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Einsteins gravitational equivalence principle does not hold.

Abstract: a simple test is presented in this paper, to distinguish between the difference between acceleration due to gravity and acceleration due to a moving reference frame. Thus, Einsteins gravitational equivalence model does not hold. A second test, which is theoretical and based on McMahon field theory, is presented later in the paper.

Theory:

Einsteins gravitational equivalence principle states that, the force experienced in a moving frame of reference, that is accelerating, is indistinguishable from the force of gravity. Thus, if you were standing in a large elevator that was accelerating upwards, you would experience a downward force, that would be indistinguishable from gravity. This means, that if you were the observer in such a moving elevator, there would be no test you could do to decide if the downward force you are experiencing is due to gravity or acceleration. Refer to figure 1, where an elevator acts as our moving frame of reference.

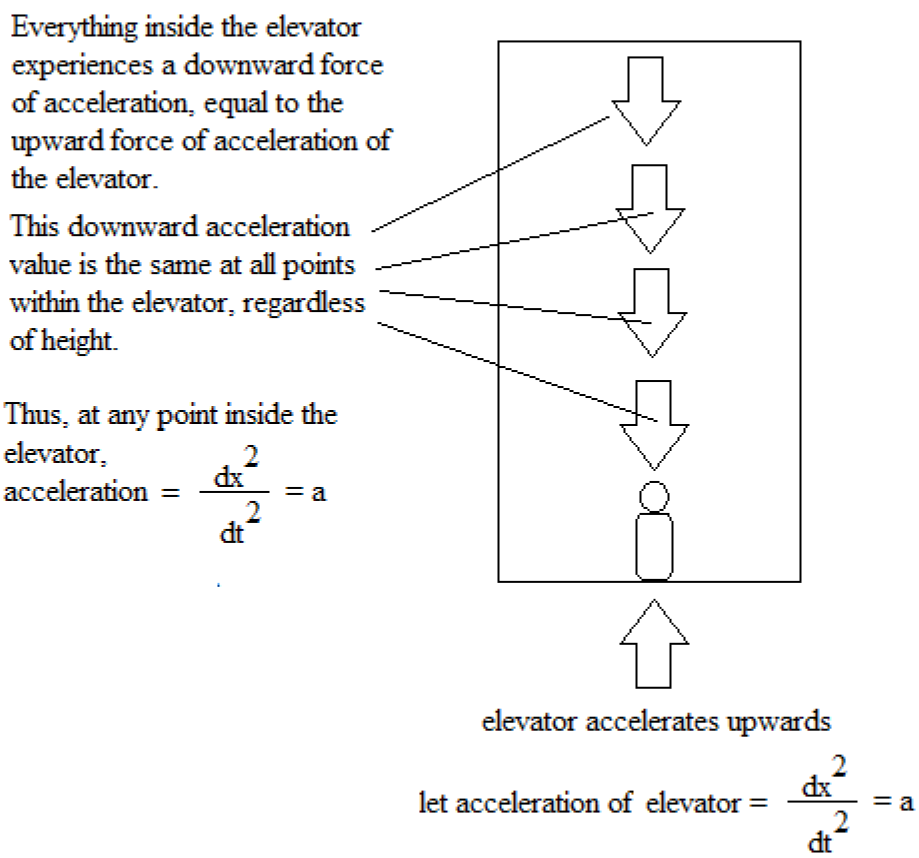

Figure 1: Einsteins gravitational equivalence principle.

However, there is a test you can do to determine if the force experienced in the elevator is due to acceleration or gravity.

Test 1: Variance in gravitational acceleration with height.

In a real gravitational field, the force of gravity becomes stronger the closer you are to the source of the gravitational field. That means, that if the elevator in figure 1 was sitting stationary on a planet with gravity such as Earth, the force of acceleration within the elevator becomes stronger the closer you are to the floor of the elevator. Refer to figure 2.

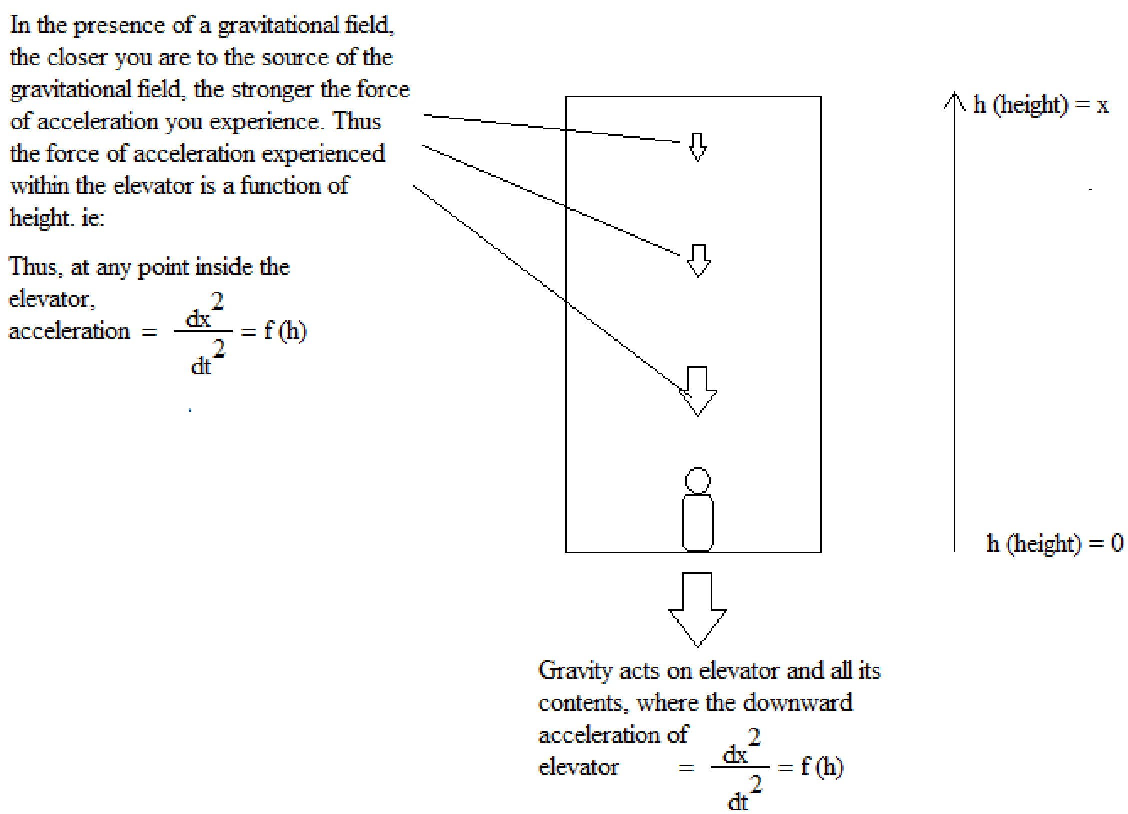

Figure 2: Acceleration in the presence of a gravitational field.

Note that, according to figure 2, if you had detectors of gravitational force (or acceleration) along the inside of the elevator at different heights within the elevator, in the presence of a gravitational field you would detect weaker gravitational force (or acceleration) as height (h) increases.

However, if the entire elevator was accelerating upwards in the absence of a gravitational field, the gravitational force or acceleration detectors along the height of the elevator would all register the same value.

Thus, Einsteins gravitational equivalence principle does not hold, and it needs to hold for all cases regardless of the size or strength of the gravitational field in order for general relativity to remain vaild. The smaller the size of the gravitational field, the

bigger the differences in readings between the gravitational force or acceleration detectors within the elevator.
For special cases were a relatively small elevator exists in an extremely large gravitational field, then this test would not be able to distinguish between gravity and acceleration unless the detectors were extremely sensitive.
Thus, in comparing figures 1 and 2, when the size of the gravitational field is small compared to the elevator, then it is easily observed that: f(h) ≠ a at all heights within the elevator. Hence since Einsteins gravitational equivalence principle does not hold for all situations, it is not valid. Since f(h) cannot ever truly exactly = a at all points within the elevator in any situation, gravitational mass ≠ inertial mass. (This would explain why the general relativity theory cannot be unified with quantum gravity theory.) Since general relativity depends upon the gravitational equivalence model, it cannot hold true either.

Further evidence leading to another possible test:

Within the paper: **McMahon, C.R. (2015) "***GRAVITY CAN BE OBSERVED IN THE ABSENCE OF CURVED SPACETIME, THUS CURVED SPACETIME IS NOT RESPONSIBLE FOR GRAVITY"*, journal of advances in physics; Special relativity is used in accordance with Einsteins own mathematical principles and theory, to show that curved spacetime is not responsible for gravity, thus gravity is something else.
According to McMahon field theory (2010), a gravitational field is just like a magnetic field, with the exception that we are dealing with moving protons instead of moving electrons. Allow me to explain:

McMahon field theory summary:

Special relativity applies to particles or masses moving close to the speed of light, which is the case for electrons moving as electrical current in a wire, as shown in the paper: **McMahon, C.R. (2015)** *"Electron velocity through a conductor*". Thus, special relativity applies to such particles, which allows us to observe special relativity in the real world as the magnetic field. Thus, through the magnetic field, McMahon field theory explains that particles moving near the speed of light appear as energy fields.
First, allow me to present a new understanding of energy, as already presented in McMahon field theory: Theoretical unification of relativity and quantum physics, thus methods to generate gravity and time. (2010).
This theory begins explaining the nature of light using an example of electrons moving through an electrical wire. Since the velocity of these electrons can be considered as at or near the speed of light, we can assume that they are affected by both time dilation and length contraction, effects predicted by Albert Einstein's famous theory of relativity.
Let's perform a thought experiment: Let's imagine a stretched out spring. Let the straight stretched out spring represent the path of electrons moving in an electrical wire. Now, since length contraction occurs because of relativity, the electron path is affected. As a

result, the straight line path of the electron is compressed. This is the same as allowing a spring to begin to recoil. As a result, the straight line path of the electron begins to become coiled. I call this primary coiling. This is the effect length contraction has on mass as is approaches the speed of light and is dilated by length contraction. When a particle such as an electron reaches the speed of light, it becomes fully coiled or fully compressed, and Einsteins length contraction and time dilation equations become equal to zero and "undefined". This particle, now moves as a circle at the speed of light in the same direction it was before. If this particle tries to move faster still, it experiences secondary coiling. Ie: the coil coils upon itself, becoming a secondary coil. This is why energy is observed on an Oscilloscope as waves: we are simply looking at a side on view of what are actually 3-dimentional coiled coils or secondary coils. Waves are not simply 2 dimensional; rather, they are 3 dimensional secondary coils. It was easy for scientists of the past to assume waves were 2 dimensional in nature, as the dimensional calculations and drawings for relativity were carried out on flat pieces of paper which are also 2-dimentional. The human imagination, however, is able to perform calculations in multiple dimensions. Now, let's consider the effect of time dilation.

When an electron approaches the speed of light, according to relativity, it undergoes time dilation. What does this actually mean? I believe this is the effect: time dilation allows a body, particle or mass- in combination with the effects of length contraction, to exist in multiple places at the same time. This is why we observe magnetic flux. Electricity is composed of high speed electrons, so these electrons would be affected by time dilation and length contraction. As a result, the electron is both inside the electrical wire, and orbiting around the wire as magnetic flux (because of full primary coiling at the speed of light). Magnetic flux is the combined effect of length contraction and time dilation on the electron. The coiling effect is why electrical wires carrying electricity exhibit magnetic fields- the electron path is compressed into coils, and time dilation permits the electron to occupy multiple positions at the same time, which is why magnetic flux is detected as coils at different distances from the electrical wire. Please refer to figure 3 on the following page.

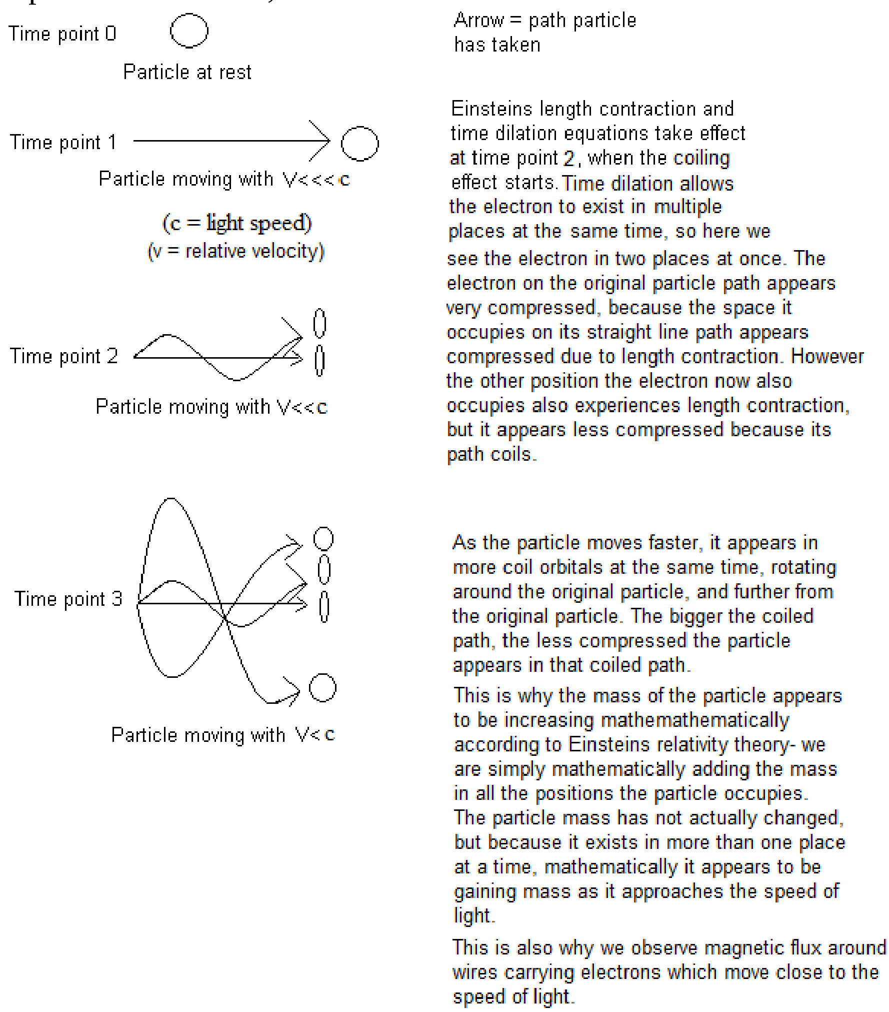

Figure 3: particle relativity- Taken from the McMahon field theory (2010): What we observe as relative stationary observers of a particle as it travels faster.

However- the McMahon field theory goes on to explain much more, including the electromagnetic spectrum- hence light, which I will briefly cover now. Refer to figure 4 below:

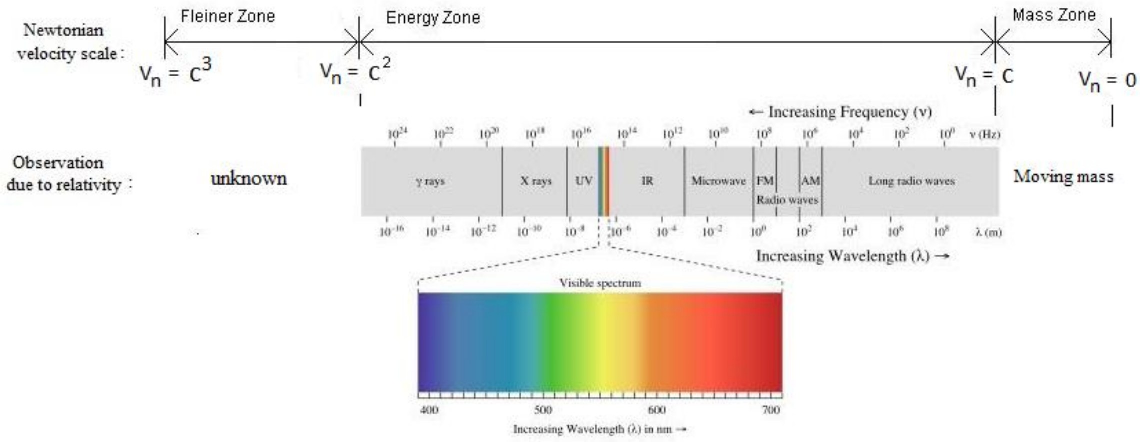

Figure 4: How an electron is observed at different Newtonian speeds: modified from the McMahon field theory (2010): Here, we see that as an electron moves with increasing speed according to Newtonian physics (although the speed we observe is dilated back to that of light because of relativity as in figure 6) and becomes a coil because of relativity, as the electron speed is increasingly dilated back to light it is observed as different types of energy. This is because the electron becomes more coiled (more velocity dilation) as it tries to move faster, so we say that the frequency increases and wavelength decreases. In this diagram, let the value of true, un-dilated Newtonian velocity due to relativity be Vn as in figure 6, and let the velocity of light be equal to c. I believe that electrons are on the boarder of mass and energy, so in the diagram above electricity would be at the point where Vn=c. If the electrons in electricity tried to move faster, they would be compressed further into a secondary coil to become long radio waves, then AM radio waves, then FM radio waves, then microwaves, then Infra-red (IR), then X-rays, then y-rays. Hence, the electromagnetic spectrum is nothing more than an electron dilated by different magnitudes of relativity. <u>Other particles, such as protons and neutrons, will also have their own spectrums, which may be different or similar to that of the electron.</u>

From Figure 4, we see that if electricity or electrons in an electrical wire tried to move faster, the electrons path would be compressed further, making it coil upon itself again creating secondary coiling or a coiled coil path. Hence it would be further affected by length contraction. As a result, the electron will be observed as different forms of energy. In the figure above, we see that an electron is considered as mass when it has an undilated velocity or Newtonian velocity between 0 and c. (Refer to figure 6 now for a definition of Newtonian velocity and dilated velocity to avoid confusion). If an electron tries to travel faster than this, it enters the energy zone, where the electron path becomes fully compressed and moves as a full primary coil or circle which undergoes secondary coiling or coils upon itself. A particle moving as energy or a secondary coil has an un-dilated velocity or Newtonian velocity range between c and c^2. In this range, the particle now experiences secondary coiling, so the coil now coils upon itself. Figure 5, taken from the McMahon field theory (2010), also explains what happens if an electron tries to move faster than C^2: The secondary coiled or coiled coil path becomes overly dilated, and the length contraction effect becomes so great that the particle now undergoes tertiary coiling- ie it becomes a coiled coil coil. As a result, because of excess coiling the particle becomes undetectable or unidentifiable. These undetectable states are what are known as dark matter and/or dark energy. See figure 5.

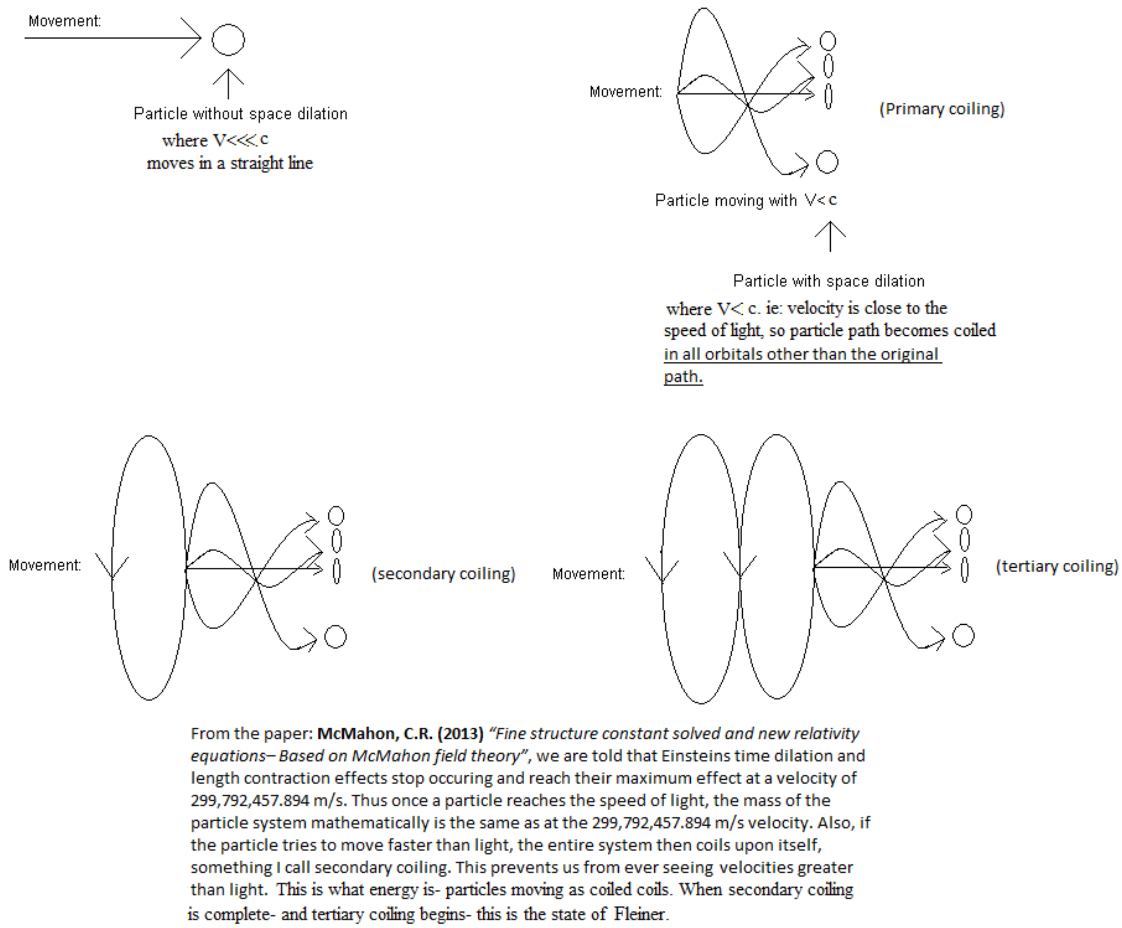

Figure 5: The actual affect Einsteins relativity theory has on the movement of a particle, causing it to first appear as mass during primary coiling, then energy during secondary coiling, and Fleiner during tertiary coiling, during which it becomes dark matter or dark energy. Einstein was unaware of this.

Now, we must consider conventional science of the current day. Conventional oscilloscopes are used for energy only. Therefore, the "waves" we see on oscilloscopes are in fact, the side views of secondary coils and higher degrees of coiling. Once full primary coiling is achieved, the fully compressed primary coil remains as it is, but with more momentum it begins to coil upon itself, which is secondary coiling. Thus, "wavelength" and "frequency" according to the science of this day are measurements from the reference point where a full primary coil forms.

Lets consider McMahon field theory (2010). From the McMahon field theory, we realize that magnetic flux arises due to the length contraction and time dilation of the electron. We observe this flux differently depending on the Newtonian velocity of the electron (ie: the electromagnetic spectrum in figure 4). Keep in mind that relativity prevents observers from measuring the true velocity (Newtonian velocity) of the electron- relativity dilates velocities greater than light back down to the speed of light. Refer to figure 6 below.

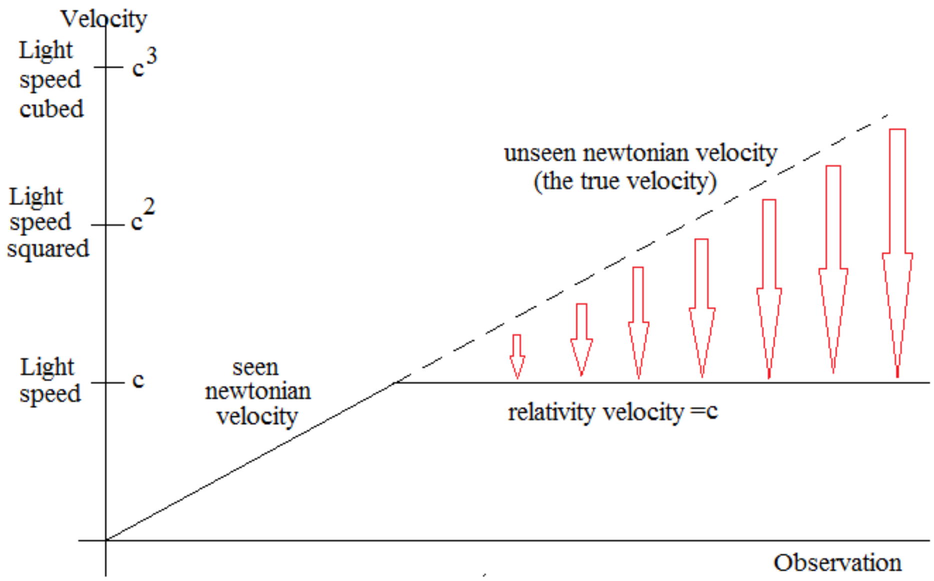

Figure 6: The dilation of the true velocity or Newtonian velocity by relativity. Here, we see that the dotted line represents the true velocity of particles travelling faster than the speed of light, but relativity dilates this velocity down to the speed of light which coils the path of the particle, so observers don't ever see particles travelling faster than light. The degree of velocity dilation is represented by the red arrows. Hence, the solid lines represent that which is seen, but the dotted line, which is the true velocity above light, is unseen due to dilation by relativity.

Now, figures 3 and 5 depict the length contraction effect on the electron, but the length contraction effect occurs simultaneously with the time dilation effect, which causes the electron to exist in multiple places along-side itself at the same time. As a result, as a particle approaches the speed of light, the original electron remains in its original linear position, but it also exists tangentially to itself, which rotates around its original self.

From figure 7 in A), we see a stationary electron in a wire. If this electron moves to the other end of the wire at speeds much less than N, or C for us on Earth, the particle obeys the laws of Newtonian Physics. In B), we see our electron now moves through the wire with a speed of c, so as discussed earlier it undergoes full primary coiling, which results in the appearance of a magnetic field (the magnetic field is the primary coiling) so it obeys the laws of relativity. From Einstein, when the electron moves at a speed where V=c, t'= undefined (time dilation = undefined) and s'= 0 (length compressed to zero). This means that to us, the particle no longer experiences time as in Newtonian physics, and now moves as a full primary coil or circle which propagates along with a speed equal to c. Because t'=undefined, the electron is able to be in more than one place at a time. Because s'=0, the particle is seen to move as a full primary coil or circle, which moves along the wire, always with a relative speed equal to c. this means that the electron is both inside the wire, and orbiting around the wire in multiple orbits multiple distances from the wire at the same time.

These "ghost or flux particles" which are all one particle that exist in different places at the same time, are responsible for the strange observations and theories made in quantum physics. These theories arise from the fact that ghost particles appear in their experiments involving high speed particles, such as the double slit experiment, and physicists cannot explain what they observe.

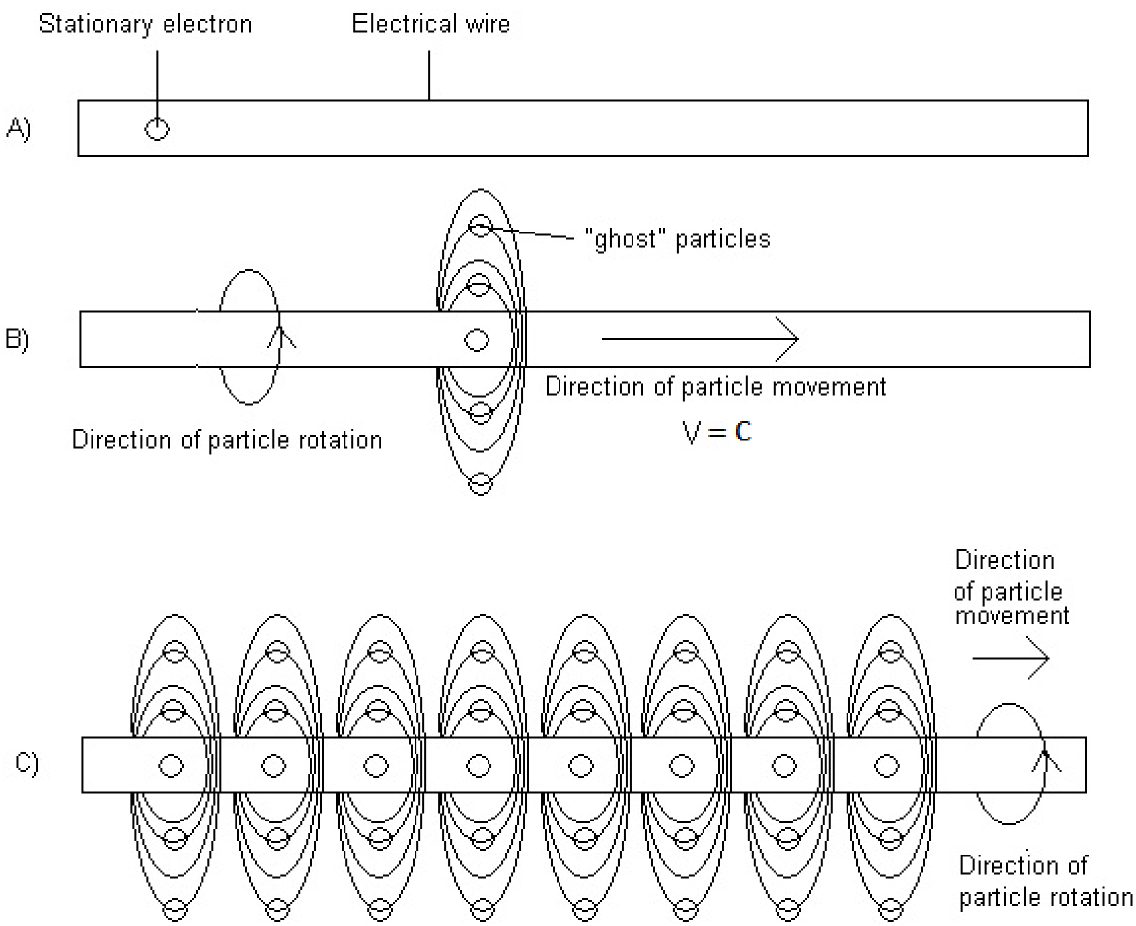

Figure 7: In A), we see a stationary electron in a wire. If this electron moves through the wire at speeds far below c, then the particle simply moves in a straight line through the wire, and no magnetic field is observed.
In B), our electron is now moving at c, so space dilation is occurring, causing the electron to now move as a circle (full primary coil) rather than in a straight line. As a result, the entire primary coil is always seen to move at a relative speed of c. However, the particle is experiencing maximum time dilation, t'=undefined. As a result, relative to us as stationary observers, the electron is in more than one place at the same time. In fact, the electron is both inside the wire, and orbiting around it in multiple orbital positions at the same time. As a result, we observe a magnetic field around the wire, which is just the electron orbiting around the outside of the wire. This is explained in section II table 1 of the McMahon field theory. When a particle is seen in more than one place at the same time, I call this a ghost or flux particle.
In C), the situation described in B) is exactly what is observed when electricity moves through an electrical wire. Note that conventional current moves in the opposite direction to electron flow.

From figure 7, we see that the original moving electrons we observe as electricity still exist inside the wire, but the length contraction and time dilation effects allow these electrons to simultaneously exist tangentially to their direction of movement outside the wire.

Gravity according to McMahon field theory:

Gravity, according to McMahon field theory, is nothing more than a proton field. This means that the particle in figure 3 is just a proton particle in the case of gravity. Since a proton field is a positively charged field, and we know that mass or matter as we know it is composed of atoms with negatively charged electrons orbiting around the outside, a proton field is expected to exert a force on all mass or matter. In other words, a proton field is what we refer to as gravity. The paper: **McMahon, C.R. (2013)** *"Generating gravity and time"*, provides some ideas on how to produce a proton field, although I'm sure other techniques exist also. McMahon field theory refers to proton fields as Mahona. (pronounced Ma-naa.)

Test 2: Proton flux detection.

Now here is the main point: if McMahon field theory is correct, and a proton field is what we call a gravitational field, then it would be possible to detect proton flux within a gravitational field. Thus, the stronger the proton or gravitational flux, the stronger the gravitational acceleration experienced. Thus, this simple test, as to whether or not proton flux is present, is a simple test to determine whether the acceleration within a reference frame is due to gravity or not. This test, if valid, would demonstrate as in test 1, that Einsteins gravitational equivalence model does not hold true. Still, to my knowledge proton flux detectors don't currently exist.

References:

McMahon, C.R. (2010) *"McMahon field theory: Theoretical unification of relativity and quantum physics, thus methods to generate gravity and time."* The general science journal.

McMahon, C.R. (2013) *"Fine structure constant solved and new relativity equations– Based on McMahon field theory".* The general science journal.

McMahon, C.R. (2013) *"Generating gravity and time".* The general science journal.

McMahon, C.R. (2015) *"Electron velocity through a conductor*". The general science journal

McMahon, C.R. (2015) *"Gravity can be observed in the absence of curved spacetime, thus curved spacetime is not responsible for gravity."* Journal of advances in physics. Volume 8, number 1. Pages: 1976-1981. Link: http://cirworld.com/journals/index.php/jap/article/view/245jap/pdf_141
Link last accessed 3rd October, 2015.