

Double Slit Experiment Solved

Abstract: This paper is a re-published version of an older theoretical paper of mine. Here, I use extracts from the McMahon field theory to explain how the McMahon field theory can be used to explain the mystery of the double slit experiment. It explains how fast moving electrons move as coils due to Einsteins length contraction, and how fast moving electrons are able to exist in many locations at the same time because of Einsteins time dilation.

Theory:

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 it 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-dimensional 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-dimensional. 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.

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 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 1 on the following page.

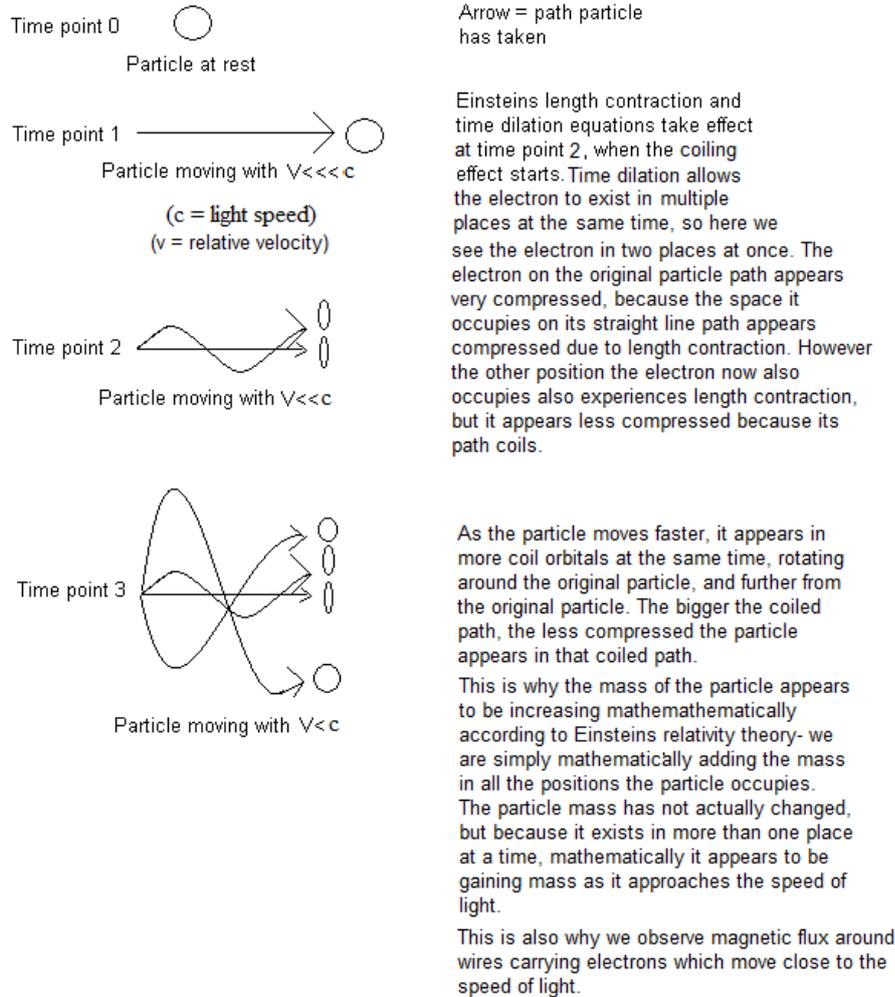


Figure 1: particle relativity- Taken from the McMahon field theory (2010): What we observe as relative stationary observers of a particle as it travels faster.

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 2 below:

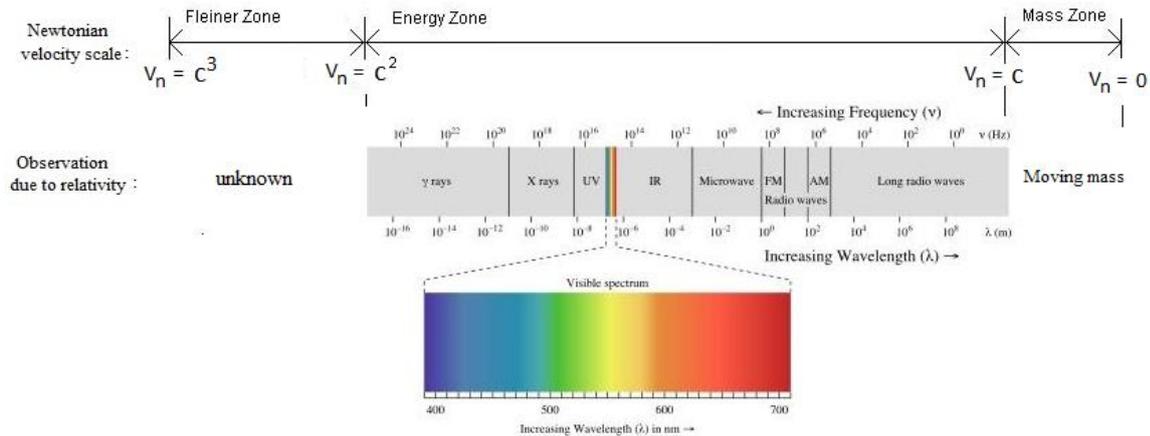
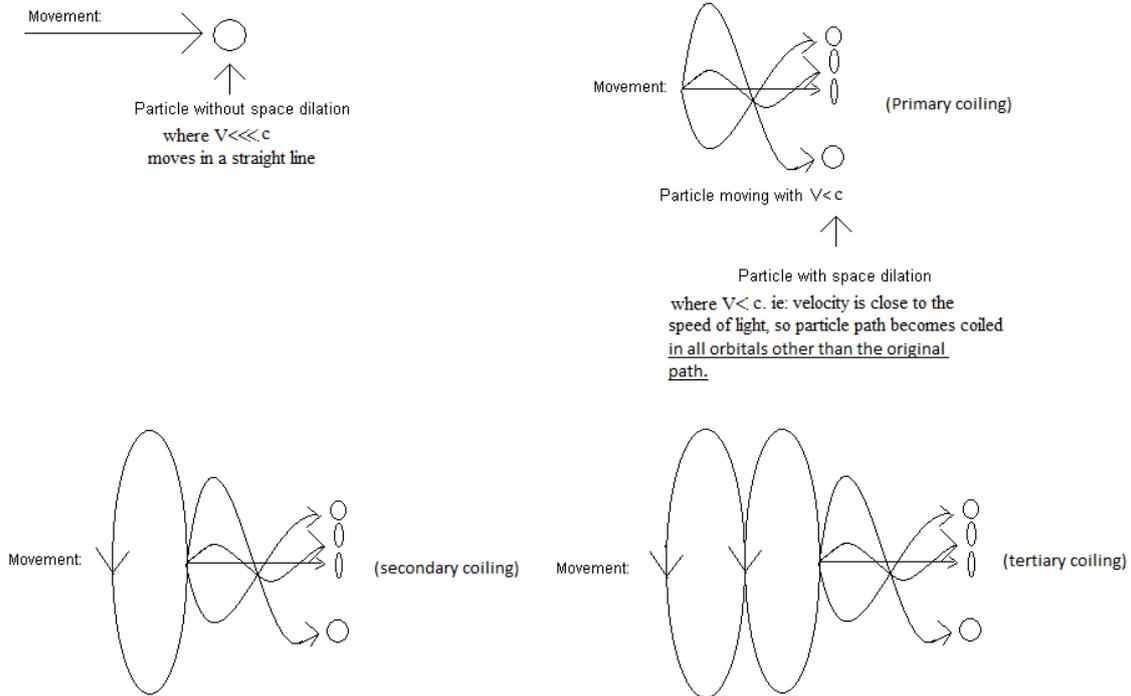


Figure 2: How an electron is observed at different Newtonian speeds: modified from the McMahon field theory (2010): Here, we see that as an electron moves with increasing speed according to Newtonian physics (although the speed we observe is dilated back to that of light because of relativity as in figure 4) 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 V_n as in figure 4, 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 $V_n=c$. 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. Other particles, such as protons and neutrons, will also have their own spectrums, which may be different or similar to that of the electron.

From Figure 2, 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 . 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 3, 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 3.



From the paper: McMahon, C.R. (2013) "Fine structure constant solved and new relativity equations—Based on McMahon field theory", we are told that Einsteins time dilation and length contraction effects stop occurring and reach their maximum effect at a velocity of 299,792,457.894 m/s. Thus once a particle reaches the speed of light, the mass of the particle system mathematically is the same as at the 299,792,457.894 m/s velocity. Also, if the particle tries to move faster than light, the entire system then coils upon itself, something I call secondary coiling. This prevents us from ever seeing velocities greater than light. This is what energy is- particles moving as coiled coils. When secondary coiling is complete- and tertiary coiling begins- this is the state of Fleiner.

Figure 3: 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 2). 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 4 below.

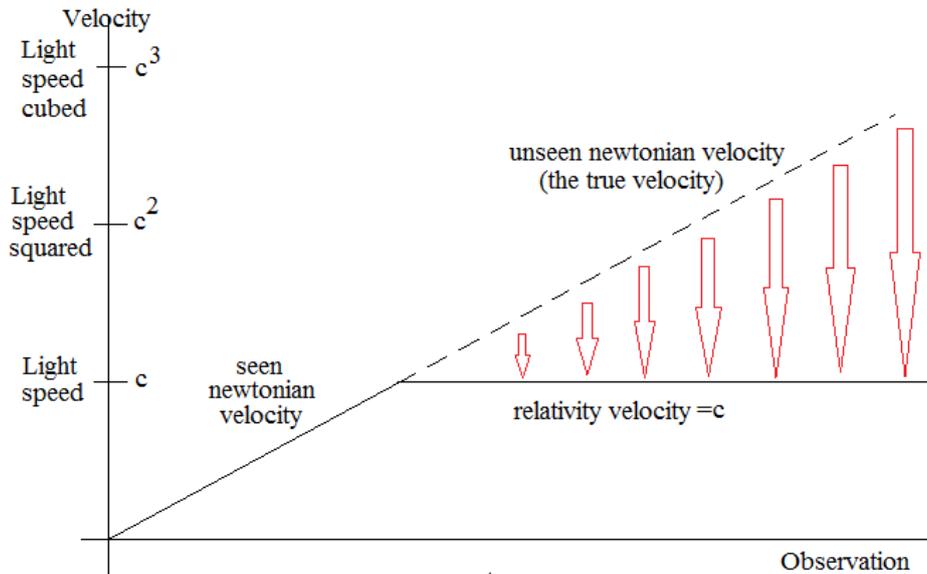


Figure 4: The dilation of the true velocity or Newtonian velocity (V_n) by relativity. Here, we see that the dotted line represents the true velocity of particles travelling faster than the speed of light, but relativity dilates this velocity down to the speed of light which coils the path of the particle, 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 1 and 3 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 5 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 $V=c$, $t' = \text{undefined}$ (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 $t' = \text{undefined}$, 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.

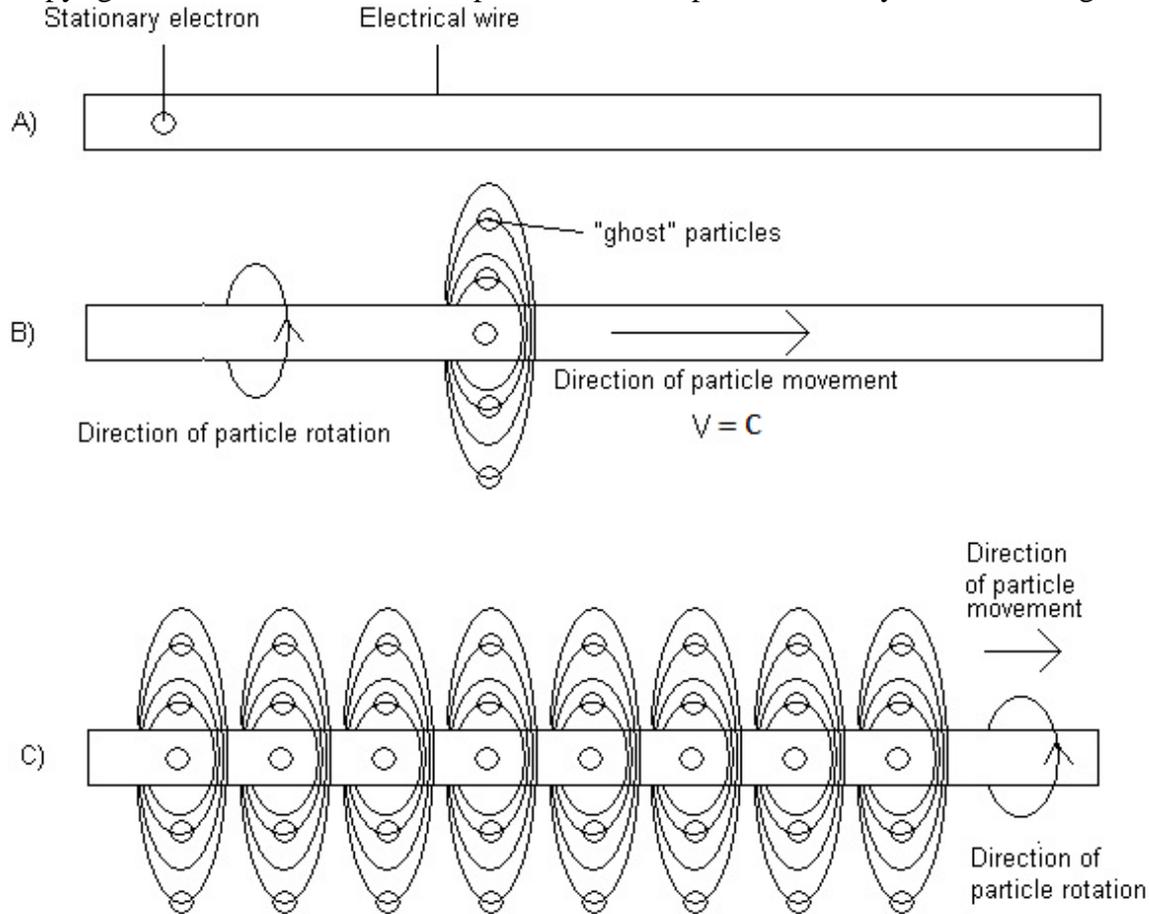


Figure 5: In A), we see a stationary electron in a wire. If this electron moves through the wire at speeds far below c , then the particle simply moves in a straight line through the wire, and no magnetic field is observed.

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, $t' = \text{undefined}$. 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 5, 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.

Double slit experiment explanation:

This simple model possibly solves the double slit experiment. Allow me to explain.

As discussed, energy moves as secondary coils, or coiled coils, which we have always assumed to be waves (largely due to polarization). Also, particles moving in a straight line that continue to accelerate will eventually become energy, and begin to move as coils, then coiled coils, rather than in straight lines. For electrons, such as electrons moving through a wire in the form of electricity, we know that electrons naturally move as a coil according to the left-hand rule (right hand rule for conventional current which goes in the opposite direction of electron flow), which we call magnetic flux. That is, as an electron moves toward

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 you, it will appear to be moving clockwise. This is because of the time and space dilation the electrons are experiencing. Since light is composed of high speed electrons, we can make light change from moving clockwise to anticlockwise with a mirror, which flips the coils orientation. Anyhow, if we perform the double slit experiment, assuming that light moves as coils (assume light is nothing more than high speed electrons, thus move as coiled coils which can have multiple planes of polarization, and these electrons are experiencing enough space dilation to appear to relative stationary observers as light), then we find that what we observe agrees with McMahon field theory. Please refer to figures 6, 7 and 8. Note: normal light contains all types of polarized light, circular, horizontal and vertical polarization, and variants thereof.

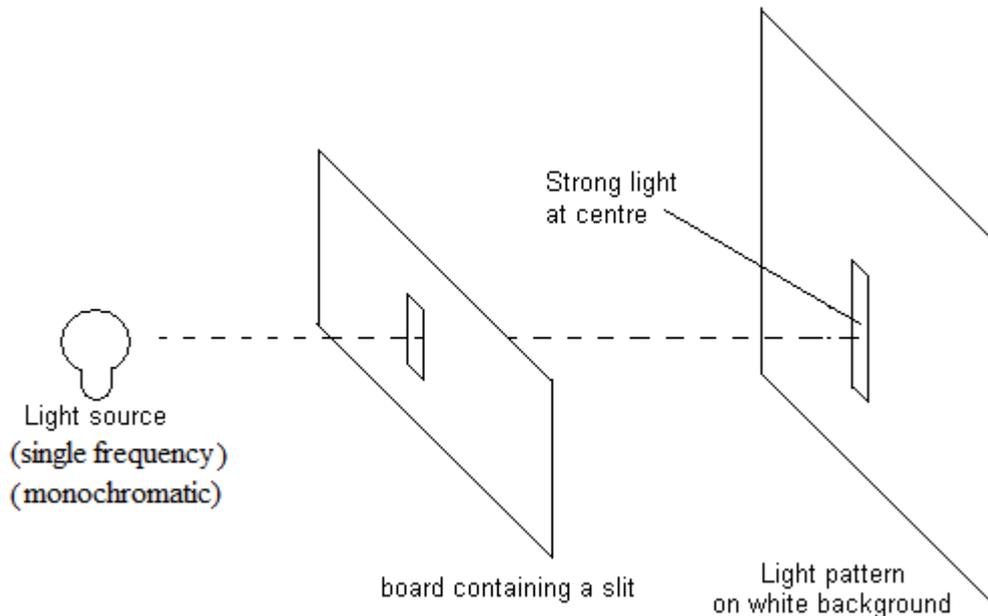


Figure 6: single slit-in-board light pattern. Particles and waves produce this kind of pattern.

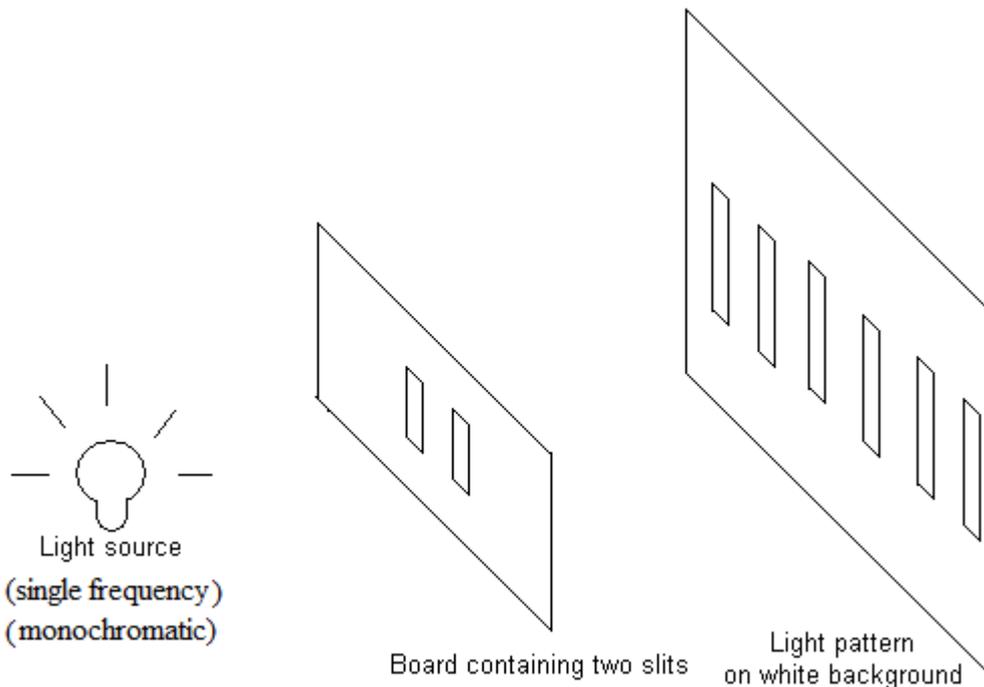


Figure 7: Double slit-in-board light pattern- waves (polarized coils) produce this kind of light pattern, which is due to waves interfering with each other, producing an interference light pattern.

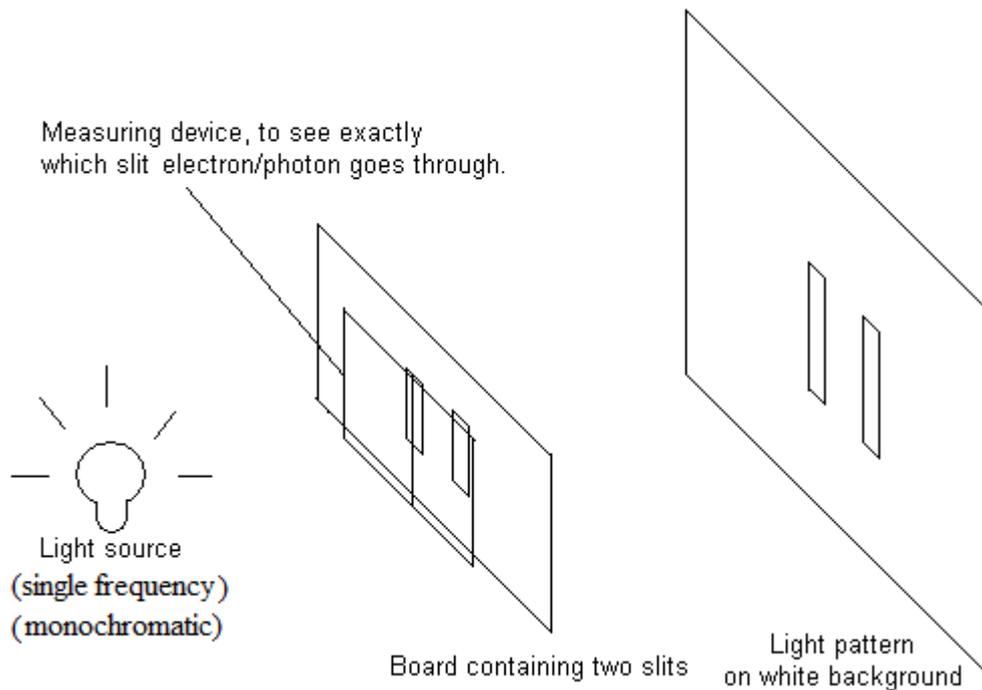


Figure 8: Measuring device to see which slit the photon/electron goes through, results in the appearance of two slits, the interference pattern is not observed. Particles produce this kind of light pattern. Can use a measuring device on both slits or just one- the effect will be the same.

From figure 6, we see that a board with a slit in it produces a slit light pattern, which is what we would expect to see if light behaves as a wave or particle, as both waves and particles produce this pattern. In figure 7, we see that when we use two slits, we get multiple slit patterns on the background, which is wave-like behavior. However, if we use a measuring device as in figure 8 to try and determine which slit each individual electron/photon goes through, the light pattern changes to the kind of pattern particles make.

This can easily be explained by the McMahon field theory. As described earlier, light is composed of high speed electrons moving as secondary coils or coiled coils. These high speed electrons are moving so fast that they are experiencing space and time dilation, because they are moving with a relative Newtonian speed within the range of $c \leq V \leq c^2$, as in figure 4. Therefore, when we use two slits, we see the kind of light pattern expected to be made by waves.

When we use a measuring device to try to determine which slit the photon/electron goes through, we are effectively slowing the Newtonian velocity of the photon/electron down. This is because an interaction with the moving photon/electron is required in order to observe it. If enough Newtonian velocity is lost, the observed velocity will become less than light and this causes the photon/electron to behave more like a particle. As a result, the motion of the photon/electron changes from a wave form (secondary coils or coiled coils) to a particle moving in a straight line (with little to no primary coiling).

Important point 1: If we use electrons which we know are moving particles for the double slit experiment instead of light, we observe the exact same diffraction patterns! This demonstrates that particles undergoing high velocity experience space dilation, causing them to move as coiled coils or partial secondary coils, just like light! This shows that light is the

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equivalent of high speed electrons. This is explained in section II of the McMahon field theory.

Important point 2: Physicists argue that if we observe the same diffraction pattern for electrons as light when performing the double slit experiment in which they assume light moves as a wave and electrons move in straight lines, then a single electron must pass through both slits at the same time in order to explain the diffraction pattern they observe. This is completely correct! When particles travel at relative Newtonian speeds (as in figure 4) where $V \geq c$ for us on Earth as in figure 4, we observe significant ghost particle behavior, causing the particle to appear in more than one place at the same time, so it appears that multiple particles are present which we observe as secondary coils as in figure 3! In this way, the electron can pass through both slits at the same time, and even interfere with itself, producing the diffraction pattern expected for waves.

I will describe an experiment that follows on from the double slit experiment, which again shows that McMahon field theory successfully unifies quantum physics and relativity. In this experiment, shown in figures 9 and 10, we have the same setup as in the double slit experiment. The only variant is the speed at which electrons are fired from an electron gun. If slow moving electrons are fired one at a time at two slits as in figure 9, this will lead to the electron pattern expected for particles moving in a straight line. However, if we fire high speed electrons one at a time at two slits as in figure 10, ghost particle behavior will cause the electrons to move as coiled coils or secondary coils, or waves, and these waves or secondary coils will interfere with each other, producing the electron pattern expected for waves. Ghost particle behavior allows the electron to be in more than one place at a time, hence it is able to pass through both slits at the same time and interfere with itself. Hence, the ghost particle behavior which arises as a resultant of McMahon field theory unifies quantum physics and relativity. Relativity expressed in multiple dimensions (ie: more than just time and length contraction, but also height and width expansion) leads to a type of space and time dilation that allows a particle to be in more than one place at a time, which is exactly what happens on the quantum level.

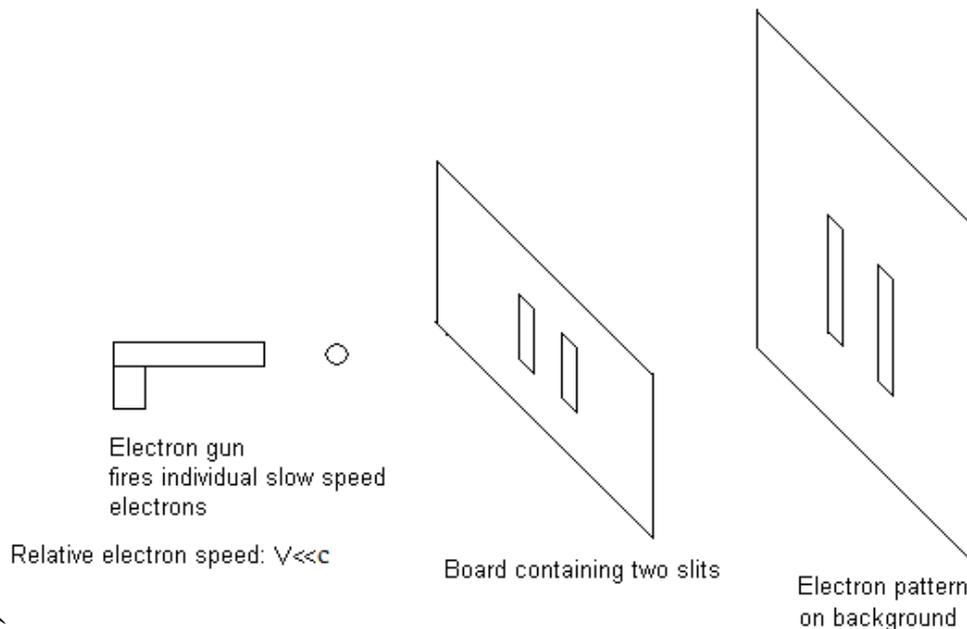


Figure 9: Slow moving electrons don't exhibit ghost particle behavior, and move in straight lines. Therefore, a slow moving electron can only pass through one slit at a time.

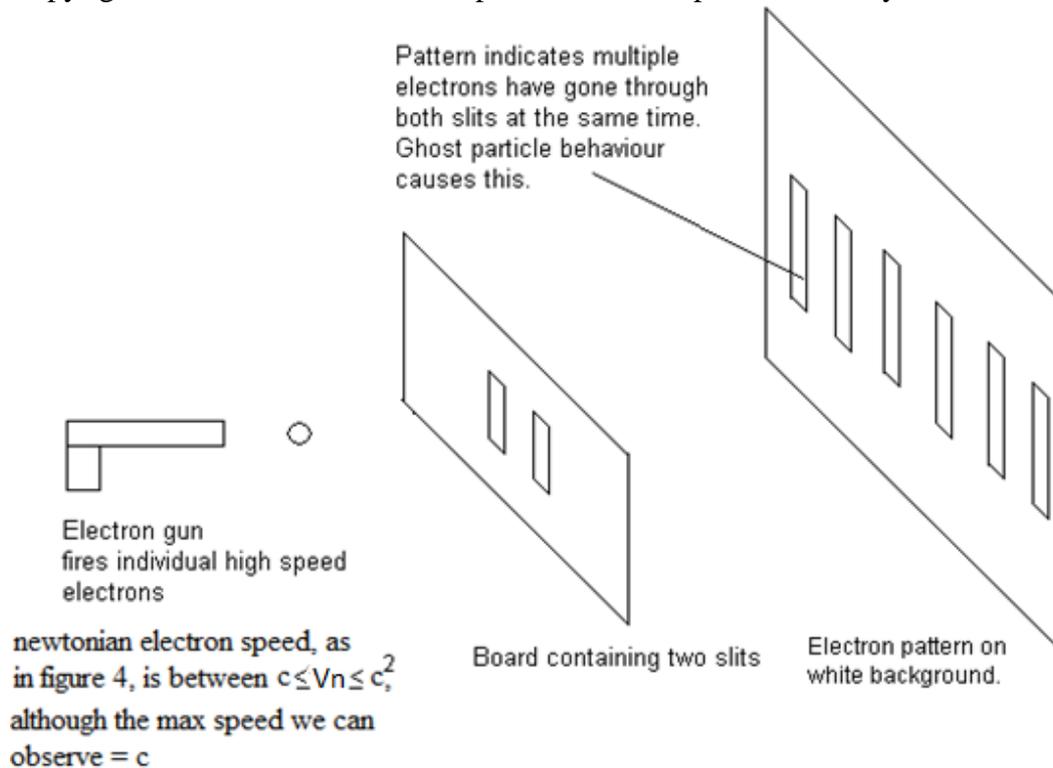


Figure 10: Fast moving electrons exhibit ghost particle behavior, and move as coiled coils or secondary coils. Therefore, a fast moving electron can pass through more than one slit at a time, because it exists in more than one place at a time, and can interfere with itself, producing the kind of interference pattern expected for waves.

This can be verified with quantum electrodynamics, or QED for short. It has been noticed that high speed particles are not “naked”, as they are surrounded by a cloud of virtual particles, which I call ghost particles. On page 256 of the book “In search of Schrödinger’s cat” by Gribbin, J. (1991), it states that: “Starting from the Schrödinger equation, the cornerstone of quantum cookery, the correct mathematical treatment of the electron yields infinite mass, infinite energy, and infinite charge.” This is exactly the result expected by the McMahon field theory if you ignore the time dilation and length contraction effect limit ($v \leq 299,792,457.894$ m/s) as presented in the paper: **McMahon, C.R. (2013)** “*Fine structure constant solved and new relativity equations– Based on McMahon field theory*”. The general science journal.

Ignoring this limit causes a high speed electron to appear to be in an infinite number of positions all at the same time, because Einsteins time dilation for particles moving at the speed of light gives a value divided by zero, which is classified as “undefined”.

If you wish to observe the properties such as mass, charge and energy of a single electron, as well as the relative effects caused by a single electron or particle and ignore the ghost particles, you must cancel out the infinities in the solutions to the Schrödinger equation- this is called renormalization. Thus the appearances of apparent infinite mass, apparent infinite energy and apparent infinite charge for an electron actually are the correct solutions to the Schrödinger equations. However, the paper **McMahon, C.R. (2013)** “*Fine structure constant solved and new relativity equations– Based on McMahon field theory*”, Shows using the fine structure constant that at the relatively observed speed of light, an electron exists in 37557.7300843 places at the same time because of time dilation, which makes its mass, charge, and energy appear much larger, and is both a refined and better answer than that

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given by the Schrödinger equations. This is because the Schrödinger equations, like Einstein, deduced that at the speed of light, dilated time (t') = undefined, which made properties like mass, charge and energy appear infinite, without realizing that the particle now moves as a full primary coil into the page.

Thus, figure 11 summarizes why we observe what we do in the double slit experiment. Refer to figure 11.

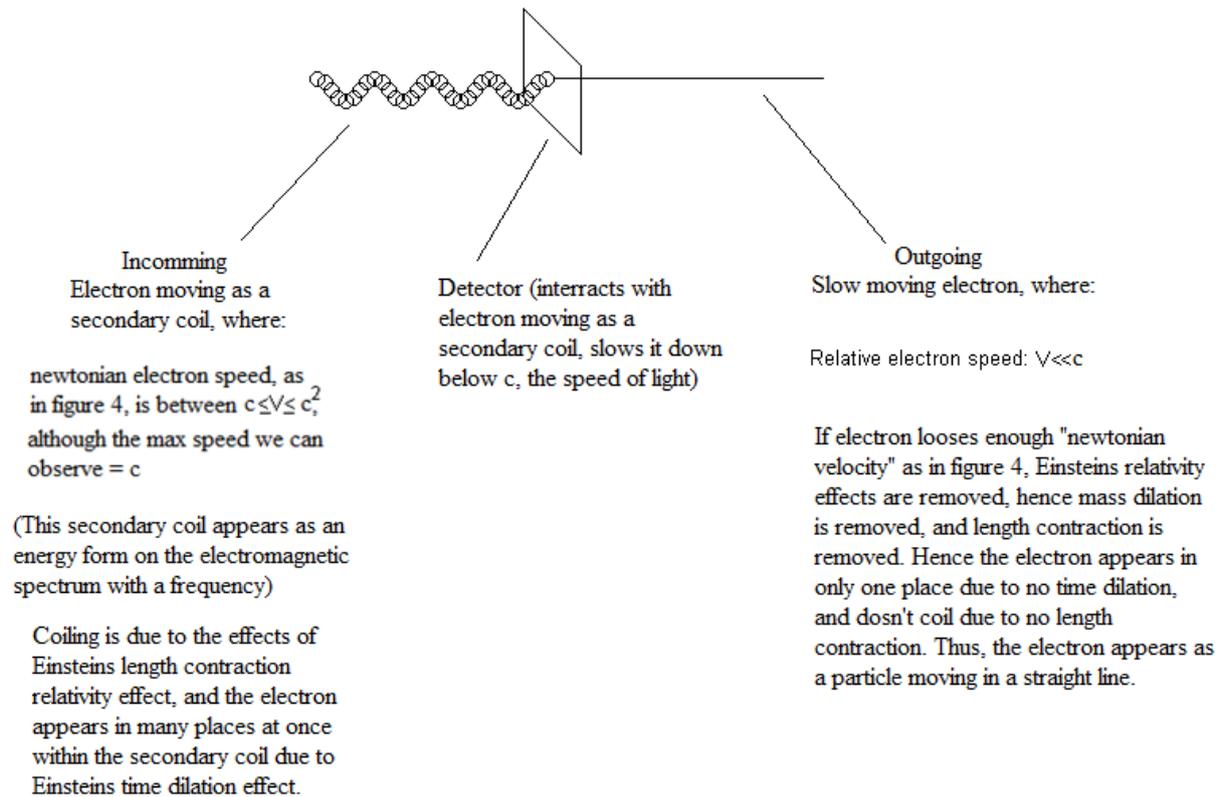


Figure 11: Fast moving electrons exhibit ghost particle behavior, hence exist in more than one place at a time due to Einsteins time dilation relativity effect and move as coiled coils or secondary coils due to Einsteins length contraction relativity effect. Therefore, a fast moving electron can pass through more than one slit at a time in the double slit experiment, because it exists in more than one place at a time, and can interfere with itself, producing the kind of interference pattern expected for waves. On the other hand, a slow moving electron, not experiencing Einsteins relativity effects, experiences no length contraction or time dilation, hence moves in a straight line in only one location at a time, thus can only pass through one slit in the double slit experiment, and cannot interfere with itself, producing a pattern expected for particles.

Note: for the interference pattern expected for waves in the double slit experiment, the electron must pass through both slits at the same time and interfere with itself, which probably happens about 50% of the time. If a single detector is present on only one of the two slits, this is enough to slow the Newtonian velocity down, removing Einsteins time dilation and length contraction effects, resulting in the interference pattern expected for particles, as coiling is removed and the electron now only exists in one place at a time.

Note: Also, some people may perform this experiment with polarized filters on the slits, in that the light coming out of one slit has vertical polarization, while the light coming out of the other slit has horizontal polarization. Such an experimental setup can prevent the photons from either slit from interfering with each other, because they have different planes of polarization so an interference pattern may not be observed. The bottom line is: photon flux

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