

Pseudoscience Cannot Be Dark Matter

A Short, Concise Rebuttal to Negative Mass, Dark Photons, and the General Bunkish Trend; Physics in Crisis Must be Guided to Safe Shores

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ABSTRACT

The failure of the “Dark” Universe to explain observed astrophysical phenomenon has created a vacuum for cosmology. In previous parts¹, the issue has been elucidated using Plasma Electromagnetic Cosmology. The case *for* “charged” Dark Matter and for Bose-Einstein Condensates actually supports PEMC postulates. However, a disturbing new trend has developed as theoreticians try to deal with the vacuum in cosmology created by Λ CDM constraints (failures): they are inventing pseudoscientific bunk. In this paper, certain hypotheses are rejected flatly with sound reasoning. Excessive mathematical chicanery cannot escape logical constraints proposed by these hypotheses; especially given the laws of thermodynamics and conservation of energy-mass.

Keywords: negative mass - hidden photons - pseudoscience - plasma - electromagnetism

¹ [8] & [11], respectively

Negative Mass is pseudoscience

J.S. Farnes has published what appears to be a radical (and brave) new hypothesis²,

*“Dark energy and dark matter constitute 95% of the observable Universe. Yet the physical nature of these two phenomena remains a mystery. Einstein suggested a long-forgotten solution: **gravitationally repulsive negative masses**, which drive cosmic expansion and cannot coalesce into light-emitting structures. However, contemporary cosmological results are derived upon the reasonable assumption that the Universe only contains positive masses. By reconsidering this assumption, I have constructed a toy model which suggests that both dark phenomena can be unified into a single negative mass fluid. The model is a modified Λ CDM cosmology, and indicates that continuously-created negative masses can resemble the cosmological constant and can flatten the rotation curves of galaxies. The model leads to a cyclic universe with a time-variable Hubble parameter, potentially providing compatibility with the current tension that is emerging in cosmological measurements. In the first three-dimensional N-body simulations of negative mass matter in the scientific literature, this exotic material naturally forms haloes [sic] around galaxies that extend to several galactic radii. These haloes are not cuspy. The proposed cosmological model is therefore able to predict the observed distribution of dark matter in galaxies from first principles. The model makes several testable predictions and seems to have the potential to be consistent with observational evidence from distant supernovae, the cosmic microwave background, and galaxy clusters. These **findings may imply that negative masses are a real and physical aspect of our Universe**, or alternatively may imply the existence of a superseding theory that in some limit can be modelled by effective negative masses. Both cases lead to the surprising conclusion that the compelling puzzle of the dark Universe may have been due to a simple sign error.” [emphasis added]*

The author’s responses to these will be taken in order:

1. False, until proven they exist, plasma fills 98% of the Observable Universe. This sort of “iron man” logic is ubiquitous and problematic in CDM literature and represents a form of hand-waving.
 - a. Dark Energy is predicated upon an outdated misunderstanding of doppler red-shift^{3 4}
 - b. Dark Matter has failed several times (see Table 2); additionally both may be considered a bit pseudoscientific on the basis of advocating for the existence of something that cannot be directly measured. DM has at least had many tests proposed, none of which have worked.
2. That plasma cosmology and high energy physics remains misunderstood or ignored by astrophysicists is certainly a mystery. However the existence of local matter halos around galaxies is no longer a mystery.^{5 6 7}
3. Sounds more like magnetically polarized solution for electro-gravitics, or perhaps electro-static repulsion. Attaching Einstein’s name to it does not lend it more credibility, despite his substantial contributions. Many of his proofs have not held up to the tests of time and have required improvements. That is beyond the scope of this paper, but the author suggests readers to review Crothers, Distinti, Dowdye, et al..⁸

² <https://www.ru.nl/astrophysics/news-agenda/news/news-ru/new-theory-explains-missing-dark-energy-dark/>

³ <https://arxiv.org/pdf/1805.03298.pdf>

⁴ https://www.halttonarp.com/articles/intrinsic_redshifts_in_quasars_and_galaxies.pdf

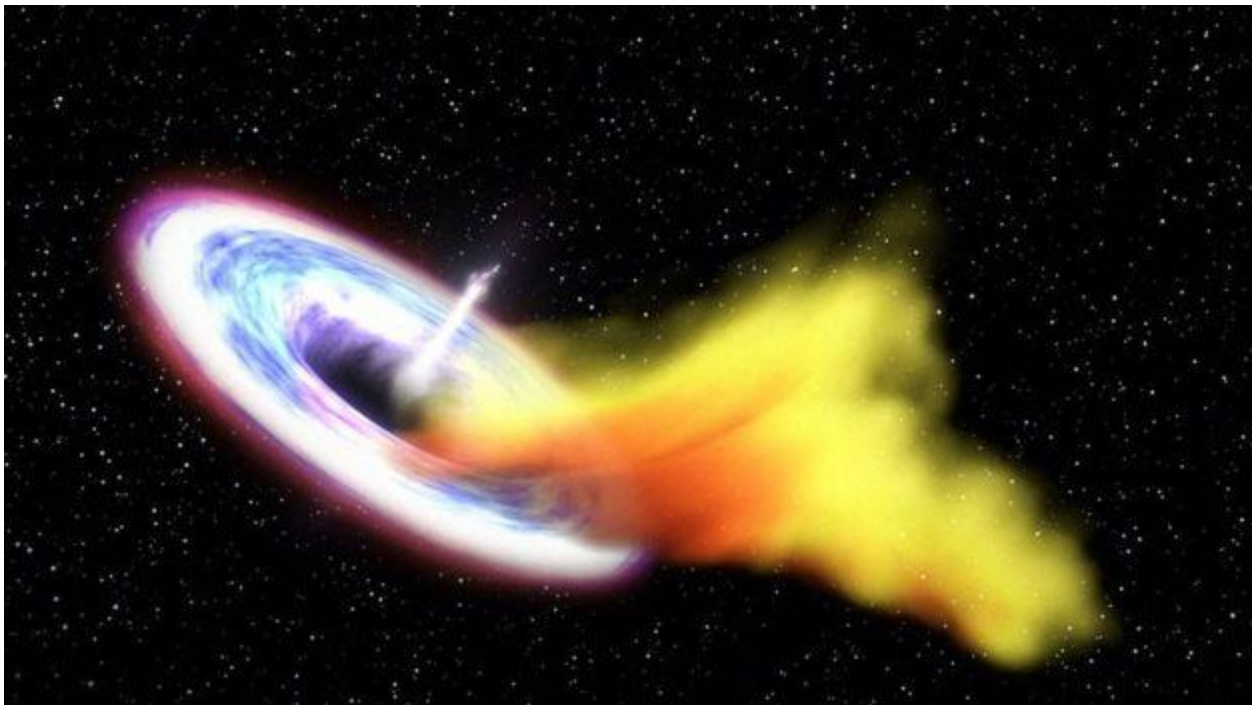
⁵ <https://www.aanda.org/articles/aa/abs/2018/04/aa32880-18/aa32880-18.html>

⁶ <https://arxiv.org/pdf/1811.07911.pdf>

⁷ <https://arxiv.org/pdf/1811.08799.pdf>

⁸ Or see [6] for a general summary of the above theories; not contained, however are Distinti’s new theories on “transvariance” which solves for length contraction using trig and Poincarian Relativity.

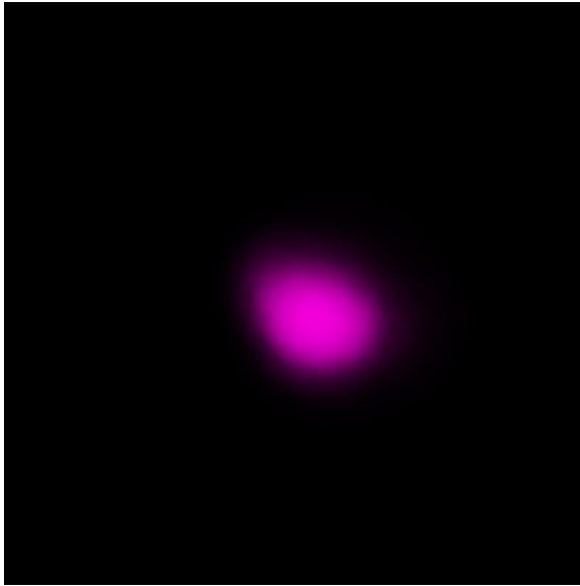
4. The author does not define “toy model,” “negative mass,” or “fluid,” leaving the reader to speculate on the nature of these items. Assuming standard English, the word toy sounds a bit flippant, but the word model is probably honest. However, models are not science, they are tools to aid science. Negative mass sounds like a bad result from a Physics 101 statics problem, and here fluid is assumed to mean a kind of phase state of matter. However, what phase of state of matter can be proposed?
 - a. Dark Matter is already pseudoscientific to an unacceptably high degree
 - b. Negative mass is then a completely unobservable version of this pseudoscientific matter
 - c. Now already phase states that are akin to normal matter are proposed for the pseudoscientific matter? The lady doth not protest enough!
5. Modified Λ CDM cosmology implies that the former did not work well enough. MOND, for example was tailored in order to test against reality to try and fix Newtonian mechanics. It failed spectacularly (see Table 2). The author sees little to no hope in turning the unicorn into a phoenix.
6. There is little to no surprise that a model that is custom fit to the data is able to make redundant predictions back about the data. If the weatherman feels it is cold outside, takes the thermometer and writes “cold” at the current temperature, it will read “cold” at the correct amount. Similarly if he writes “hot” when “hot”. Then it makes excellent “predictions.” However, if he writes “cold” when it is actually hot, or vice versa, and calls it a “modified cosmology,” it will naturally also be fitting to say that the “toy model” is ‘testable’ and simply if one compares it the write way then it is ‘accurate.’ This type of goal-post moving is precisely how the crisis in physics began.^{9 10}
 - a. On its surface, this isn’t much different than the “search for Black Holes which has led inexorably towards a “best curve fit” way of “finding” them. First hundreds of formulae and variables are produced. Radio signals are observed. Those are retrofitted to models. If one happens to find a match, then a black hole has been “discovered.” They even claim to have directly observed it. But upon closer examination, the radio signal image contains no black hole in the signal. Light is not trapped; therefore it is not a black hole.



J1354 CGI-image; credit: BBC

⁹ <https://www.edge.org/response-detail/23857>

¹⁰ <https://www.nature.com/articles/d41586-018-05374-9>



J1354 actual source (left); credit: Chandra & inverted (right)¹¹

7. The many issues of the Cosmic Background Radiation are covered by the physicist and spectrologist, Dr. Pierre-Marie Robitaille in many talks that he's given as well as several of his papers.¹² The key point being that we are reading oceanic signals from Earth with satellites still inside the Earth's magnetosphere, and most of the WMAP readings are clearly worthless due to introduced noise.¹³ So it is doubtful that Farnes will be able to best-curve fit anything reliably to these readings.
8. Asserting something pseudoscientific (at best) is true in the abstract and is almost certainly fallacious; it most definitely is intellectually dishonest. It is not only unwise, it's the kind of "I'm the next Einstein" hubris that pervades astrophysics as a field of wannabe rock stars. When ego supersedes the science, it is this author's opinion that those individuals should be called out. They are possibly lying, but they are definitely not doing the field of physics any favors in making grandiose assumptions and wild assertions. Delusions of grandeur should be limited to only one or two out-of-control TV "scientists" at a time.
9. That superseding theory will be PEMC which includes:
 - a. Magnetohydrodynamics (uses negative signs)
 - b. Quantum Electrodynamics (uses negative signs)
 - c. Plasma Physics (uses negative currents and ions as well as signs)
 - d. Electrokinetics (uses negative signs)^{14 15}
10. The only sign error that the author is aware of is that Franklin assigned charge incorrectly, as electrons are yang (and positive) and protons are yin (and negative); this is born out in health related topics such as the benefits of "negative" ions and the health issues confirmed by the author regarding solar wind proton density and pain correlation.¹⁶

¹¹ Note instead of claiming that no light escapes the black hole, they claim instead it "double burps"... as if there is a gastric process involved in stellar and interstellar physics. The inappropriate terminology issue is covered by the author in [6]

¹² http://vixra.org/author/pierre-marie_robitaille

¹³ <https://www.youtube.com/watch?v=i8ijbu3bSql>

¹⁴ http://blog.lege.net/content/Gravitator_1926.pdf

¹⁵ https://en.wikipedia.org/wiki/Biefeld%E2%80%93Brown_effect

¹⁶ [9]

Table 1 :: Proper Physics Chronology¹⁷

Electricity	Ben Franklin	1751
Gaussian Theory	Carl Gauss	1813
Electromagnetism Unification	Michael Faraday	1831
Maxwell's Equations	James Maxwell	1861-62
Quantized Hypothesis	Ludwig Boltzmann	1877
Photoelectric effect	Heinrich Hertz	1887
Electron Theory	JJ Thomson	1897
Quantum Theory	Max Planck	1900
Relativity theory	Henri Poincare	1900-1904
Mass-energy relation	Henri Poincare	1900
Gravity Waves	Henri Poincare	1905
Special Relativity	Albert Einstein	1905
Photoelectric Effect Explained	Albert Einstein	1905
Birkeland Currents	Kristian Birkeland	1908
Atomic Theory Proved	Ernest Rutherford	1911
Particle-Wave Theory of Atoms and Particles	Niels Bohr	1913
General Relativity	Albert Einstein	1915
Proton discovered	Ernest Rutherford	1919
Quantum Radiation Interaction	Paul Dirac	1920
Quantum Mechanics Codified	Born, Heisenberg, Pauli	1924
Bose-Einstein Condensate	Bose, Einstein	1924
Plasma Cosmology	Irving Langmuir	1927
Big Bang Cosmology	Georges Lemaitre	1927
Missing Matter ¹⁸	Edward Zwicky	1933
Magnetohydrodynamics	Hannes Alfven	1940
QEM/QED	Bethe to Feynman	1947-1960
Electroweak Theory	JC Ward	1959
Quarks	M Gell-Mann & G Zweig	1964
Black Hole Theory	John Wheeler	1967
Dark Matter	Rubin & Ford	1970
Electric Star Theory	Ralph Juergens ¹⁹	1972
QCD	Gross, Wilczek, & Politzer	1973
SUSY	Werner Nahm	1978
MOND	Mordehai Milgrom	1982-83
String Theory	Green & Schwarz	1984
Dark Energy	Friedman ²⁰ or Sivaram ²¹	1924 or 1986
M Theory	Edward Witten	1995
Intrinsic Redshift	Halton Arp ²²	1998
MACHOs	unclear	2002? ²³
WIMPs	unclear	2008? ²⁴

¹⁷ Tables 1 and 2 reproduced from [8]; all references in [8] included, as this paper is a follow-up. Table 1 modified for BEC

¹⁸ Not Dark Matter.

¹⁹ https://www.velikovsky.info/Ralph_Juergens

²⁰ <http://home.fnal.gov/~skent/early.html>

²¹ <https://arxiv.org/ftp/arxiv/papers/0809/0809.3364.pdf>

²² https://www.haltonarp.com/articles/intrinsic_redshifts_in_quasars_and_galaxies.pdf

²³ <http://www.astro.caltech.edu/~george/ay20/aaa-wimps-machos.pdf>

²⁴ <https://www.astro.umd.edu/~ssm/darkmatter/WIMPexperiments.html>

Table 2 :: Falsifications

SUSY	2012 ²⁵ - 2017 ²⁶
CDM	2012 ²⁷ , 2015 ²⁸ , 2016 ²⁹ - 2018 ^{30 31 32 33}
ΛCDM	2010 ³⁴ , 2014 ³⁵
WIMPs & MACHOs	2017 ³⁶
MOND	2018 ^{37 38 39}
Galaxy Rotation and DM	2017 ^{40 41}
Standard Redshift	2017 ^{42 43 44}
Galaxy Rotation and MOND	2018 ⁴⁵
Higgs-boson as non-standard Quark	2018 ⁴⁶
Dark Energy	2018 ⁴⁷
LDM	2018 ⁴⁸

Note - this table will likely increase in size and scope due to accelerating results from Gaia DR2 and MMS.

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- ²⁵ <http://backreaction.blogspot.com/2016/08/the-lhc-nightmare-scenario-has-come-true.html>
- ²⁶ <https://www.space.com/39001-dark-matter-doesnt-exist-study-suggests.html>
- ²⁷ <https://arxiv.org/abs/1204.2546>
- ²⁸ http://adsabs.harvard.edu/cgi-bin/bib_query?arXiv:1406.4860
- ²⁹ <http://adsabs.harvard.edu/abs/2016arXiv161003854K>
- ³⁰ <https://arxiv.org/pdf/1808.09823.pdf>
- ³¹ <https://academic.oup.com/mnras/article/476/3/3124/4875952>
- ³² <https://arxiv.org/pdf/1807.07113.pdf>
- ³³ <https://arxiv.org/pdf/1805.04817.pdf>
- ³⁴ <https://arxiv.org/abs/1011.0004>
- ³⁵ https://astro.uni-bonn.de/~pavel/kroupa_SciLogs.html
- ³⁶ <https://phys.org/news/2017-12-machos-dead-wimps-no-showsay-simps.html>
- ³⁷ <https://www.physicsforums.com/threads/falsifications-and-constraints-due-to-gw-measurements.929254/>
- ³⁸ <https://arxiv.org/pdf/1804.04167.pdf>
- ³⁹ <https://arxiv.org/ftp/arxiv/papers/1809/1809.09019.pdf>
- ⁴⁰ <https://arxiv.org/pdf/1805.10706.pdf>
- ⁴¹ <https://arxiv.org/pdf/1811.08843.pdf>
- ⁴² <https://arxiv.org/pdf/1805.03298.pdf>
- ⁴³ <https://arxiv.org/abs/1807.09409>
- ⁴⁴ <https://arxiv.org/pdf/1804.03888.pdf>
- ⁴⁵ <https://arxiv.org/pdf/1801.09304.pdf>
- ⁴⁶ <https://www.nature.com/articles/d41586-018-06130-9>
- ⁴⁷ <https://arxiv.org/pdf/1810.05027.pdf>
- ⁴⁸ <https://arxiv.org/pdf/1810.10543.pdf>

Dark Photons

Photons themselves are mere models for light. Light is not an actual particle. In “Physics Letters B, Volume 787, pp. 153, the XMASS collaborative team wrote⁴⁹,

*“Hidden photons and axion-like particles are candidates for cold dark matter if they were produced non-thermally in the early universe. We conducted a search for both of these bosons using 800 live-days of data from the XMASS detector with 327 kg of liquid xenon in the fiducial volume. **No significant signal was observed**, and thus we set constraints on the α'/α parameter related to kinetic mixing of hidden photons and the coupling constant g_{Ae} of axion-like particles in the mass range from 40 to 120 keV/c², resulting in $\alpha'/\alpha < 6 \times 10^{-26}$ and $g_{Ae} < 4 \times 10^{-13}$. These limits are the most stringent over this mass range derived from both direct and indirect searches to date...*

*“The existence of Dark Matter (DM) is inferred from many cosmological and astrophysical observations [1]. All indications for its existence so far were based on its gravitational interaction only, and the nature of DM beyond that is still shrouded in mystery. One of the theoretical realizations of DM is Weakly Interacting Massive Particles (WIMPs), which are expected to have masses of roughly 10 GeV/c² to a few TeV/c². Although many direct and indirect experiments are searching for WIMPs, **no concrete signal has yet been found**. Hidden Photons (HPs) and Axion-like Particles (ALPs), which are respectively vector and pseudo-scalar realizations of bosonic super-WIMPs [2], are alternative candidates for DM with expected masses < 1 MeV/c². A HP is the gauge boson of a hidden U(1) sector that **kinetically mixes with the standard model photon** [3]. ALPs arise as pseudo-Nambu-Goldstone bosons that appear generically in all string compactifications [4]. Although a scenario in which they were thermally produced in the early universe was ruled out [5] or disfavored [2], HPs and ALPs can be cold DM candidates that give rise to the observed DM abundance if they were produced non-thermally via the mis-alignment mechanism [4]. HPs and ALPs are experimentally interesting because both of them are absorbed by materials with an interaction **analogous to a photoelectric effect** [2], **transferring their total energy to electrons**. Assuming they are cold DM, i.e. they are non-relativistic, the energy they deposit is equivalent to their rest mass.” [sic, emphasis added]*

Again, the author will take these statements at their face value, as the authors appear to try to walk a fine line between finely tuned innuendo and outright bunk, displaying the facsimile of candor.

1. Dark photons - that is light that isn't light, that can't be seen (and is therefore “hidden”⁵⁰) - is asserted apriori to be a candidate for “Dark Matter.” The cat is cooking dinner for the canary and both the pot and kettle are black.
2. This should be the end of the discussion...
3. Because the experiment was very stringent (the most stringent) as shown later on again, nothing was found (how could it be?) Dark photons have less physical evidence than faeries.⁵¹
4. This is an honest statement. Missing matter is inferred from many observations, the author agrees.
5. The problem, indeed is that the idea has been limited by use of only gravity. Hence the adjustment to “charged” Dark Matter, which is to say, a switch for covert matter, local matter, condensed matter, and primarily, interstellar plasma (cold and hot).⁵²
6. Again, the authors admit that no concrete signal has been found. Because none will be found.

⁴⁹ <https://www.sciencedirect.com/science/article/pii/S0370269318308219>

⁵⁰ Sort of like how the word hidden obscures the agenda to hide the idea of a DARK photon!

⁵¹ See: “Supernatural,” G. Hancock

⁵² [8] & [11]

7. The expected mass of a photon is 0.00 kg.⁵³ Photons have charge.⁵⁴ The hand-waving in this statement makes it out as though dark photons would have constrained mass. If they are photons, they would have no mass.
8. “Kinetically mixes with the standard model photon,” is like saying that you can squeeze a tennis ball into a coaxial connection and via its high resistance, push the signal out with amplified pressure. **It is a meaningless statement.**
9. “String compactifications,” appears to relate to supersymmetry concepts, see Table 2 for SUSY falsifications. This paper has fully embraced the pseudoscientific!
10. “Absorbed by materials” implies these are real quantum particles that have been found *in situ*. Nothing could be farther from the truth. They may have been simulated on a computer with known chemistry. But dragons have also been simulated to remarkable precision in modern hollywood films.
11. If something is analogous to an electrical effect, it is probably going to be related to electromagnetism and not gravity, Dark Matter, or pure quantum weirdness.
12. Again, this simulation has resulted (as the case needed) in the transfer of pure energy into a mass of an electron. In essence, they have reformulated the aether. The hidden photons (re: aether) turns free energy into electrons. This is a violation of known thermodynamic laws. Perhaps the authors will be helped by the negative mass Universe Farnes is creating?
13. Assume away, as Galileo said, “It moves anyways.” Making assumptions is costly, unscientific in most cases, and probably antithetical to the discovery of Truth. But in this case if one assumes the falling vase is a ghost and searches out ghosts, in case one proves their existence, one can then return to the vase and determine it was, after all, the cat. However, there is far more evidence for plasmoid ghosts than there is for Dark Matter.
14. At least they are adhering to the Law of Conservation of energy-mass. Mark the author’s words: quack scientists stealing grant money will absolutely try to overturn this next before they admit that Big Bang Cosmology has died!

⁵³ http://math.ucr.edu/home/baez/physics/ParticleAndNuclear/photon_mass.html

⁵⁴ http://www.desy.de/user/projects/Physics/Relativity/SR/light_mass.html

Photons as Electric Circuits

Photons are not particles. They are convenient to model as particles because electric circuits (such as Feynman diagrams in QED), especially planar waves and coaxials are particularly complicated as compared to photonic kinetics. It is true that light exerts a force upon spacecraft and imparts a form of momentum. However, as mentioned before this is the Biefeld-Brown Effect in action, and the light is depositing charge upon one surface, creating a differential in the craft. Over time, this causes a drift towards the negative charged side. Photons themselves cannot be particles, though they display particle-like behavior whenever they are not displaying wave-like behavior. They are neither particles nor waves. The speed of light is actually the rate of induction.⁵⁵ This is why it changes in different materials: different materials have various impedances. Once the light “wave” passes through the material, the rate returns **instantly** to the higher rate (air or vacuum, as the case may be). If it was a particle this would be instantaneous acceleration which would require infinite energy. It is physically impossible, as there is no force being exerted, and if anything the impedance of the material (say glass for example), would act as a form of friction and weaken the light. So the light actually loses power in going through materials. This is born out in the simple experiment of seeing a light through a piece of paper vs. glass. When light passes through the glass it is nearly the same brightness as originally output from source. But through the brown paper it is much duller. However the rate of induction after passing through the glass and paper is exactly equal on the other side.

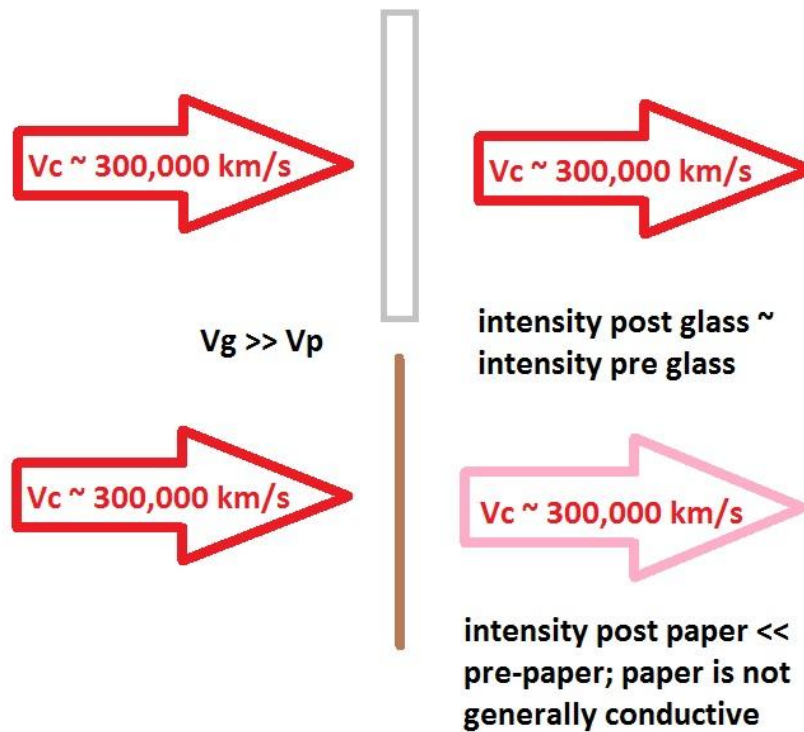
Table 3 :: Rates of c in various materials

Material	v_L (km/s)	% less than c (in vacuum, 299,792.5)
Plasma/Solar Wind	299,000	0.26%
Air (ground level)	299,700	0.03%
Water	225,000	24.9%
Glass (clear)	200,000	33.3%
Fibre ⁵⁶	204,190	31.8%
Crystal (diamond)	124,000	58.6%
Copper (electrons)	59,600	80.3%

The remaining implication, therefore, is that astrophysicists are “barking up the wrong tree” with trying to turn photons into massive particles (rather than ‘particles’ with eV values) which can then act as the “missing matter” from the galaxy haloes. It isn’t even a relevant discussion to begin with!

⁵⁵ <https://archive.org/details/magnetism1small/page/n13>

⁵⁶ <https://www.quora.com/What-is-precisely-the-speed-of-light-in-fiber-optics>



Speed of Lights vs Intensity; proof that photonic particles would break the law of conservation of energy-mass
Credit: Author

Conclusion

While the need to find the “missing” matter is a well understood problem, it does not appear that astrophysicists understand basic physics well enough to solve the problem. A surprising number of them are resorting to desperate (re: hopeful for fame and fortune) ideas in order to force-fit models into Big Bang. Big Bang has become the *bionic man*, in which you can make it “faster, stronger, smarter,” and sidestep pesky laws and principles that have not only worked on practical levels (being they were empirically derived) but also rigorously proven in lab and repetition of experiment. The author finds these ideas increasingly suspect, and makes the prediction that other laws will be conveniently bent, or outright broken. It is one thing for Kirchoff to assert a law with no physical proof of it in lab^{57 58 59 60 61}; or for other scientists to violate thermodynamics through imbalanced equations of intrinsic and extrinsic properties⁶². It is another quite altogether to assert the existence of particles, pseudoparticles, and properties of them via computer or imagination alone.

That the community and government continue to be hoodwinked by these behaviors makes the author believe that the crisis in physics will not be resolved anytime soon. However, claims that things have been “discovered” (that is, force-fit) are overdue from expectation. Charges against LIGO and VIRGO about their discoveries of gravity waves remain unanswered,^{63 64} and it is highly probable that this type of uncontested behavior may turn into an all out run fullback-style into fraud territory in the near future.

⁵⁷ <https://youtu.be/c-Luq0fOJK8>

⁵⁸ <https://youtu.be/YQnTPRDT03U>

⁵⁹ <https://youtu.be/LE7fZ565DWc>

⁶⁰ <https://youtu.be/m-poylY7pfQ>

⁶¹ <https://youtu.be/5cS1mfZ2XYY>

⁶² https://en.wikipedia.org/wiki/Intrinsic_and_extrinsic_properties

⁶³ https://www.researchgate.net/post/Is_LIGO_guilty_of_Scientific_Fraud

⁶⁴ <http://vixra.org/pdf/1712.0017v1.pdf>

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