

# Errors Before Einstein

John-Erik Persson  
Budkavlevägen 5 Lgh 1302, 14174 Segeltorp, Sweden  
[john.erik.persson@gmail.com](mailto:john.erik.persson@gmail.com)

## Abstract

Serious interpretational errors regarding stellar aberration and Michelson-Morley's tests, MMX, have existed for many decades. This created the existing chaotic situation in physics long time before the theory of relativity, SRT, was invented. By disregarding old tests and focus on what we have in the atomic clocks, the global positioning system, GPS, and in the Pioneer anomaly we can find solutions based on conventional physics.

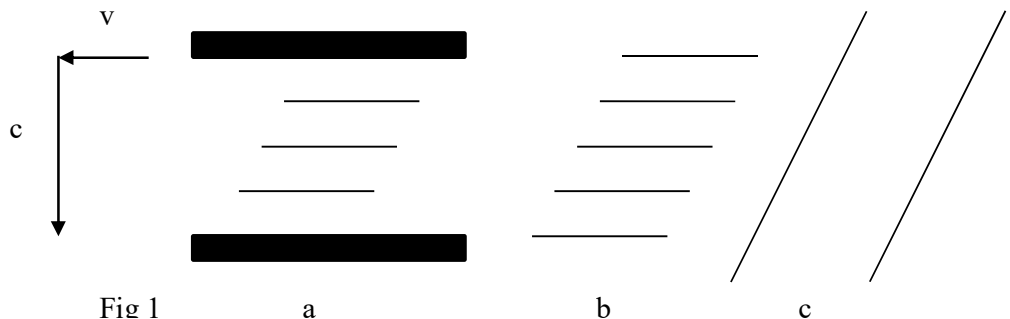
## Background

Abolishing the ether was a mistake, and light was used to explain not only its own behavior but the behavior of ether as well. Another mistake was that the behavior of traditional longitudinal waves was used as model for the new transverse waves introduced by Maxwell.

## Behavior of light in a resonator

Light that is locked in between two mirrors takes the fastest, not the shortest, way between these mirrors. This very important fact means that the resonator defines the vector  $\mathbf{c}$  and not the scalar  $c$  due to ether only. Therefore, light always moves with the speed  $c$  along the transverse arm in MMX, independent of the ether wind,  $v$ . This is a logical conclusion since boundary conditions defining the waving are not changed by motions inside the planes of the mirrors. Therefore, there is no reason for light to change behavior. We conclude that in a resonator the wave fronts in the standing waves are always parallel to the mirrors.

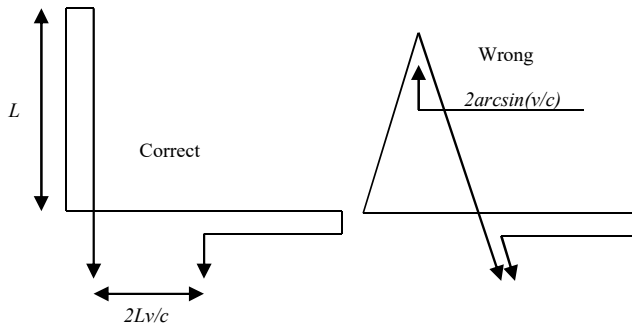
Fig 1a and Fig 2 demonstrate no effect of ether wind in the transverse arm in MMX



Stokes was wrong when he used a spherical wave front to derive an effect in the transverse arm in MMX. The mistake regarding spherical wave front was reused by Einstein to invent dilation of time.

## Behavior of light from a star

Wave fronts from a star can be regarded as plane, due to the long distance to the stars. As we have seen, an ether wind inside a plane wave front has the same effect all over the plane, and can therefore not change the orientation of that plane. This means that stellar aberration is not



caused by transverse ether wind,  $v$ , but is instead an effect of the transverse motion of the observing telescope,  $u$ . This means an illusion since vector,  $\mathbf{c}$ , is conserved and not just scalar,  $c$ . This is logical since the telescope has no reason to change behavior just because we are using another light model.

Fig 2

Fig 1b Stellar aberration cannot tell us anything about the ether wind

### Detecting transverse ether wind

It is not easy to detect transverse ether wind, since we cannot use coherent systems as we have seen. We must use a focused beam, and base detection on amplitude instead of on phase.

Fig 1c Detecting transverse ether wind by means of focused light

### Detecting longitudinal ether wind

In the longitudinal arm in MMX the speed of light is  $c \pm v$  in relation to equipment. This means that the two-way speed of light is  $c(1 - v^2/c^2)$ .

Atoms in a solid do not control their separations by means of actions at a distance. The ether transfers instead positional information in two opposite directions. The speed of this transfer is probably  $c$ . It is therefore reasonable to assume that the separation between atoms also is proportional to  $(1 - v^2/c^2)$ . This means that solid bodies contract due to the ether wind in the same way as two-way speed of light. Therefore, the assumed effect in the longitudinal arm is real, but not observable, due to a compensating effect. This means that MMX cannot tell us anything about the ether wind.

We conclude that the length of the optically defined standard unit of length is changing with the ether wind in the same way as the older mechanical standard in Paris.

### Detecting the ether wind today

Stellar aberration and MMX are useless methods in relation to the ether wind. However, today we have more advanced systems to this mission in GPS, atomic clocks and the Pioneer anomaly. The GPS system demands that the speed of light is adjusted by regarding the motion of the GPS receiver in relation the center of our planet. This adjustment is called Sagnac correction and is a demonstration of a first order effect of the ether wind.

Another possibility to detect the first order effect of ether wind is to use two HeNe lasers with very high frequency stability connected to an interferometer with fiber optics over a couple of meters. The direction of measurement should be changed in azimuth and elevation.

Petr Beckmann said that the field of gravity provides the reference for light speed. This idea could be changed a bit, by stating that the ether wind is the cause of gravity. This implies a radial ether wind, or a falling ether. We can explain second order effects in atomic clocks and in the Pioneer anomaly by this idea. This becomes possible if we make a hypothesis of a vertical ether wind equal to the horizontal ether wind due to satellite motion in a circular orbit. These effects are calculated in an article by this author called The Falling Ether. It was assumed in that article that GPS satellites are not stabilized in direction of motion. Therefore, the effect of

horizontal ether wind was reduced by half, representing the average value of a squared cosine function. The anomaly in Pioneer space stations was explained by round trip light speed increasing with range, and thereby producing the illusion of reduced space station speed. The clock behavior was based on the fact that electrons are moving forth and back in relation to the ether wind causing a periodic acceleration. The orbiting speed is therefore changing during each period of orbiting. Two first order effects of opposite sign create a second order total effect just as is the case in MMX.

Although transverse ether wind cannot cause wave front bending such bending is nevertheless possible due to a gradient in the longitudinal ether wind. The bending of light near to our sun can therefore be explained in this way. The bending in itself is of first order, but changes sign nearest to the Sun. The observable total effect integrates therefore to a second order effect. This explains why the effect is so small. This effect has not been calculated with accuracy but such a calculation is described and a very rough estimation is made in an article called The Falling Ether available at [www.gsjournal.net](http://www.gsjournal.net) under my name.

## The special theory of relativity, SRT

After many failures in the effort to detect an ether wind Einstein abolished the ether. What could not be seen and not understood was regarded as not real. An apparent constant light speed,  $c$ , was regarded as a real fact in relation to all observers with different, but constant, speeds. This idea is very absurd, as stated by many philosophers. The idea is also in conflict with the Sagnac correction in the GPS system.

Einstein dictated what light should do and stated that time itself could change its own scale factor. He explained this idea by what he called a light clock based on the same wrong spherical wave front as Stokes used and Einstein did not see the dilation of clocks and not the errors in the interpretation of stellar aberration and MMX either. To reach mathematical, not physical, consistency he had to state that space itself also behaved like time. He introduced space contraction, not understanding the contraction of objects. These ideas created the wave or particle confusion and other paradoxes.

## The ether

An existing ether is the basis for Maxwell's equations. The ether is also necessary for the explanation of gravity. An interesting hypothesis is the idea that gravity is proportional to ether wind squared. Such a radial ether wind is not observed in the GPS system. We can explain this fact by noting that satellite transmitters, as well as most receivers, have essentially zero radial speed in relation to our planet. The falling ether, suggested here, provides an absolute reference for the speed of light. However, this reference cannot be represented by a frame, but instead we must use a field for this purpose.

Time dilation, in the theory of relativity, is an effect of speed and gravity. Clock dilation as suggested here depends on ether wind only. This means simplification. The effects of clock behavior explained here have been calculated and compared with GPS results based on an assumed clock frequency proportional to  $(1-v^2/c^2)$ . This is described in an article called The Falling Ether available at [www.gsjournal.net](http://www.gsjournal.net) under my name.

The effect of a radial ether wind in direction towards our sun on the Pioneer space station is calculated in an article called Pioneer Anomaly and the Ether Wind, assuming two-way light speed equal to  $c(1-v^2/c^2)$ . Changed light speed caused an apparent change in Pioneer speed. The article is available at [www.gsjournal.net](http://www.gsjournal.net) under my name.

Since our planet is in a free fall we cannot see ether wind and gravity from Sun, Moon and other celestial bodies. However, we can see ether wind and gravity from our own planet. This ether wind has a small horizontal component due to the rotation of our planet. If we assume a somewhat larger vertical component, we can explain gravity. The hypothesis about a vertical

ether wind can explain all important phenomena related to the necessary ether as we can see in The Falling Ether.

## Gravity

The idea of an ether based on fast and subatomic particles was presented by Le Sage hundreds of years ago, and later also by van Flandern. This theory is in line with van Flandern's ideas with one exception, namely the speed of gravity. He concluded an enormous speed, but here a zero speed is concluded, since gravity in itself does not move. However, if we assume that we, hypothetically, could change the matter in a body momentarily, we would probably see an aberration indicating that the speed of ether particles is  $c$ .

## Summary

The confusion in physics of today appears to start about 1905. However, this is not true. There were errors before Einstein. The first, and therefore the most important error was made during the transition from light particles to light waves. At that time, it was concluded that the state of motion of the ether had relevance in relation to stellar aberration. Instead of ether wind,  $v$ , it is the observer motion  $u$ , that is the real cause of this effect. The effect is an illusion since in reality  $c$ , not  $c$ , is constant. A property of the telescope does not change when we use another light model.

SRT is refuted by a first order effect of ether wind in the Sagnac correction in GPS.

The irrelevance of ether wind transverse to light means no effect in the transverse arm in MMX also, and the effect in the longitudinal arm can be hidden by contraction of bodies, and not by contraction of space itself. The behavior of atomic clocks can be explained by the ether wind and not by time itself. The force of gravity can be explained by the ether wind squared and not by bending of nothing. The predictions of the ideas presented here are calculated in an article called The Falling Ether that is available at [www.gsjournal.net](http://www.gsjournal.net) under my name.

## Suggestion

It would be very interesting to do the test with two HeNe lasers and detect first order effect of the ether wind, as was earlier described in this article.