Engineering View of Lazar's Anti-Gravity Physics

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Introduction

This author was asked by Larry Fenwick (editor of the CUFORN Bulletin) to review a recent video describing Robert Lazar's theories and purported observation. In this video, Lazar repeats previous claims that he witnessed tests of advanced "flying saucers" of *extraterrestrial* origin and took part in briefings describing their operation and mode of propulsion in a secret government facility in Nevada.

This paper will analyze some of the so-called "anti-gravitational physics" from a conventional engineering and physics perspective. As in most of these cases, the propounder of the theory tries to give it an air of respectability by invoking well-known and conventional ideas in the physical and engineering sciences as justification for the more speculative ideas. This is acceptable if the conclusions and inferences drawn follow a well-defined and rigorous development. If the development of the ideas is not rigorous, then there is no need to invoke conventional wisdom *a priori*. It is into this latter category that the anti-gravity theory of Lazar falls (hard).

For clarity, this brief examination will be divided into 3 sections: Borrowing from Conventional Physics, Problems with Lazar's Physics, and Engineering Problems. The first section will highlight the background ideas from mainstream physics -- primarily General Relativity theory -- on which Lazar tries to build his case. The second section identifies problems with "Lazar Physics" and points out where pure speculation takes over from conventional knowledge. The third section considers problems with trying to engineer the physical systems Lazar describes.

It is hoped that the level of understanding required to follow these arguments is the same as required to try to follow Lazar's thesis.

Borrowing From Conventional Physics

According to General Relativity, the 3-dimensional space we generally perceive can be coupled to a time dimension and called "space-time". This concept can now be given physical properties including viewing it as a 4-dimensional "fabric" which can be bent or warped. Space-time can also be perceived as enveloping all masses in the Universe as "raisins in a plum pudding". These masses -- stars, planets, atomic particles -- all have the property of causing the space-time fabric to bend. The amount of bend is a function of the mass involved. Since the measurement of distance is a function of the physical

dimensions of the spatial portion of the fabric, bending the fabric will cause distance measurements to change. In fact, bending the fabric enough in the vicinity of our Sun will cause the real distance to the nearby stars to increase.

Lazar seems to suggest that large masses (e.g., black holes) are the only way to bend the fabric of space-time (apart from his gravity waves). 2 other methods are allowed by theory -- namely high-charge density and spin -- but he avoids mentioning these.

This bending would also cause light rays to follow curved paths around the object or spacecraft doing the bending, thus possibly rendering a craft invisible to outside observers as Lazar explains.

The strong nuclear force which binds positively-charged protons together in the nucleus of an atom is well known although its cause and precise mechanism are not.

Lazar's description of transmutation of elements to more-or-less stable elements by bombarding these elements with protons is substantially correct. It is known that by doing so, new elements can and have been produced up to atomic number (no. of protons) Z=110. However, most only last (i.e., are stable for) fractions of a second. It is speculated by mainstream physicists that if atoms could be manufactured with Z=115, they might be stable enough to last days or years before decaying into lighter elements by radioactivity. This is pure speculation, however.

It is also know that in certain high-energy atomic interactions with bombarding particles, a mirror-image of normal matter can be produced in tiny amounts called "anti-matter". Upon colliding with atomic particles of normal matter, both particles annihilate each other with a tremendous release of energy, as Lazar points out.

These are the main points from conventional physics that Lazar uses to give the impression that what is to follow is not only reasonable but also realizable.

Problems with Lazar's Physics

It is hard to conceive of the method whereby Lazar proposes to decrease the distance from our solar system to the nearby stars by bending space-time in the manner described. The simulation involving the "fishing net" model of space-time Lazar uses to demonstrate decreasing distance is at odds with General Relativity's description of actions near large gravitational fields.

So far there has been no hint that either anti-matter or gravitational waves will emanate from Element-115 when bombarded by protons. If this was the case, one might expect to have seen some tendency to do this in the higher Z elements such as those above Z=100. Why will this suddenly occur at Z=115 and nowhere else?

Most physicists agree that gravity (like other fields such as electromagnetism) displays complementary aspects of a particle-like and a wave-like nature depending upon the particular situation. Lazar's statement that gravity is only a wave with no particulate aspect is not supported by any evidence as far as conventional physics is concerned. Lazar also fails to mention those physicists who consider gravity to be neither waves or particles but merely special arrangements of electromagnetic fields or manifestations of a much more subtle energy form.

Lazar makes the correspondence between the strong nuclear force and what he calls 'Gravity A'. There is no strong evidence for this correspondence. Even if the strong nuclear force could be stimulated to reach outside the boundary of an atom as claimed by Lazar, there is no indication that it would act like normal gravity ('Gravity B') and or bend the fabric of space-time. Just because a force is

attractive doesn't mean it is gravity. The only slight hint that there are different "forms" of gravity is in the discovery of the so-called "5th force" -- a slight repulsive force much smaller than normal gravity.

Lazar never clarifies how the same Element-115 when bombarded with protons can simultaneously release anti-matter and gravitational waves. Presumably, the proton energy must be astronomical to perform just one of these feats. There is a terrible energy imbalance between available proton energy and that energy required to bend space-time, if General Relativity is to be believed.

If, as Lazar claims, Element-115 is only found on certain stars whose density and mass are of a certain critical size, why has it not shown up on spectroscopic images of stars of which we on Earth have cataloged many thousands?

Lazar gives no indication of why it follows that mechanically directing these hypothetical gravity waves in a certain spatial orientation will therefore bend the space-time fabric in the required direction and thus foreshorten the distance in that direction and thus foreshorten the distance in that direction. There is no evidence from General Relativity that such bending can be made anisotropically (i.e., in a preferred direction).

Engineering Problems

Lazar claims that since gravity waves are produced by Element-115 ('Gravity A'), they can be amplified and directed. Because cosmological gravity is a function of masses such as stars and planets, the wave-like nature of gravity can have an almost infinite set of frequencies ascribed to it. This is due to the near-infinite variety of speeds and directions of all the masses in the Universe relative to one another. For effective "anti-gravity" propulsion of the type described by Lazar, the bandwidth (capacity to amplify many frequencies) of such gravity wave amplifiers would have to be so large that we could not hope to engineer any such amplification scheme.

An amplifier must be able to distinguish what is being amplified from the power required to amplify whatever is being amplified. Since gravity penetrates all matter, the amplifiers must be constructed from non-matter -- an unlikely situation. The directing of such waves from an amplifier via some antenna or gravity radiator is even more unlikely.

Even if such amplifiers and radiators were realizable, why use Element-115 as the source? Why not design a super high-frequency oscillator to replace the hard-to-get Element-115 (since it is only available on or near stars)?

If the scale of the anti-gravity/anti-matter "reactor" shown in the video is any indication, the likelihood of directing a super highly-energetic beam of protons up and around such a tightly-curved tube without a super magnetic or electrostatic field is negligible. This is assuming there is room in the lower deck of the craft to produce such a beam.

The most probable direction of anti-matter particles (likely anti-protons) emanating from Element-115 upon bombardment by high-energy protons is parallel to the incoming proton beam. By some magic, Lazar's reactor is able to bend the anti-matter beam 90 degrees downward. On Earth, huge magnetic fields are required to keep anti-matter from touching the walls of any (normal-matter) container it is in so as not to annihilate prematurely. These are nowhere in evidence in Lazar's model.

Apparently the anti-matter particles are directed downward through a high vacuum and directly onto a "gaseous target" where they annihilate and heat is created. Lazar fails to inform us how to keep the gaseous target from being sucked up into the high vacuum. The heat so created is fed via the gas to a 100% efficient thermionic heat-to-electricity converter, thus completely skirting Carnot's heat-cycle

thermodynamic law. The end-product -- electricity -- is supposedly used to power the gravity wave amplifiers. Surely beings as advanced as those who designed this system would have found a better way of creating the necessary energy to drive the system. **[StealthSkater note: Playing the role of Devil's Advocate, if the S4 scientists knew all of these answers, they wouldn't have tried to cut open a running reactor in the blast facility which ended up killing 3 of them. And Lazar wouldn't have been hired to take one of their places. Apparently the secrets of the reactor are the key to back-engineering.]**

Summary

It appears to this author that the anti-gravity physics of Robert Lazar as outlined in his recent video is either an attempt to garner admiration and perhaps a job, or else it is part of the larger disinformation campaign which seems to shroud such investigations. The slick delivery and smooth style with which the lecture was presented plus the mixing of conventional physics and wild speculation tends to indicate the latter option. It is another in a long series of deviations thrown at serious researchers to prevent them from arriving at the truth about the phenomenon. As usual, the time and effort wasted in trying to find any hidden nuggets of real, novel information are much greater than the potential reward of such a find, as is typical of disinformation strategies. However, in this case, I cannot find any hidden nuggets no matter how hard I look. **[StealthSkater note: Again assuming the DA role, it could be that Lazar was given disinfo by his superiors as to how these worked while actual flight demonstrations were being shown to him.]**

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