

Photographing the Past, Diffracting Advanced Energy, and Advanced Energy Applied to MHD

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ABSTRACT

I outline in this paper 4 experiments. The 1st experiment is exploiting the nature of advanced waves, which were first detected by Bajlo in 2017, that converge from infinity to a point on an antenna (absorber) with the possibility that the advanced waves may carry information from objects in the past (because the advanced waves are incoming waves from the past, which Bajlo regards as outgoing waves into the past). That if the waves carry information, one might be able to detect an image from the past. The 2nd experiment considers diffracting advanced waves or particles in a tunneling barrier. The 3rd experiment considers the combination of Takaaki Musha Honda's experiment, of weight reduction by sending electrical AC/DC, plus into a capacitor with my experiment of sending advanced waves into the capacitor on the possibility that the mass shift of the capacitor is shifted into the past, and applying this to the hull of MHD craft. The 4th experiment, or consideration, of Feynman's disk paradox, of generating angular momentum from a static electrical field.

Keywords: advanced waves; diffraction experiment; MHD; tunneling; electromagnetic fields.

INTRODUCTION

All these experiments are outlined in this paper, can be done, they are presented in this paper as possibilities that can be tested, to either be proved or disproved. The 1st experiment considers the possibility of using advanced waves to create an image of the past. Bajlo was the first person to successfully detect advanced waves [1] in 2017. In the experiment advanced waves that are travelling into the past are found to converge from infinity to a point on the antenna before the retarded waves. In another paper [2] Bajlo outlines his idea that advanced waves are really outgoing waves and that its due to our psychological confusion of time being only in one direction that advanced waves are incoming waves. Bajlo was able to detect advanced waves by reducing the size of the receiver (absorber) so that the advanced waves don't cancel out.

I take the view that there are two-time flows, one into the past, and one into the future, to explain the nature of advanced waves travelling into the past (outgoing waves) and converging from infinity (incoming waves). In this case of incoming waves from infinity, the advanced are already arriving from the past, if the waves had interacted with objects in the past, they might carry information of the objects in the past? They might carry information of the objects they interacted with (outgoing waves) that one might create and image of objects in the past. Observing advanced waves (outgoing waves) travelling into the past, might scatter off objects they interact with in the past. But as incoming waves, they might carry information in the same way that one can make and photograph from light that reflects off objects. The same principle applies to the whole electromagnetic spectrum, and to all wavelengths, including Radio waves.

I also consider the work of Madey [3] another scientist who detected advanced waves independently of Bajlo, which corroborates the experiments of Bajlo, but that Madey never published his results, but who submitted a patent

on using advanced waves produced in the near-field from a transmitter for instantaneous communication. What one is here interested in his patent where he used advanced waves applied to Radar. And one considers here the possibility of advanced waves of Radar (incoming waves) of creating an image of the past.

The 2nd experiment, is exploring the possibility of an diffraction experiment of advanced waves. Its realized at the beginning that advanced radio waves are too long to diffract, and one explores the idea of using particles tunnelling through a potential barrier (electrons or photons) and placing a barrier with double slits in the potential energy barrier, to force the particles (which have superluminal speed through the energy barrier, and are therefore advanced, and travelling into the past) through the double slits to be diffracted at the end of the potential barrier, on a sensitive detector. What is interesting here, is how advanced energy of the particles which are superluminal, travelling into the past, which have negative energy, what the diffracted image one would see? And what it would tell us about the nature of advanced energy. Would it be the usual diffracted image as with retarded particles or be fundamentally different?

In the 3rd experiment, one introduces an experiment that I outlined in a paper I wrote [4] 'Notes: On the possibility of mass shift into the past'. Where I outline an experiment of Takaaki Musha [5], that got 3% weight reduction of a capacitor by feeding electrical pulses AC/DC into the capacitor. My experiment is to feed advanced waves into the capacitor on the possibility that the mass-shift of the capacitor might be shifted into the past. But here one applies this to MHD [6] craft or aerodynes. MHD is magnetohydrodynamics which means magnetic-fluid-dynamics of surrounding the hull of a disk-shaped craft (aerodyne) in an electrical field, to create lift by the electromagnetic field ionizing the air to create lift, on the

same principle as the way wings work. What would the consequents be of using advanced electromagnetic fields around the hull of a MHD disk shaped craft or aerodyne, based on the principle of causing mass shift into the past, of capacitor weight reduction. Would the MHD craft be shifted into the past?

4th After this come considerations of Feynman's disk paradox [7] where angular momentum is created in a disk from a static electromagnetic field. This is considered in relation to MHD craft as creating a form of motion using electromagnetic fields.

1st EXPERIMENT, PHOTOGRAPHING THE PAST

[4] Advanced waves. Around 2019, I obtained the papers of experiments of Darko Bajlo [1][2]. On the measurement of advanced electromagnetic radiation, who appears to be the first person to have detected advanced waves. Retarded waves are normal radio waves, that travel at the speed of light. Advanced waves by contrast travel into the past. Maxwell equation's for electromagnetic waves predict two solutions, advanced and retarded waves.

As Bajlo says in his paper, detecting advanced electromagnetic radiation predicted by Wheeler-Feynman absorber theory for the case of incomplete absorption of retarded electromagnetic radiation, pulses in duration of 6ns to 24ns, wavelength from 91cm to 200cm where supplied to three different transmitting antennas. Detection was done with a monopole antenna in the advanced time window at a time $2r/c$ before the arrival of the centre of the retarded pulse. At distances ranging from 430cm to 18m, advanced signals were measured in the SNR range from 15.4 to 30.9. From the period from 10th April 2016 to 30th August 2016 at 2000 runs no statistically significant signal above the level of the noise was detected. From the period from 3rd December 2016 to 5th January 2017 at wavelengths ranging from 91cm to 200cm was used. First clear signal was observed on the 2rd day after which tests were carried out with the purpose of detecting a possible source of systematic error.

As Bajlo explains the fact that he detected advanced waves, was only possible, because the receiving antenna had to be smaller than the transmitting antenna, the fact that advanced waves are not usually detected, in that the retarded signal usually cancels out the advanced waves, but by using a smaller receiving antenna the advanced waves are not cancelled out, this explains why advanced waves are not usually detected. As Bajlo says in his own words page 5 of his paper [2]: The solution to this measurement problem is to minimize the influence of the measuring instrument on the phenomenon being measured. This can be easily achieved with the meter and decimeter radio waves by using a small enough receiving antenna, if the results of the recent experiment represent the real signal and not some systematic error. Then the advanced radiation can actually be detected with a receiving antenna twenty times smaller than the wavelength of emitted electromagnetic pulse.

Bajlo says in his 2rd paper [2] that advanced waves are outgoing waves. A confused human being whose psychological experience of time has a preferred direction, misinterprets the advanced waves as incoming waves that emerge from infinity without causation and converge to the point at the location of the antenna, exactly at the moment of emission. The fact that advanced waves are seen as converging from infinity to a point on the antenna, means that the advanced waves are arriving from the past. Could one use this fact to detect if the converging advanced waves carry information of objects in the past.

That the advanced waves have interacted with, that one can make an image from the past? As Bajlo says, advanced waves are outgoing, in regard to this I suggest there are two-time flows, one into the past, and one into the future. Advanced waves travelling into the past, might scatter off objects in the past? The question is, when the advanced waves converged from the past to the present (from infinity) would they carry information of the objects the waves interacted with? One would have to filter out noise from the advanced waves, to see if there is any information i.e. light carries information from reflecting off objects, that one can take photos. Why should this not be the same with advanced waves, which are radio waves, it's all part of the electromagnetic spectrum. Radio telescopes also use Radio waves to make images of objects in space, so one can't rule out the possibility of creating an image from advanced waves, that have interacted with objects in the past.

Another scientist who set out creating advanced waves for communication, by using the near field EM waves, and the use of Radar. In a paper [8] of John Madey, they say p4, that he prepared an experimental proposal aimed at demonstrating that advanced solutions of Maxwell's equation do exist. Before he passed away, he explained to me (Luis Elias) how he and his brother Jules were ready to demonstrate instantaneous EM communication between two points in space through the detection of near-field advanced waves. As proof of the seriousness of such an experiment, they prepared a patent disclosure describing the invention. If they are right, one cannot imagine the technological impact that their discovery will have on our human society.

I have John Madey's patent, I heard from a article from John G. Cramer (who developed the transactional interpretation of quantum physics) that privately Madey also detected advanced waves, but was never published, that corroborates the work of Bajlo, who detected advanced waves. But in Madey's patent [3] its stated that: the transmitting station's antenna's retarded fields cannot interact with the fields from more distant sources to suppress by interference all the components of the advanced fields which pass through the near-field region. This makes possible to directly observe the amplitudes and phases of the advanced fields present in the near-field zone of a radiating charge or current distribution (e.g. an antenna). The effect was first described by Wheeler and Feynman (Wheeler 1945), who pointed out that the two fields become indistinguishable at greater distances from a radiating charge distribution in the far-field zone.

So Madey worked out a way that a transmitting station and receiving station receives advanced waves and separates the advanced waves from the retarded waves, so that they do not cancel out the advanced waves. Madey's method of generating advanced waves is different from Bajlo's. Madey suggestion is to use EM waves in the near-field. And I never realized that EM fields in the near-field could be considered as advanced waves. I come back to this point later in the experimental work of Walker. And Bajlo created his advanced waves from a radio transmitter, where the absorber (receiver) was smaller than the transmitter, so that the advanced waves are not cancelled out. One may well ask the question of how far in the past do advanced waves travel. Madey says in his patent: Electromagnetic radiation can be characterized by a single frequency, but typically has different wavelengths over different portions of its journey. For example, a radiating dipole antenna has different near-field and far-field wavelengths, with the near-field wavelength being longer than the far-field wavelength. So the far-field wavelength is longer than the far-field wavelength.

Madey says further on Radar systems using advanced fields: For radar and some telemetry systems the target cannot include a human or automated operator. Thus another means must be employed to modulate the target's advanced fields as required for detection. The approach that has been used in conventional radar systems under these circumstances is to periodically sweep the angle of the transmitting station's retarded beam or beams to periodically illuminate the target leading the target to generate periodically modulated reflected or scattered waves that can be identified by the frequency with which they are modulated, and the direction at which the amplitude of that modulation is maximized.

So here one could use a radar system to send advanced waves into the past, but as the waves converge from infinity to a point on the receiver, perhaps one could make an image of objects in the past, that the advanced radar waves interacted with?

Now I want to say something of the work of Walker [9], in his paper, 'Superluminal electromagnetic and gravitational fields generated in the near-field of dipole sources, he says in conclusion on page 33: The analysis presented in this paper has shown that the fields generated by an electric or magnetic dipole, and also the gravitational fields generated by a quadrupole mass source, propagate superluminally in the near-field of the source and reduce to the speed of light as they propagate into the far-field. The group speed of the waves produced by these systems has also been shown to be superluminal in the near-field. Although information speed can be less than group speed in the near-field, it has been shown that if the method of modulation is known and provided the noise of the signal is small enough, the information can be extracted in a time period much smaller than the wave propagation time. This would therefore result in information speeds only slightly less than the group speed which has been shown to be superluminal in the near-field of the source. It has also been shown that Relativity theory predicts that if and information signal can be propagated superluminally, then it can be reflected by a moving frame and arrive at the source before the information was transmitted, thereby enabling causality to be violated.

When I first read this paper by Walker, I never realized that EM fields in the near-field could be considered as advanced waves, I only realized this in reading the patent of Madey, who had the notion that one can consider the near-field as producing advanced waves. Of course, what walker concludes in his paper on experiments, is that one can set up a situation with advanced waves where causality can be violated.

So, scientists have been wrong when they say that there's no evidence of advanced waves. The advanced waves have been there all the time in the near-field of every transmitter, that broadcasts radio. This may have been known, but never admitted or realized, and this fact has been staring in the face of scientists, that radio transmitters produce advanced waves in the near-field.

Maxwell's equations are symmetrical in time, and it was Madey's idea to use advanced waves in the near-field for communication. Bajlo used a different method to generate advanced waves. To what walker says at the end of his paper in regard to causal violations, the sad fact is that many scientists are afraid of the possibility that the past could be changed when temporal paradox take place. Of course, anyone would be alarmed at such a possibility. But I tend to feel that the past could be changed. The many - worlds interpretation of quantum mechanics, making sure the past is preserved, will not work.

I do not believe there are millions of copies of us in a parallel world. And Hawking's chronology protection conjecture is not really convincing, why should nature care to intervene to preserve the past?

This is the alarming thing about the possibility of time travel and if time travel becomes possible, there have to be strict precautions in place not to interfere with the past, and just observe. And the argument that tourists from the future are not here, meaning time travel never happened, because we don't see tourists from the future, is not necessarily so. Tourists from the future could keep themselves hidden from us and just be observers. So it's not ruled out such a possibility, they could observe from the air and be invisible. They would not show themselves. Just imagine if such tourists did show themselves and prove it, they would effect the past and if their presence was revealed and proof were given, such actions would echo back to their own future to them. Because in their future before they built their time machine, there would be past records that show them proving their existence in the past. So this is another reason why tourists from the future would not reveal and prove themselves or interfere with the past.

2nd EXPERIMENT: DIFFRACTING ADVANCED WAVES

Here I outline the possibility in an diffraction experiment with advanced waves, as such advanced waves are travelling into the past. The first drawback here with advanced radio waves, that Bajlo used, is that at these wavelengths are too long to diffract with. One considered creating advanced waves at shorter wavelengths, e.g. inferred? But this does not seem ideal. There may be a way of creating advanced waves travelling into the past, by putting a barrier inside the potential barrier of tunnelling particles, that has two slits placed in the centre of the barrier.

So that the superluminal particles tunnelling particles are forced to go through the two slits and be diffracted, creating an image on a detector, at the far end of the potential barrier. Then one would see what effect advanced energy would happen being diffracted, in tunnelling through a potential barrier, using photons or electrons, which is in the potential barrier are tunnelling through, which travel faster than light, and into the past. What would the diffraction pattern be like? How would advanced particles or wave packet travelling into the past, what would the quantum effects be of such diffraction? Would one get the same quantum paradox of and wave packet through the two slits at the same time, how would such an advanced wave packet behave if diffracted?

In a paper [10] by Guter Nimtz, 'Tunnelling violates special Relativity', he outlines in the abstract: Experiments with evanescent modes and tunnelling particles have shown that, i) Their signal velocity may be faster than light, ii) They are described by virtual particles, iii) They are nonlocal and act at a distance, iv) experiments tunnelling data of Phonons, Photons, and electrons display a universal scattering time at the tunnelling barrier front, and v) the properties of evanescent, i.e. tunnelling modes is not compatible with special Relativity.

Regarding this, would not this imply that vacuum energy, ZPF or dark energy, be nonlocal as vacuum energy is full virtual particles, and be nonlocal, superluminal? Nimtz says that the time of a wave packet spend in a potential barrier is in faster than light velocity's. That this is tunnelling time is found to be a universal property for Phonons, photons and electrons being dependent on the wave packet frequency.

That is a digital pulse, the temporal half width equals the number of bits and is attenuated along a wave guide, but its half width is independent of its amplitude, that in vacuum the signal velocity equals the group velocity.

Zero time is spent inside a barrier and the wave packet behaves nonlocally, whereas at the barrier front a scattering time takes place of the order of one oscillation of the wave packets frequency. Reflection time and transmission time are identical as a consequence of the nonlocal property of the modes. The boundary interaction time is independent of the barrier length.

Nimtz says further; that quantum mechanics and classical electrodynamics result in a negative energy for particles inside the barrier. So the particles are travelling into the past. For evanescent modes this is the electric energy:

$$W_{el} = \frac{1}{2} \epsilon E^2 V < 0$$

W is their energy, where E is the electric field and V is the volume. $\epsilon = n^2$ is the negative dielectric function in the barrier. Tunnelling and evanescent modes violate the Einstein relationship:

$$W^2 = (\hbar K c)^2 + (m_0 c^2)^2$$

Where W is the total energy of a particle, and m_0 is the rest mass.

Nimtz says further that evanescent modes like tunnelling modes don't interact with an antenna as long as the barrier system is not perturbed and the evanescent mode with a real wave number. And evanescent field dose not interact with real fields due to the imaginary wave number, resulting in a refractive index mismatch with the reflection $R=1$.

This shows that the particles in the barrier have negative energy, are nonlocal and have an amplitude over the whole barrier space and have negative energy, and are travelling from the past. This is an similar effect observed with Bajlo's experiments with advanced waves, that are converging from infinity to a point on the antenna (absorber) from the past. But really are outgoing particles travelling into the past. If the diffracting experiment is arranged to have a barrier with two slits placed in the middle of the tunnelling energy barrier, the particles (Photons or electrons) might be forced to travel through the slits to create a diffraction pattern on a detector at the end of the energy barrier.

In another paper by Gunter Nimtz [11] 'Erratum to: on virtual Phonons, photons, and electrons'. Form this paper, one can use a double prism with an air gap that acts as an tunnelling barrier for ones experiment. The problem of course for this diffracting experiment is that particles in the barrier tunnelling, are virtual particles, and are nonlocal. Nimtz's suggests in his paper, page 1228: In order to observe a particle in the exponential tail of the wave function, it must be uncertain in the cases of Schrodinger particles and FTIR signals by:

$$\Delta P > \frac{\hbar}{\Delta x} \approx \hbar K = \sqrt{2m(U - W)}$$

The particle of energy W can thus be located in the nonclassical region only if it gives an energy $U - W$ sufficient to rise it into the classically allowed region, where U is height of the potential barrier. In this case ΔP tends to 0 and the pulse becomes certain. This statement becomes plausible when trying to measure a particle inside a barrier with a light beam having a narrow

diameter of only a wavelength λ with the relation:

$$\begin{aligned} \lambda < \Delta x &\approx 1/K \\ \lambda < \hbar / \sqrt{2m(U - W)} \\ \lambda &= \frac{c}{\nu} = 2\pi c / \omega \end{aligned}$$

This could localize a particle, but with a barrier with two slits in the middle of the tunnelling barrier, the particle might be forced to diffract and create an diffraction pattern, on a sensitive detector at the end of the tunnelling barrier. Because the particles in the barrier are nonlocal, with negative energy and are advanced energy wave packet, travelling into the past, such an experiment might show interesting properties in the diffraction pattern on a sensitive detector.

3rd EXPERIMENT: ADVANCED FIELDS APPLIED TO MHD AERODYNES

For ones suggestion for ones 3rd experiment, as was outlined in the 1st experiment, Bajlo was the first person to have detected advanced waves, that he, because the receiving antenna had to be smaller than the transmitting antenna, so that the advanced waves did not cancel out. One has the idea here to apply advanced fields to the hull of a MHD aerodyne craft, which will be explained later.

Weight reduction: I came across the work of Takaaki Musha in JBIS 2008 [5]. He says in his paper: The research group of the HONDA R&D Institute observed a weight reduction by applying alternating electric field to a capacitor. This phenomenon, which is called the dynamical Biefeld-Brown effect cannot be explained within the framework of conventional physics.

From the standpoint of ZPF field, the author tries to explain this phenomenon as an interaction between the vacuum electromagnetic zero-point field and the high potential electric field. Takaaki Musha further says in his paper that from the 1st February until the 2rd March 1996, the research group of HONDA R&D institute conducted experiments to verify the B-B effect with an improved experimental device which rejected the influence of corona discharges and electric wind around the capacitor, by setting the capacitor in the insulator oil contained within a metallic vessel.

The capacitor used at the experiment was a circular plate made of high permittivity dielectric glass with the thickness 1mm, the diameter 170mm and the weight 62g. The electric balance used for the experiment had the resolution of 1mg. They conducted experiments for two cases, DC-18Kv and AC-8Kv pulses supplied to the capacitor by the experimental set up. The AC voltage was supplied to the capacitor through the ignition coil to produce rectangular pulses with repetition of 50Hz. After amplifying AC pulses by the ignition coil, the impulsive electric field was applied to the capacitor through the diode by changing the polarity to produce minus-biased or plus-biased voltage to the capacitor.

From the experimental results it was found that the case of AC pulses exhibited higher reduction of weight than the case of DC exposures. Maximum weight reduction measured at the experiment by applying AC pulses was 1.92g which was about 3% of the own weight of the capacitor used at the experiment. So they got positive results, they ruled out ion transfer because the estimated equations for ion transfer gave negligible small results compared with the experimental results. So, then they considered that the external electromagnetic field was responsible for the mass shift of the capacitor. Takaaki Musha concluded in his paper that the dielectric material may produce a sufficient artificial gravity to attain velocities comparable to chemical rockets. Because this was the aim of his experiment.

COMBINATION OF BOTH EXPERIMENTS

It occurred to me, that one could combine Takaaki Musha's experiment of weight reduction with that of Bajlo's experiment of producing advanced waves, that instead of applying a high-intensity field to the capacitor for weight loss of the dielectric, one may try to achieve the same effect of weight loss by applying a high-intensity advanced field to the capacitor, of the dielectric to achieve weight loss by the arrangement of Bajlo's experiment. What would the effect be of advanced waves or high-intensity advanced fields have on the capacitor. The fact that such an advanced field is travelling into the past, would it effect the dielectric for its mass shift to be shifted into the past?

The antenna in the arrangement of Bajlo's experiment has to be combined with Takaaki Musha's experimental arrangement of the condenser, when one feeds advanced intensity field into the capacitor. Of course, it's as yet unknown as yet what would happen, would the mass of the dielectric be shifted into the past, the only way of knowing is until such an experiment is done. Of course, one would have to repeat the same experiment of Bajlo's to prove to yourself if indeed you detect advanced electromagnetic radiation. Bajlo used RF signal generator to generate pulses, that could take place in the same arrangement in weight reduction experiment where AC pulses were used, that had a higher reduction of weight. The conditions of receiving advanced waves in Bajlo's experiment, was that advanced waves may be detectable if the impact of the measuring instrument on the phenomena being measured is minimized, as recent experiments with radio waves has indicated.

This all opens the door to the undreamt possibility of time travel, but this is not the main experiment in this paper, my paper on these ideas you find in my paper [4].

In regard to the equations of Takaaki Mushas paper [5], for advanced fields, one can change the terms in his equations for advanced electric fields. For the electrogravitic effect induced on a dielectric material from a weak field approximation of Einstein's general relativity then;

$$-Z\sqrt{4\pi\epsilon G} \cdot E^A \approx E_g^A > 0$$

Where E^A is a magnitude of advanced electric field impressed to the capacitor, Z is a number of electrons circulating around the atomic nucleus, E_g^A is the advanced electrogravitic effect, ϵ is the permittivity of the dielectric material, G is the gravitational constant.

Weight reduction of the capacitor under impressed advanced electric field given by $\Delta W > 0$ is estimated $-M \cdot E_g^A = \Delta W > 0$

The dipole field generated by the variance of advanced electric charge, the advanced vector potential of the electromagnetic field is:

$$\frac{1}{4\pi\epsilon_0 c^2} \frac{P(t')}{r} = A > 0$$

Where A is the advanced vector potential of the electromagnetic field, propagating into the past, P is a dipole momentum given by $P = qd$ (q is charge of particles, d is displacement of the charge) t' is advanced time.

In Takaaki Musha's paper [5] has an equation for the mass shift by external electromagnetic field. Page 382, there is the equation for mass-shift:

$$\frac{\Delta M}{M} = \frac{3\pi}{16} \frac{e^2 G}{\epsilon^2 mc^6} \frac{N^2 R}{\omega_e} E^2$$

E^2 is the energy of electric pulse applied to the capacitor. But if instead its advanced energy E_A^2 then one can re-write this equation with the new term of advanced energy electric pulse applied to the capacitor:

$$\frac{3\pi}{16} \frac{e^2 G}{\epsilon^2 mc^6} \frac{N^2 R}{\omega_e} E_A^2 = \frac{\Delta M}{M} > 0$$

Here the mass shift might be shifted into the past, where M is the mass.

Next we deal with Takaaki Musha's part his Honda experiment, where he considers in his paper [5], the possibility to produce artificial gravity by electromagnetic field. Here is Takaaki Musha's equation of the forced produced by the electrogravitic field E_g :

$$F = -(M + \Delta M)E_g \approx Z\sqrt{4\pi\epsilon G} \left(1 + \frac{3\pi}{16} \frac{e^2 G}{\epsilon^2 mc^6} \frac{N^2 R}{\omega_e} E^2 \right) EM$$

Where M is a mass of the dielectric material and Z is number of electrons circulating around the atomic nucleus, ϵ is a permittivity of the dielectric material, G is the gravitational constant, N is a number of the electrons per unit volume in a space including the dielectric material and R is a radius of the electron cloud and E is the magnitude of the impulsive electric field.

One can re-write this equation with new terms, where E_A is the advanced magnitude of the advanced impulsive electric field propagating into the capacitor and E_g^A is the advanced electrogravitic field, so we have:

$$-(M + \Delta M)E_g^A \approx Z\sqrt{4\pi\epsilon G} \left(1 + \frac{3\pi}{16} \frac{e^2 G}{\epsilon^2 mc^6} \frac{N^2 R}{\omega_e} E_A^2 \right) E_A N = F > 0$$

Here the force produced by the electrogravitic field E_g^A propagating into the past, and the force is also propagating into the past, $F > 0$

From the equations it is seen that the electrogravitic effect generated for the dielectric material can be amplified by the advanced impulsive electric field into the past. As the mass shift of the dielectric material under advanced electrogravitic field satisfy $-M \cdot E_g^A = \Delta W > 0$

Then we have:

$$\frac{E_g^A}{E_g} = \left(1 + \frac{3\pi}{16} \frac{e^2 G}{\epsilon^2 mc^6} \frac{N^2 R}{\omega_e} E_A^2 \right) \frac{E_A'}{E_A} \approx \frac{\Delta W'}{\Delta W} > 0$$

Where $\Delta W'$ and ΔW are weight shifts into the past, and E_A' and E_A are amplitudes of advanced AC and DC electric fields impressed to the capacitor propagating into the past. But I will note, the best weight shift was with AC, and using advanced energy one would use only one type of amplitude. The reason one feels some confidence about putting advanced terms into Takaaki Musha's equation, is that the same identical laws for retarded energy and advanced energy should be the same, and that this symmetry is shown in both the advanced and retarded solutions of Maxwells equations, in regard to time.

From the equation for momentum given by $\frac{d\rho}{dt'} = F > 0$ the momentum produced by advanced electrogravitic field becomes:

$$P_{field} > 0 = \int F^A dt = \int m \cdot E_g^A dt \approx m \cdot E_g^A \Delta t' = (t_2 - t_1) > 0$$

Where P_{field} is propagating into the past and F^A is the advanced force, and E_g^A is advanced electrogravic field. When we let $\Delta t' = \frac{l}{vd}$ where l is a separation between electrodes and vd is a drift velocity of electrons, the momentum produced by the advanced electric field becomes:

$$P_{field} > 0 = \int (M + \Delta M) \cdot E_g^A dt$$

$$\approx Z\sqrt{4\pi\epsilon_0\epsilon_r G} \left(1 + \frac{3\pi}{16} \frac{e^2 G}{\epsilon_0^2 mc^6} \frac{N^2 R}{\omega_e} E_A^2 \right) \frac{E^A l}{vd} M$$

The $P_{field} > 0$ momentum is propagated into the past.

Here Takaaki Musha in his Honda experiment, said in his paper, that the electrogravic craft using Biefeld-Brown effect might attain the velocity to reach 5.3Km/s when impressed 1 Giga volt to electrodes. But under my idea of using advanced fields, the electrogravic craft would or might experience a temporal motion into the past.

MHD

Now from the paper [6] by Jean-Pierre Petit and Julien Geffray, 'MHD Hypersonic flow control for aerospace applications'. But what is MHD or magnetohydrodynamics, stands for magnetic fluid dynamics, is application of magnetic or electromagnetic fields round a disk-shaped hull of a craft, to ionize the air to create lift, much like a wing. Such craft are called MHD aerodynes and MHD has many different applications. In this paper they say for example:

A first category of plasma-aerodynamic devices actively acting upon the flow uses electrohydrodynamics. Those EHD accelerators are generally known as Plasma actuators. They use properties of electric fields only (paraelectric body force, DC ion mobility drift or RF peristaltic waves) to carry the ions and the neutral gas through Lorentzian collisions upon a thin layer. Peristaltic EHD devices can theoretically accelerate air in the boundary layer up to Mach 1.0 (neglecting heating and viscous effects which lower the real effect) But MHD magnetohydrodynamics, involving both applied electric and magnetic fields combined into Lorentz forces $J \times B$, is preferred to control airflows up to hypersonic regimes.

They say further: Next - generation aircrafts of a new kind are described which, if supplied by a powerful energy source, could flight silently at high Mach numbers in dense air without shock wave nor turbulence, fully driven by MHD force fields controlling the flow around their whole body. In relation with such devices, original solutions to classical problems raised by plasma instabilities in the presence of powerful magnetic fields are proposed. Among applications of MHD converters described, wave drag and wake turbulence cancellation, flow laminarization, engine inlet control, combination of accelerators and generations into MHD-bypass systems, HV plasma protection of leading edges, electromagnetic braking for atmospheric reentry. The association of all these techniques leads to a unique device combining a space launcher, a plane and an atmospheric reentry capsule into one fully reusable vehicle taking - off and landing on its own steam, successor of conventional rockets.

What has just been said, I think gives some idea of the applications of MHD. I quote more from these papers of Induction MHD aerodynes which are disk shaped craft where an electromagnetic field surrounds the hull of the aerodyne to ionize the air to create lift. Strong radial $J \times B$ forces applied in a thin layer of plasma confined next to the wall or hull of the craft, suck the surrounding air by Coanda effect.

A lower air pressure appears above the disk and an over-pressure underneath, generating lift. They say in the paper: In 1975, the author of this paper on MHD, suggested the design of a disk-shaped MHD aerodyne with electrodes, using spiral currents with high Hall effect. The year after this Author imagined a better solution: a disk-shaped but electrodeless MHD aerodyne. Let's consider an alternating dipolar magnetic field, generated by an electromagnetic coil placed inside a thin disk made of an insulating material. Maxwell laws dictate that this magnetic field will generate an induced electric field. If the surrounding gas conducts the electricity well enough, eddy currents will appear in it, and will combine with the field $B(t)$ to produce radial Lorentz forces $J \times B$ alternatively centrifugal then centripetal. But this would only shake the gas around the disk with no propulsion effect, the integral of momentum being equal to zero over a period.

Assuming that one could alternatively modulate the air's electrical conductivity locally from one side of this disk to another, an adequate propulsive force field can be obtained. This local ionization can be achieved through different manners. For example, tanks to microwaves, or by using miniaturized wall HV ionizers covering the hull. Those would have the shape of a wolf trap. And axial cathode protrudes from the bottom of a small conical cavity. When a high voltage discharge is generated in-between two electrodes, an umbrella - shaped current flow appears. The magnetic pressure under this plasma umbrella will tend to expel this current domain outwards. This miniature apparatus bears some similarities with the Dense Plasma Focus experiments. MHD instabilities enhance the capacity of the system to create free electrons, and possibly short-lived negative ions, through fugitive attachment of the electrons to the surrounding atoms. If the number of cycles of the alternating electrical conductivity between upper and lower surfaces of the disk is low with respect to the gas transit time around the object, then the fluid will behave as if it was subjected to an axisymmetrical force transit field, and one could imagine using this phenomenon as the basis for the propulsion of a disk shaped MHD aerodyne.

The authors of that paper [6] that I quoted above, use an alternating dipolar magnetic field, generated by an electromagnetic coil placed inside a thin disk made of an insulating material. Maxwell's laws dictate that the magnetic field will generate an induced electric field. Using advanced electric field pass through a coil might create an advanced alternating dipolar magnetic field propagating into the past. But how to generate an intense or strong induced advanced electric field. We will come back to this point.

Also, Takaaki Musha Honda type experiment in reducing the weight in mass shift, the aerodyne would become lighter, but with advanced waves might be shifted into the past. In Takaaki Musha's Honda experiment [5] p382 JBIS, "The possibility to produce artificial gravity by electromagnetic field, from my putting in terms in his equation:

$$-(M + \Delta M)E_g^A \approx Z\sqrt{4\pi\epsilon G} \left(1 + \frac{3\pi}{16} \frac{e^2 G}{\epsilon_0^2 mc^6} \frac{N^2 R}{\omega_e} E_A^2 \right) E^A M$$

$$= F > 0$$

Where force $F > 0$ is propagating into the past, with advanced energy feed into the capacitor. Takaaki Musha said in his paper [5] that the new factors which increase the force for dielectric material are, 1- Increase the magnitude of an electric field impressed to the dielectric material.

2- Increase the number of electrons per unit volume in a space including the dielectric material, and 3- increase the radius of the electron cloud in a space including the dielectric material.

These 3 points apply ideally to disk MHD aerodynes. Of course, one wants to apply the above to advanced fields to the hull of the MHD disk shaped aerodyne. If one just created an advanced field propagating into the past, does not necessarily mean the craft would be shifted into the past. If one takes up my idea of using advanced fields in MHD aerodynes with capacitor material, the MHD aerodyne mass might be shifted into the past? In some MHD experiments with models and baring in mind the 3 points above by Takaaki Musha Honda experiment, plasma is seen to be confined near the wall of a model, that one might apply intense advanced fields to the hull of a craft in a way similar to MHD to shift into the past.

One of the problems of creating a stronger advanced electric field around the hull of a MHD aerodyne, is that the advanced field produced by Bajlo and Madey, is that the fields are quite weak. Producing advanced electrical field might have interesting properties, as the fields would be propagating into the past. To make intense or strong advanced electric field, one could look at the same principle how normal intense electric fields are created and do the same for creating advanced fields, which perhaps can be amplified. Walker [9] mentions in his paper that magnetic dipoles can also be faster than light, so one could create advanced magnetic fields as well as electric ones for MHD.

Bajlo detected advanced waves that are electromagnetic and propagate into the past. The advanced waves that Bajlo detected and Madey [3] suggested in his patent in using the near-field, that the advanced waves are weak. One can choose to use the advanced waves from Madeys patent, he suggests that advanced wave in the near-field have a longer wavelength than the far-field, and this is how Madey worked out how to separate the advanced wave from the retarded wave, so the advanced field is not cancelled out.

One can create circulating advanced electric field by self-induction or mutual induction. One has to convert the advanced wave in the near-field of the antenna into an electric current in a circuit to produce an advanced electrical field. The next problem is how to make this advanced electrical field more intense or stronger for MHD aerodyne. The advanced electric field would be propagating into the past and the hull of the MHD aerodyne would be made of capacitor material, to have a mass-shift (weight reduction) into the past.

Obviously, one wants to get a higher mass shift or weight reduction than 3% as was found in Takaaki Musha's Honda experiment. Experiments would have to be done on the basis of Takaaki Musha's Honda experiment to get as closer to 100% mass-shift, if possible?

Changing the advanced wave into an electrical current one can use a Deuuen cell electrical transducer to provide electromagnetic force by converting other forms of energy into electrical energy. A transducer converts a signal in one form of energy to a signal in another. The process of converting one from energy to another is known as transduction. One way to get stronger or more intense advanced waves in the near-field, that is in the vicinity very close to the antenna, the energy level can rise dramatically with only a small decrease in distance towards the antenna. Obviously, this dipole antenna would have to be incorporated in the MHD aerodyne.

The near-field of a transmitter is remarkable for reproducing classical electromagnetic induction, so one could also use this natural state to create an advanced electrical field (the production of an electromagnetic force (emf) across a changing magnetic field) and electrical charge effects on the EM field. The near-field offers energy that is available to a receiver only if the energy is trapped, and this is sensed by the transmitter by means of responding to electromagnetic near-fields emanating from the receiver. Again, this is the same principle that in induction coupled devices (in the production of an electromagnetic force (emf) across an electrical conductor in a changing magnetic field) such as a transformer (is a passive component that transfers electrical energy from one electrical circuit to another circuit). To create electrical fields transformers are used to change the AC voltage levels to increase voltage levels. This can be naturally used in the near-field or to use a transformer to increase the voltage of the converted advanced wave into an electrical current that is used to produce a stronger advanced electrical field for MHD aerodyne.

The amplitude of other components (non-radiative/non-dipole) of the electromagnetic field close to the antenna may be quite powerful, and this could be amplified with a transformer, to create strong or intense advanced electromagnetic fields for MHD aerodyne craft. The result of this is felt as an extra power drawn from the transmitter. In regard to the near-field, in the vicinity very close to the antenna, the energy level can rise dramatically with only a small decrease in distance towards the antenna. The near-field is remarkable for reproducing classical electromagnetic induction across an electrical conductor in a changing magnetic field, and electric charge effects on the EM field. The near-field offers energy that is available to a receiver only if the energy is trapped.

Thus, the near-field only transfer energy to very nearby receivers, and when they do, the result is felt as an extra power drawn in the transmitter. As an example of such an effect, power is transferred across space in a common transformer or metal detector by means of near-field phenomena (inductive coupling) in a strictly short - range effect. And increase in the power level say from 1W to 300Kw proportionally increase the field strength level in the near-field region. This can be used on MHD aerodyne's, being of advanced field strength. In the near-field the vertical electric field component still presents a strong field value due to reflection from the ground.

So to conclude, strong advanced electrical fields that are propagating into the past, around the hull of a MHD aerodyne composed of capacitor like material, might shift the MHD aerodyne into the past. The weight loss of the MHD aerodyne means that it would become lighter and advanced electric fields would rise the air around the MHD aerodyne (ionize the air) so it can hover in the air, and depending where it goes into the past, can safely observe the people in the past from the sky. Still there is no way to work out how to get from the past, back to the present in the future. So there is a lot of work to be done, and Takaaki Musha only got 3% mass-shift of the capacitor.

4 CONSIDERATIONS OF MHD AERODYNE'S AND FEYNMANS DISK PARADOX

Feynman's disk paradox [7] is outlined, where Gabriel Lombardi says on page 213: In this electromagnetic induction is used to import angular momentum to a disk of charges.

In this sense through electromagnetic fields one could create angular momentum or motion, and this can apply to MHD aerodyne's.

Static electromagnetic fields have angular momentum. The gain in angular momentum of the disk compensates for the loss by the field. Thus, it has been shown that angular momentum stored in the static field, appears as mechanical angular momentum. Feynman's paradox is a striking example of the existence of angular momentum of static electromagnetic fields. It demonstrates that momentum is not required for a system to possess angular momentum. Of course, currents may be of arbitrary mass and either sign, it is clear that their contribution to the systems angular momentum is not fundamental. Resolution of the paradox necessarily relies upon the transfer of angular momentum from the field to the charges on the disk.

This can apply to MHD aerodyne craft, here is a way to manipulate electromagnetic fields to create motion to a craft. In Takaaki Musha's Honda experiment [5] he considered the possibility to produce artificial gravity by electromagnetic fields, so that here is another way to create motion through electromagnetic fields. I changed the terms in Takaaki Musha's equations [5] for energy impute into the capacitor with advanced energy, so that $P_{field} > 0$ the momentum produced by impulsive electric field is propagating into the past.

CONCLUSION

I have outlined 4 experiments that can be done, and is open to anyone to try and test out such possibilities presented in this paper. After all it is experiment that is the deciding factor of the truth of the matter, of such experiments weather one has positive or negative results. This paper outlining these experiment's is done in the hope of sharing such ideas, that others might conduct such experiments.

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