops with frequency. For example, the dielectric strength can be reduced by a factor of 10, in which case the maximum possible electric field intensity will also drop by a factor of 10. This would reduce to net force available by a factor of 100.

Note that 'anti-gravity' is mentioned in this paper to imply that we can overcome the force of gravity by reactionless thrust. We don't mean that we can 'cancel' the gravitational field.

#### What is absolute motion ?

AST simply proposes a new interpretation of absolute motion by discarding the ether. If absolute motion is not motion relative to the ether, then relative to what is absolute motion determined ? I propose that, fundamentally, absolute motion is just relative motion. I have already proposed in [1] that absolute velocity is the resultant of mass-ratio weighed velocities of an object relative to all massive objects in the universe.

#### Potential of a free energy, reactionless, 'anti-gravity' device

I strongly believe that AST is the correct, fundamental explanation for the Biefeld-Brown effect, although it may be incomplete. If researchers focus on this phenomenon and are able to fully understand it, this would revolutionize many aspects of our life.

- it will eliminate the need for all conventional energy sources
- many industries will be drastically affected: oil and petroleum industry, auto industry, aviation industry, defence and defence industry, ...
- it will change our way of life. Everyone would have a free energy, cheap, small size personal space craft.
- space travel would be revolutionized, and so on.

## Conclusion

A very compelling theory (AST) has been proposed that predicts and explains free energy/reactionless thrust effects. This theory may not be complete yet. Experimental and theoretical researchers are invited to advance this theory.

Thanks to God and Our Lady Saint Virgin Mary.

## References

1. Absolute/Relative Motion and the Speed of Light, Electromagnetism, Inertia and Universal Speed Limit  $c$  - an Alternative Interpretation and Theoretical Framework, by Henok Tadesse, <http://vixra.org/abs/1508.0178>
2. Apparent Source Theory – an Alternative Model of the Speed of Light, by Henok Tadesse, <http://vixra.org/abs/1602.0331>
3. Modified Absolute Motion Theory an Alternative Model of the Speed of Light, by Henok Tadesse, <http://vixra.org/abs/1603.0318>
4. Modified Emission Theory an Alternative to the Special Theory of Relativity, by Henok Tadesse, <http://vixra.org/abs/1609.0368>
5. The Speed of Gravity – What the experiments say, Tom Van Flandern
6. Measuring Propagation Speed of Coulomb's Field, A. Calcaterra, et al
7. On the Anomalous Weight Losses of High Voltage Symmetrical Capacitors  
Elio B. Porcelli and Victo S. Filho, <https://arxiv.org/pdf/1502.06915.pdf>
8. Exploratory Research on the Phenomenon of the Movement of High Voltage Capacitors,  
Doyle R. Buehler, <http://www.space-mixing-theory.com/article2.pdf>

\* My decision to publish this paper on the internet was inadvertent. My original aim was to continue working on the theory and perform experiments until I succeed in constructing a free energy device and get a patent. I was optimistic in this because AST neatly predicts free energy and reactionless thrust. I even carried out a preliminary experiment (which was not successful). However, I couldn't explain certain experiments with AST. For example, why is the net force directed towards the positive electrode, as reported in some experiments? Why is the force always directed towards the smaller electrode in the case of asymmetrical capacitors? In spite of these problems, I hoped to continue the theoretical and experimental research. Meanwhile, sadly, I lost my flash disk that contained documents that hinted on the link between AST and free energy. With this, I was forced to publish this paper on the internet, to establish priority of discovery at least.