From the Selected Works of James T Struck

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James T Struck
Proving and Disproving Yang Mills Existence and the Mass Gap

By

James T. Struck BA, BS, AA, MLIS

Abstract

I can show a mass gap equal to 0 by writing $\Delta = 0$. I can show a negative mass gap $\Delta < 0$. This is proof by mathematical statement; we can make statements contrary to the mass gap hypothesis. I show that we can prove the statement $\Delta > 0$ a positive mass gap. I show by ability to mathematically state or write, we can prove or write the statement $\Delta > 0$. As I can show two disproof of the mass gap and also prove the mass gap by writing or statement, I can both disprove and prove the Yang Mills Mass Gap. As Cheng Ning Yang and Dr. Lee were awarded the Nobel Prize in 1957 for their work on disproving conservation of parity, we can allow disproof’s as that is what Yang was awarded his Nobel Prize for!

My Proof and Disproof of Yang Mills Theory of the mass gap relies on the idea of mathematics as the study of forms and quantities expressed as numbers and symbols. (Mathematics definition in Webster's Dictionary, 1995) My Proof shows we can say mass gap > 0 proving the Yang Mills mass gap. My disproof’s show we can say mass gap = 0 disproving the mass gap, Mass gap < 0 disproving, mass gap no relation with 0 disproving, mass gap changes, mass gap fluctuates, mass gap situational, environmental, relative, not absolute as mass alters disproving the Yang Mills Mass gap
Conjecture as presented by the Clay Foundation. Mass gap concepts can be proven and disproved as mass is not a constant value, but relative to other factors.

Cheng Nang Ying and Tsung-Dao Lee disproving the conservation of parity for their Nobel Prize in Physics in 1957 supports the idea that conjectures can be disproved. The Universe does not have constant mass, so even the alteration of constant mass disproves the conjecture as Mass gap does not have the same value $> 0$ and proves the conjecture as mass gap is sometimes greater than 0. Conjectures like Yang Mills gap are easy to disprove as antimatter presents the idea of a negative mass and mass less objects present the idea of mass $= 0$. Yang Mills is also easy to prove as we do have objects with mass $> 0$. Proof and disproof of Yang Mills conjecture on the Mass gap is shown here.

**Introduction of problem**

**Yang–Mills Existence and Mass Gap.** Prove that for any compact simple gauge Group G, a non-trivial quantum Yang–Mills theory exists on $R^4$ and has a mass gap $\Delta > 0$. Existence includes establishing axiomatic properties at least as strong as Those cited in [45, 35] (p. 6, “QUANTUM YANG–MILLS THEORY” ARTHUR JAFFE AND EDWARD WITTEN, from the Clay Math Foundation website accessed on 11/10/2018)

**Discussion of problem**
The three famous formulas regarding mass are

Weight = Mass times gravity times height or

\[ W = m \times g \times h \]

\[ K = \frac{1}{2}mv^2 \]

\[ E = mc^2 \]

Take mass at 0, the weight is 0. Take gravity at 0 the mass is also 0 or variable positive or negative.

Take mass at 0 for \( K = \frac{1}{2}mv^2 \) and the Kinetic energy is at 0. We can have situations where the mass of an imaginary mass is 0. We do not need to have a positive mass.

Take \( E = mc^2 \), mass is at 0 and energy is at 0. There are situations like this in the real world, mass at 0 energy at 0.

That is in a study of three famous mass formulas, mass does not need to be positive, mass can be at 0 or mass can be negative.

From the Nobel Prize site accessed 11/10/2018 “The Nobel Prize in Physics 1957 was awarded jointly to Chen Ning Yang and Tsung-Dao (T.D.) Lee "for their penetrating investigation of the so-called parity laws which has led to important discoveries regarding the elementary particles."

From sources like the *Time Almanac* from 2003, Cheng Ning Yang and Tsung Dao Lee were described as disproving conservation of parity. So disproving hypothesis is some of how Chen Ning Yang achieved notoriety. Mass is how much matter something has or inertia something has. See google on mass-

“**Mass** is both a property of a physical body and a measure of its resistance to acceleration (a change in its state of motion) when a net force is applied. ... An object on the Moon would weigh less than it does on Earth because of the lower gravity, but it would still have the same mass.” Cited from  
(https://www.google.com/search?ei=CDfnW6bYFMTR5gLs8Y3gDw&q=mass+defined&oq=mass+defined accessed 11/10/2018)

**Disproof**

I invented Imaginary Mass to question the entire concept of the mass gap. We can imagine a mass gap that is at 0. Because we have the ability to imagine a mass gap that is at 0, we can easily disprove the Yang Mills Mass Gap. Just as Yang and Lee disproved the concept of conservation of parity, I can easily imagine a mass gap that is at 0 easily disproving the mass gap. $\Delta=0$ can be shown easily to disprove the mass gap. An imaginary mass has no mass, so mass gap is at 0. I can easily write, state, conjecture, hypothesize, prove $\Delta=0$ just as easily as Yang Mills or Clay Foundation can write $\Delta > 0$.

The United States went through this experience previously with the missile gap. Richard Milhous Nixon and John F. Kennedy debated the missile gap, but after research there
was no missile gap. There does not need to be a mass gap as we have masses that =0 and masses that are less than 0 in the case of antimatter and we certainly have masses that change.

**Disproof #2**

I can by the way also imagine a mass gap that is negative that sucks in mass as we see in black holes, for example. As we can imagine \( \Delta < 0 \), we show that mathematically we do not need to have \( \Delta > 0 \). I can state \( \Delta < 0 \), so my ability to write that is a type of mathematical proof that \( \Delta < 0 \) or the mass gap can be less than 0.

**Proof**

By the way in any gauge group, we can also imagine a positive mass gap as supported by Clay Foundation’s view of Yang Mills. I can always imagine that there is a mass gap in space. Imaginary mass shows an ability to imagine always a positive mass gap. \( \Delta > 0 \) can be written so therefore we can also show that \( \Delta > 0 \) or mass gap can be positive. As I can state, write, prove, conjecture, hypothesize that \( \Delta > 0 \), I have proven a type of mass gap \( \Delta > 0 \).

**Conclusion**

What is mathematics? From Merriam Webster accessed online on 11/10/2018, mathematics *noun, plural in form but usually singular in construction*

math·e·mat·ics | \ˌmath-ˈma-tiks, ˌma-thə-\
Definition of *mathematics*

1: the science of numbers and their operations (see **OPERATION SENSE 5**), interrelations, combinations, generalizations, and abstractions and of space (see **SPACE ENTRY 1 SENSE 7**) configurations and their structure, measurement, transformations, and generalizations *Algebra, arithmetic, calculus, geometry, and trigonometry* are branches of *mathematics*.

2: a branch of, operation in, or use of mathematics

Since mathematics is the science of numbers and their operations, we can prove that

\[ \Delta > 0 \] proving the Yang Mills Mass gap

And since Mathematics is

“1: the science of numbers and their operations,” from Merriam Webster online just cited on 11/10/2018

we also have the ability to state

\[ \Delta > 0 \]

And

\[ \Delta = 0 \]

And
\[ \Delta < 0 \]

We can both prove and disprove the Yang Mills mass gap. Also we can say that the mass gap \( \Delta \) exists independently of 0.

In some cases too in which there is not a relationship between the gap of mass and any numbers. A mass can be envisioned or invented that is beyond numbers or measurement. Mass gap does not need to have a relationship with numbers. Mass gap can be imagined to be unrelated to numbers too! God is beyond all things for St. Anselm or that which nothing greater can thought, so mass gap can be beyond numbers too.

“The first ontological argument in the Western Christian tradition was proposed by Anselm of Canterbury in his 1078 work Proslogion. Anselm defined God as "that than which nothing greater can be thought", and argued that this being must exist in the mind, even in the mind of the person who denies the existence of God." From Google accessed 11/10/2018.

\[ \Delta \] does not need to be numerically expressible it can be beyond numbers too or at least imagined be beyond numbers.

There is no mass in many objects, therefore a mass gap can =0.
There is mass in many objects, so mass gap can be =0.

There is negative mass in many antimatter objects or objects near black holes, so mass gap can be less than 0.

My mass is altering always. As my mass or many masses are altering always, my mass gap or mass gap does not need to be constant disproving the mass gap>0.

Acknowledgements

Thank you to my mother Jane Frances Back Struck who died 7/15/2017 who helped to me express myself and think for myself by saying words like “Princess, leave me alone, birds of the air, heaven, and Earth.”

Three Articles Illustrating Proof and Disproof of Yang Mills Theory

By

James T. Struck BA, BS, AA, MLIS

Article 1

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

Heisenberg and Schrodinger

James T. Struck BA, BS, AA, MLIS

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
were 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. She spoke words like “Heaven”, “Princess “Birds of the air” “Earth” and “moon” and Cook County beat her to death with toxic medications. Cook County, Northbrook, Highland Park Hospital recently were involved in murdering my mother from 2005-2017 and dying on 7/15/2017. Cook County Guardian stole $140,000 from mom and I. Cook County beat mom and I because I asked for reimbursement of dental, food, taxi, car rental bills to be reimbursed. Northbrook and a nursing home beat mom with toxic medications from 2007-2017 making her not able to talk, walk or move. They stole jewelry, fans, birthday bears, 6 cell phones. Highland Park said she was “brain dead” with normal vitals. Cook County supported her murder by acting like I did not file a cause of action when complaining about Cook County, Northbrook and Highland Park Hospital killing mom Jane Frances Back Struck.

References

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

Article 2

Mass Variation and Variability so Yang Mills Disproven and Proven

By

James T. Struck BA, BS, AA, MLIS

Introduction
Mass varies and can change value. Get on a scale and one day my weight was 160 and the next day 158. Every day someone’s weight and mass can change. Since our masses and weights can change, we can question the entire idea of mass gap as mass does not have to have one value and can vary. We can even create and destroy a mass. We create a virtual particle and then make the virtual particle go out of existence. As we can change the value of a mass, changing mass questions the theory of mass as having 0 or some value as there is mass variation.

Abstract

\[ F = ma \]

\[ K = \frac{1}{2}mv^2 \]

\[ W = mg \] [1]

Three fundamental equations of mass are above. These equations show that mass can have changing values based on the value of \( g \) or the value of \( v \) for velocity or \( a \) for acceleration. With mass variation, we can see that we do not have to have some kind of absolute value for a mass as the mass gap seems to suggest. We can also prove Yang Mills mass gap as masses can constantly alter based on relative or associated environmental or situational or real world factors. A constantly changing mass proves the mass gap too as mass has no absolute value; mass can change showing a type of mass gap that mass changes.

Discussion

Dr. Richard Mills and Dr. Cheng Ning Yang were scientists who won the Nobel Prize related to their work on parity violations that we do not have to have symmetry.

Disproof
Since mass can constantly change and have no value or be created or altered to have a different value, we can see the variation as disproof of the Yang Mills Conjecture as there is no absolute mass gap. Masses change and alter, so we do not have to explain some kind of massless particle and massive wave. Masses actually are changing and can be altered and vary.

Proof
A proof can be seen too as masses always change. A gap between one value and another value can be shown as masses can be seen as altering. Mass gap can be shown in the alteration of masses of particles.

Case Study
F=ma
K=1/2mv^2
W=mg

Place value of a, v and g at 0 then the value of mass if F, K and W are at 0 goes to zero or 0
Place value of a, v and g= 1 then the value of mass if F, K, W is 1 would go to 1
Mass has its value based on the value of other variables in the environment and situation rather than an absolute value.

Conclusion
Mass gap can be proven by showing variation in values of masses and disproven by showing that there is no absolute mass value. As masses value vary, we can use mass variation and mass variability as both a disproof and proof of mass gap. Mass value
varies that means no absolute mass gap. Mass value varies that means the differences in value can be proof of a mass gap.

We have proven and disproven the mass gap through simple use of mass value and mass variation and variability based on situation and related values.

Acknowledgements

Cook County Guardian practices slavery in violation of the 13th amendment and civil conspiracy laws over those who are different or disabled in violation of the ADA. Cook County and Illinois use what are really nonsensical words like bipolar meaning happy and creative or schizophrenia meaning split, different, thinking or wanting to be left alone to murder people with pharmaceuticals that cause death. People like mom Jane Frances Back Struck come to Cook County, Cook County enslaves people with their guardianship system and then Cook County Judges Maureen E. Connors, Nathan Goldensen, and Dan Belko murder people like my mom with toxic medications that no one needs. Cook County Guardian Robert Harris imagines that illness like bipolar or schizophrenia are some kind of horrible things or diseases or illnesses, when the words bipolar just means happy or creative and schizophrenia just means wants to be left alone, thinking, meditating, thoughtful, different, emotional. Still they use the words as an excuse to murder people with toxic medications. Similarly words like schizophrenia just mean split or different or thinking or wanting to be left alone. Everybody has a split mind split by the corpus callosum, but in Cook County the terminology of illness is used to enslave and murder with toxic medications thousands of people who are just different in some small way. Cook County Guardian use toxic medications to kill people who are thinking, different, want to be left alone, emotional, lacking interest, sad, are thoughtful
are contemplative or meditating. Cook County uses the labels to steal money from different people and kill the people with toxic medications, so they can subsidize their Cook County. Mom helped me learn that even though Cook County, Northbrook and Highland Park Hospital murdered mom that she had a right to speak and say words like “Earth” “princess” “Birds of the Air” “moon” “Heaven” and be a different individual and person.

References

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**Article III**

**Proofs and Disproof of Yang Mills Gap from 2015-2018**

James T. Struck BA, BS, AA, MLIS

President Dinosaurs Trees Religion and Galaxies, President A French American Museum of Chicago, Researcher NASA, Assistant Midwest Benefits Group

Email: sealsrosesandstars@yahoo.com

----------------------------------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 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, and 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.

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 DE Broglie, 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

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, zoosotrope different
neutrons and different elements, 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 Periodic 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 Schrödinger’s Cat discussion was discussing.

8. To maintain the Schrödinger’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 DE Broglie 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 DE Broglie 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 Disproof’s 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 DE Broglie 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 \( E=\hbar \nu \)
energy = the frequency times Planck’s constant \( c=\lambda \nu \) 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 mass less is part of what they were implying from
the scientists who were working on wave particle duality- DE Broglie, Schrodinger,
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 1086 elementary particles of matter exist in the visible universe, mostly neutrinos.[14] Other estimates imply that roughly 1097 elementary particles exist in the visible universe (not including dark matter), mostly photons and other massless force carriers.[14] [1]

As there are massless force carriers we have some type of proof as there are 1086-97 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 mass-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.

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.

The Adler Planetarium back in the 1970’s used to have a device to measure how much one weighed on Mercury, Venus, Saturn, Uranus, Neptune Jupiter or Pluto. This exhibit got removed in the renovation in about 1998 when I was working there. Nevertheless, what I learned from the exhibit is that mass, weight are not absolute concepts. Mass is changeable, alterable, disappearing just as much as weight. Mass is not how much stuff there is, but something that is relative and does not have to exist. We can imagine an environment where there is no mass or stuff or weight in a location or particle. Mass does not need to exist at all. We can be massless and we can have mass. There are not absolutes in terms of mass just as much as Albert Einstein proved we do not have absolutes as far as space and time either.

References

https://en.wikipedia.org/wiki/Elementary_particle accessed on 4/14/2018