
James T Struck
Proof and Disproof of Yang Mills Theory and the Mass Gap With Reference to

Heisenberg and Schrodinger

And

Proofs and Disproof of Yang Mills Gap from 2015-2018

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1(Dinosaurs Trees Religion and Galaxies, A French American Museum of Chicago, NASA)

Abstract:

Quantum waves with mass disprove Yang Mills Theory and the mass Gap. Yang Mills Equations do not predict anything; equations are invented constructions with notation number and algebraic symbols displaying relationships between numbers and symbols. Heisenberg’s Uncertainty Principle shows the position and momentum of a particle to be uncertain. Due to Quantum uncertainty, we can disprove Yang Mills as mass of particles are uncertain too. Schrodinger's Cat Theory also supports an uncertain view of mass. Mass is uncertain as the observation of a particle changes the activity of the mass.

Both waves and particles can be measured as with or without mass. Although Yang Mills Theory argued for massless waves, different measurement devices would measure a mass sometimes in the waves. Quantum mass Relativity Theory that I invented shows that mass is relative to reference frames and relative to measuring devices. There is support for the non-abelian group that results are not the same one order versus another order. Particles can have mass or no mass; waves can have mass
or no mass. The results are not the same one order versus another order supporting a non-abelian group. Dr. Robert Mills and Dr. Cheng Ning Yang were recognized for their work on non-conservation of parity. As we find support that particles can have mass or not and waves can have mass or not; we find some support for non-conservation of parity.

**Keywords:** Yang Mills Theory, Mass gap, Quantum Mass Relativity Theory, QMRT, non-abelian group

1. **INTRODUCTION**

We could use different measuring devices to see mass in waves and massless particles. As different measurement devices could see mass in waves, we have support for Quantum Mass Relativity Theory QMRT that mass measurements can be seen as relative to measuring devices and where the measurement is taken such as in a gravity less environment. A mass measurement in a gravity less environment would change mass as equations governing mass include \( W=mg \). Where \( g \) is 0, both \( w \) and \( m \) can go to zero as well.

**II. Discussion**

Heisenberg's Uncertainty Principle shows the position and momentum of a particle to be uncertain. Due to Quantum uncertainty, we can disprove Yang Mills as mass of particles are uncertain too. \( P \) signifies momentum. \( P=mv \).

\( P=mv \) so mass would be uncertain as well. As momentum would be uncertain, mass would be uncertain too.
Schrodinger’s Cat Theory also supports an uncertain view of mass. Mass is uncertain as the observation of a particle changes the activity of the mass. Is the cat dead or alive would change based on quantum variation. Similar mass is open to quantum variation. I can invent a new imaginary particle without mass. We have already virtual particles, theoretical particles, massless force carriers, and massless particles. We do not need to accept Yang and Mills massive particles.

Using some measuring devices, particles would be measured as having mass. The name of a particle can always be said to have a mass, so all particles can be seen as having some mass link. Using some measuring devices, particles would be measured as not having mass. Obviously when we measure the mass of a virtual particle with any measuring device, we are not going to get a mass measurement. Mass of waves and particles is relative to measuring devices and reference frames.

On the other hand, Cheng Ning Yang and Robert Mills can invent equations, and their invented equations can be seen as proof of the Yang Mills theory. Yang and Mills also have the right to invent a mass gap and their equations, so proof of Yang Mills Theory can be based on the author’s right to invent a discovery or invention.

III. Conclusion

Mass of waves and particles is relative to measuring devices and frames of reference. Around gravity less environments, there is no M or W. W=mg if g is 0 then w and mg are 0 too. Particles can be massless. Waves can have mass even in the quantum. Use a different measuring device and a wave would have a mass. Proof of Yang Mills can be done by seeing their equations as constructs or inventions which they can invent.
Dr. Albert Einstein, of Switzerland, Germany and the United States, argued space time is relative in special relativity and gravity is relative in General Relativity in Annalen Der Physik articles. QMRT or Quantum Mass Relativity Theory presents a theory on mass similar to Albert Einstein’s Theory. [1] Mass is relative to reference frames and measuring devices, so Yang Mills Theory is disproved somewhat as we do not need to have absolute massive particles or absolute massless waves. We do not have evidence for any absolute mass gap.

IV. ACKNOWLEDGEMENTS

Thank you to Jane Frances Back Struck for helping me have some confidence in myself by showing me the farmhouse where my grandmother Catherine Anne Schwind Back buried for having a coma lived. Still more recently the farm house and greenhouse was knocked down so I still want to thank my mother for helping be confident in my ability to get things done when I dedicate myself to them.

References

[1] A Number of Albert Einstein’s relativity articles were published in Annalen Der Physik of Germany in 1905.
Abstract

Yang Mills Mass Gap Disproved Through Applications of Discoveries of Researchers Like James T. Struck BA, BS, AA, and MLIS. The disproof idea of “have the conjectures considered this new concept?” is much like a disproof of a conjecture based on but has this new idea has been addressed?” I use this type of disproof "But has this been considered" to show that proof theory is not an easy issue. Ideas could be disproved by saying "But this has not been addressed" which can be controversial! I show case Studies of Growth, Virtual Particle, Uncertainty Principle, Acceleration, Contraction, De Broglie’s Wave Particle Duality, Light Bending, Different Energies and Gamma Ray Bursts. We show in 2018 that there really should be no mass gap as vacuums and voids have energy and how we can imagine Yang Mills theorem exists within any space therefore being a proof of Yang Mills existence. A number of physics discoveries from researchers like Louis DE Broglie, Schrodinger, Werner Heisenberg, Edwin Hubble are similarly used to question the mass gap but still showing that Yang Mills can be imagined to exist in space. Mass gaps can occur sometimes but do not have to occur for all types of mass. Mass less particles can exist. Virtual particles, imaginary particles, theoretical particles, temporary particles, photons, space without mass, can be argued to exist without mass. By the way the whole concept of mass can be objected to. We do not need to consider mass or resistance to movement with regard to the Universe. We
can see a Universe in which the mass issue never is raised. In the new particle, we see it does not matter if it has mass, but rather that we see a particle disputing the entire work of Chen Ning Yang and Robert Mills as mass does not need to be discussed with particles at all!

*Keywords* - Growth, Virtual Particle, Uncertainty Principle, Acceleration, Contraction, De Broglie’s Wave Particle Duality, Light Bending, Different Energies and Gamma Ray Bursts

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I. **Introduction**

Yang Mills Mass Gap Disproved Through Applications of Discoveries of Researchers Like James T. Struck BA, BS, AA, and MLIS. The disproof idea of “have the conjectures considered this new concept?” Case Studies of Growth, Virtual Particle, Uncertainty Principle, Acceleration, Contraction, De Broglie’s Wave Particle Duality, Light Bending, Different Energies and Gamma Ray Bursts. We show in 2018 that there really should be no mass gap as vacuums and voids have energy and how we can imagine Yang Mills theorem exists within any space therefore being a proof of Yang Mills existence. A number of physics discoveries from researchers like DeBroglie, Schrodinger, Heisenberg, Hubble are similarly used to question the mass gap but still showing that Yang Mills can be imagined to exist in space.

II. **Discussion**

Problem statement from Clay Foundation

“The laws of quantum physics stand to the world of elementary particles in the way that
Newton’s laws of classical mechanics stand to the macroscopic world. Almost half a century ago, Yang and Mills introduced a remarkable new framework to describe elementary particles using structures that also occur in geometry. Quantum Yang-Mills theory is now the foundation of most of elementary particle theory, and its predictions have been tested at many experimental laboratories, but its mathematical foundation is still unclear. The successful use of Yang-Mills theory to describe the strong interactions of elementary particles depends on a subtle quantum mechanical property called the "mass gap": the quantum particles have positive masses, even though the classical waves travel at the speed of light. This property has been discovered by physicists from experiment and confirmed by computer simulations, but it still has not been understood from a theoretical point of view. Progress in establishing the existence of the Yang-Mills theory and a mass gap will require the introduction of fundamental new ideas both in physics and in mathematics.” [1] The problem in question then is “The successful use of Yang-Mills theory to describe the strong interactions of elementary particles depends on a subtle quantum mechanical property called the "mass gap": the quantum particles have positive masses, even though the classical waves travel at the speed of light.” Proof- The problem statement is a type of proof. We observe positive masses in particles, even though classical waves travel at the speed of light. So for many massive particles, we observe waves at the speed of light and massive particles. Yang Mills can be observed in much of the Universe. Sometimes we observe Yang Mills being followed Disproof- Mills is deceased so we cannot talk to him about what exactly he meant by his work. Sadly the death of Robert Mills means that we cannot really know precisely what the two scientists were trying to say. Chen Ning Yang is still a professor in China.
Yang probably knows that a number of quantum particles do not have positive masses. Virtual particles have no mass. Photons are seen as massless. Theoretical particles are massless. Massless particles are massless. We do not have to explain a mass gap then. We can accept that there are massless particles of a number of types in theory and in reality. Sometimes we do not observe Yang Mills being followed. We can invent a universe with massless particles and without waves travelling at the speed of light. Waves do not have to travel at the speed of light. There do not need to be any waves from particles. Yang Mills theory can then be proved and disproved at the same time.

James T. Struck's physics discoveries include Beyond Universe, Between Universe, Quasar Zoo, Changing Shape Contracting Universe Theory, Chemical Breakdown Buildup Theory of Universe, Gas Giants, Kuiper Belt, Oort Cloud first in Solar System Development Theory, ExoplanetDoublestar nomenclature as hard to tell when planet and when star, Collected Particle Force, Struck Force Table, Astronomical Periodical Table, Element Name Table of Elements, More than 4 basic forces, Reverse of Fundamental Laws also True, Reverse of Laws of Thermodynamics also True, Inventor of Chemical Telescope and Biological Telescope, and Geometric Spectroscopy any shape giving off unique spectra, 20,000 new chemical elements, changing, disappearing, oscillating numbers, conditions language where equations work and do not work, Infinite number of new elements based on one more proton, combination objects being like one object and another. James T. Struck's "Infinite New Chemical Elements" patent applications showed that through proton addition or addition of one proton to each new chemical element an infinite number of new chemical elements are possible; he also showed in his transmutation of elements application that transmutation
can be achieved. Others can still invent new elements using other methods besides proton addition such as neutron or characteristic variation. Astronomical Periodical Table, Geographical Periodical Table, Manmade Periodic Table, zoosotope different neutrons and different element, Chemical Religious Analysis, Neutroprotonium, Varicombarium, chemicals as living, Chemical Breakdown and Buildup Theory of Cosmology, Plasma Powered Sun, Plutonium with 94 neutrons, cold fusion involving combination of neutrons, 4 new minerals Backite, Struckite, Strakalaitisite and All Element Mineral are some other chemical discoveries by him. "Changing Shape Chemical Interaction Universe Cosmology" gives an alternative to the Big Bang presenting the appearance of contraction, expansion and chemical interactions as more significant than initial interaction. His work on the expansion of the Universe creating a theoretical radiation, his work on the CMBR as arguably a cold temperature measurement of the Universe rather than a Big Bang relic, his work on Kuiper Belt, Oort Cloud, Gas Giants first in solar system development represent significant alternatives to current theories. His invention of 20,000 new chemical elements shows how proton atomic theory can be used to create a large number of new elements related to chemical astronomy and spectroscopy. His 4 Biological Telescope, Chemical Telescope, Beyond Universe, Between Universe, Struck Force Table placing forces against time developed, Astronomical Periodical Table, Man Made Element Periodic Table, Geographic Periodic Table and Element Name Table of Elements showing where elements came from are significant discoveries relevant to Universe development.
How James T. Struck’s New Discoveries and Circumstances Can Be seen as Disproof of Yang Mills Yang Mills focus on the mass of particles and how their associated waves can be massless, but a disproof can amount to questions if Yang Mills ideas of particles with mass and waves without mass have been tested in all circumstances, energies, speeds, pressures, temperatures, in the area beyond the Universe, time before the Universe, Oort Cloud, Kuiper Belt, quasars, with new chemical elements with more protons, in Collected Particle Force, Force that increases with distance, growth force, spiritual force, decay force, aging force, time force, and with hydrogen bonds or covalent bonds, in 20,000 new chemical elements, in zoosotropes elements with different number of neutrons and different elements thereby. A disproof then can amount to questions of a number of circumstances in which massless waves and mass particles have not been shown.

1. As Yang Mills theories of massive particles and massless waves have not been shown in all the above discoveries and in many energies, locations, temperatures, pressures, Yang Mills mass particles can be seen as disproved.

2. Case study of growth. As grass grows, there is mass to the particles and some mass to the waves.

3. Gamma Ray Burster Disproof. If we take a gamma ray burster producing a large amount of energy both the particle and the wave have some energy and mass as we look at both the gamma ray burster and the gamma rays.

4. Contracting Universe Disproof. We see a number of galaxies like M31 approaching us. We know that they are giving off light. The light from massive particles is not massless. The light is blue so we can say that it is measurable or with some mass.
5. Accelerating Universe Disproof. Objects like quasars at distances are receding at considerable red shifts. The considerable z’s or high red shifts are measures of the ability to see some mass in a wave or a mass in light and the associated particle as well. Quasars have mass and their red shifted light also has mass.

6. Gravitational Bending Effect disproof. Look at a gravitational bending image. The object at distance is bent in multiple images. Therefore the light is not massless and the particle initially has some mass too. Both object and bent light have appearance of some mass.

7. Virtual particles have short time frames and therefore almost massless. We do not need to posit a mass for a virtual particle as it is there and not there as Schrodinger’s Cat discussion was discussing.

8. To maintain the Schrodinger’s cat image and wave particle duality theory, we need to maintain an idea of wave as there and particle as there. Therefore the particle has both mass and wave features as does the wave. The Yang Mills simple image of massive object and massless wave is corrected by theories of waves from Louis Debroglie of France and others. There is no massive object and massless wave, but rather duality of mass and wave characters. Yang Mills then is disproved by the Nobel Prizes given to the work of Louis Debroglie in 1926 roughly in which wave particle duality is recognized. Yang Mills is disconfirmed or disproved by ideas of wave particle duality. I can see a virtual particle here which has no mass or only wave characters and a wave which has wave and particle characters. We have held for time concepts of duality not massive object and massless wave. Both wave and object are interacting together fundamental to modern physics. Both the object and the wave can be seen as massive and massless
to maintain wave particle duality ideas. Yang Mills imposes too much of a classical massive object massless wave views on physics. Duality perspectives and astronomical observations present perspectives which do not support Yang Mills object particle and wave differences; both wave and particle share massive and massless characteristics.

9. Case study of different energies. If we smash particles together in any accelerator, we will actually find a mass to a wave and a mass to a particle in order to make a measurement of either.

10. Heisenberg’s Uncertainty Principle or verifiable idea associated disproves mass gap. There will always be some uncertainty in the measurement of a mass of a particle and the measurement of a mass of a wave. Neither can be said to be massless or massive. Both have some genuine degree of uncertainty.

Proofs and Disproofs in 2016 Yang Mills focuses on massive particles and massless waves which can be proven by the arguments of faith belief in the phenomena, linguistics that the language can be said, and grammar that a grammatical statement about massive particles and massless waves is made and can be verified as grammatical. We can prove that one can see us with apparent mass, but with apparent massless waves associated with us. Earth has mass and an apparently massless wave. The Sun has mass and some of its waves would appear to be massless. The Universe would be massive and have the appearance of having massless waves. The Galaxy has much mass and waves are measurable from it, but not just one emission would be given off so some of them could be massless. We can therefore by faith, language, linguistics, grammar and observations of astronomical objects argue massive objects with no apparent massed waves. I therefore can both prove and disprove the Yang Mills
gap. Sometimes virtual particles would be emitted with waves and sometimes no waves with mass would be emitted as there would be virtual particles from the discussion of the Yang Mills gap. Therefore there would also be a sometimes proof and sometimes disproof in reality where some particles have massive waves and some particles have massless waves and sometimes mass and massless at the same time

**Yang Mills Disproved 2017**

Louis DeBroglie of France won the Nobel Prize in Physics in about 1927 for his work on waves and particles. He argued that particles do have waves. Equations like \( E=\hbar v \) (energy = the frequency times Planck's constant) \( c=\lambda V \) (light speed = wavelength times the frequency of a wave) All rely on the idea that there is a wave component of particles. Waves do not have to be massless is part of what they were implying from the scientists who were working on wave particle duality- DeBroglie, Schrödinger, Bohr, Einstein, the antimatter scientist Paul Dirac etc. Those 2 equations are fundamental to classical and quantum physics and they argue and point to waves have some mass. 2

Yang Mills argument that we have mas-less waves is wrong, because the famous equations in physics argue that there is some frequency, wavelength and mass to a wave. Our Earth revolves and rotates and to be measurable the waves our Earth gives off must have some mass. Similarly for Yang Mills discussed particles. We can have both massive particles and massive waves and mas-less particles and mas-less waves as we can observe these in the Universe.

**Yang Mills Disproved 2018**

Vacuums do not have to have 0 energy, as quantum fluctuations are occurring so there does not need to be a mass gap between vacuums and the lowest energy states.
There are many, many large voids in space; they have energy and there does not need to be a difference between vacuums, voids and least massive energy states.

Yang Mills Proved

One can place this theorem in any space thus proving the conjecture

“Yang–Mills Existence and Mass Gap. Prove that for any compact simple gauge group $G$, a non-trivial quantum Yang–Mills theory exists on $\mathbb{R}^4$ and has a mass gap $\Delta > 0$.”

One can imagine this theorem exists within any space therefore being a proof of Yang Mills existence. There are many types of masses some can have gaps in mass, but not all types of particles need to show mass gaps. See how there are many types of fundamental elementary particles; some can have positive masses and travel at the speed of light but they all do not need to behave as though positive masses travelling at light speed. “In terms of number of particles, some estimates imply that nearly all the matter, excluding dark matter, occurs in neutrinos, and that roughly $10^{86}$ elementary particles of matter exist in the visible universe, mostly neutrinos.\[14\] Other estimates imply that roughly $10^{97}$ elementary particles exist in the visible universe (not including dark matter), mostly photons and other massless force carriers.\[14\] [2]

As there are massless force carriers we have some type of proof as there are $10^{86-97}$ other particles they do not need to be massless!

III. Conclusion

The idea of the Heisenberg Uncertainty Principle too is a type of disproof. There is uncertainty in our measurements of waves and particles masses. Three disproof then 1. Uncertainty and 2. The observation of massive waves sometimes and 3. The
observation of mas-less particles and massive waves sometimes. Schrodinger's cat is another type of disproof. Our acts of observation change the objects we observe. So Schrodinger's Cat ideas also provide some disproof of Yang Mills ideas. Vacuums do not exist as there is energy in vacuums, so therefore we can question a mass gap and Conjectures like Yang Mills really can be placed within space or shown to exist in different spaces.

Mass never needs to be considered when discussing a particle or all the particles. Particles can be observed without ever talking about what the mass is. Particles can be observed and studied without considering if there is a mass or resistance to motion. We have imaginary particles, virtual particles, theoretical particles, massless particles, photons, and a number of particles without any mass that we observe in space and our Universe. We do not need to worship two scientists Cheng Ning Yang and Robert Mills theory about mass, when we actually do not observe all particles as having mass. Consider my imaginary particle here invented. Invented Imaginary Particle has no mass, and we do not need to conform to Yang Mills Theory and deny our human ability to imagine a particle without mass! We do not need to consider the mass gap when many particles have no Mass!

**Acknowledgements**

I would like to thank the scientist Yang and the scientist Mill for their conjecture and my mom Jane Frances Back Struck for helping show that mass can be produced even when the mass is not there as masses grow for lesser mass therefore questioning the mass gap.

**References**
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