

Dr. Dr. C Y Lo's letter to the Mayor of Boston, USA. Jan 8 2022

Dear Mayor Wu:

Congratulations on your being elected as the first Boston Mayor of Asian descent ! I am also excited because you promise to do good for every Boston citizen.

I would like to inform you that I am also an Asian who is the first in the world to prove that Einstein is fundamentally wrong because I discover and confirm with experiments a new repulsive gravitational force, which is the fifth fundamental force discovered in the world [1, 2] (before this discovery, the physicists of the world know only four fundamental forces, i.e. gravitation, electromagnetic, strong nuclear interaction, and weak interaction). However, to my surprise, my communication channel to the American people on this important new scientific finding is blocked in the US. I am writing to you for help to reopen this communication.

You might think that to judge a scientific discovery is a problem reserved to the experts. However, this is an exception because Einstein [3] has made the case a easy task even for citizen with ordinary education. It is well-known to be very difficult and very expensive to verify Einstein's theory is right. However, to prove that Einstein is wrong, surprisingly it requires only how to weight things with an accurate scale.

This task requires only a high school education and an accurate electronic scale which costs less than a thousand dollars. Thus, it can be easily done with a small budget. And therefore it is possible for a city to spread this great news of sciences. However, you may wonder why I ask help from a city instead of the normal channel through famous schools since there are plenty of them in the Boston area.

The answer for this is that many schools not only worship Einstein, but also reluctance to show that Einstein can be wrong because of the deep interests involved. For instance, the only open support for my research on repulsive gravitation from this area is Dr. Susan Hockfield. Although she is the 16th president of MIT, she is a biologist and thus do not have to worry about her involvement due to biology is only remotely related to Einstein.

Now, let us back to discussing the sciences. Based on the speculation  $E = mc^2$ , Einstein [3] claimed that the weight of a metal piece would increase as its temperature increases. However, experiments [4] show that its weight actually is reduced. Thus, it is clear that there are errors in Einstein's theory, and blind faith in Einstein is outdated. It follows that the claim of Harvard Prof. S. T. Yau that based their positive mass theorem [5] is incorrect. A close examination of their theorem [6] shows there is no solution that can satisfy their misleading theorem. Thus, as Prof

Peter C. Sarnak

of the Institute for Advanced Study recently pointed out, the mathematicians of the prestigious Fields Medal, who awarded Yau in 1982 and Witten in 1990 a prize, do not understand physics. Nevertheless, because the physics community failed to correct their error, it has blocked the progress of general relativity for more than 40 years!

Also, since the pass of the late MIT Institute Professor P. Morrison,<sup>1)</sup> nobody at MIT understands general relativity.<sup>2)</sup> Thus, an MIT team claimed they have proved, against the findings of Einstein and me [7], that the Einstein equation can generate the gravitational wave. They claimed that their result is based on their computer calculation. However, it is well known that calculation with a computer is fast, but can be unreliable.

Moreover,  $E = mc^2$  is not valid for the electromagnetic energy  $E$ . Since according to the Einstein equation [8],  $E$  cannot change the Ricci curvature  $R$ , but the mass can. Thus,  $E = mc^2$  is not consistent with the Einstein equation [9]. Since  $E = mc^2$  is not always valid, there is nothing to guarantee that all the coupling constants to have the same sign. Thus, the implicit assumption of the spacetime singularity theorems of Hawking and Penrose may not be valid. In addition, there is no bounded dynamic solution for the Einstein equation because it violates the principle of causality [10]. Therefore, their work on gravitation is actually irrelevant to physics. The failure of  $E = mc^2$  in general also means that the proof for asymptotic freedom [11] is incomplete although a Nobel Prize has already been given.

Experiments show that the weight reduction of a metal piece as its temperature increases is a reduction of gravitation, but not due to a reduction of mass [12]. Thus, the repulsive gravitational force must exist and Einstein's basic assumption, the existence of gravitational mass [8], is incorrect. This implies also that gravity is not always attractive, and thus Penrose's 1965 proof [13] for the existence of black holes is invalid. In turn, this implies that the award to Penrose by the Nobel Committee is groundless.

In nature, it seems there is a repulsive force related to an attractive force. Thus, the matter would not be over-concentrated infinitely. However, for gravity, it seems there was no repulsive force. Nevertheless, I was inspired by the teaching of Chinese philosopher Lao Tze (of more than 2500 years ago), who believes that for any attractive force there is a repulsive force.

Another problem with the existence of repulsive gravitational force is that the popular string theory failed to address it. Moreover, the existence of repulsive gravitational force implies that the basic assumption of general relativity that inertial mass is equivalent to gravitational mass [8] is invalid. Thus, although this new force can lead to the unification of gravitation and electromagnetism that Einstein conjectured, the American Physical Society refuses to acknowledge the experimental confirmation of the repulsive gravitation. I submitted a paper to Physical Review D last year, it is still marked as not under active consideration. In other words, the notion of American first is ignored.

Thus, I have no choice, but to submit my paper outside the US. They [11, 14] were enthusiastically accepted. It seems to me that the rejection of publishing my work is irrationally due to the desire to defend outdated theories, and hide the failure of the physics society. It seems my only "sin" is that I have proved that Einstein can be wrong, and the claim on the existence of black holes is groundless. What I wish is that the city of Boston would help spread the new scientific findings by demonstrating the experiment on the weight reduction of metals as the temperature increases. Then, the American people would be better informed on the current development of the sciences.

I trust that you have a good judgment on the development of sciences since you have an elementary science education from Harvard. Moreover, you do not have to consider the erroneous opinion of the so-called authorities. If you have questions on this matter, I shall be glad to answer them. I am looking forward to hearing from you.

Sincerely yours,

C. Y. Lo

p.s. People might wonder why I have the ability that many others failed, My answer is that very luckily, I had a very good education to know that sciences are based on experiments. I have a Ph. D. degree (1966) in pure math. from Canada, with Prof. I. Halperin as my advisor, and a D. Sc. degree (1977) in Physics from MIT.

Endnote:

- 1) P. Morrison is a student of Prof. Oppenheim, who invented but abandoned the notion of black holes.
- 2) Now, it is clear that even Einstein does not fully understand general relativity.

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An Open Letter to the Physics

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Department of MIT

Professor Deepto Chakrabarty,

Head, Department of Physics, MIT

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Dear Professor Chakrabarty:

I graduated from MIT in 1977 with a D.Sc. degree in theoretical physics, Before this, I have a Ph.D. degree in pure mathematics under Professor I. Halperin from Queen's University Ontario, Canada. I learned pure mathematics because I have determined to be a theoretical physics, and I also know that the mathematical training from physics would be in adequate to do research in some areas of theoretical physics.

This is confirmed in the field of gravitation since everybody including Einstein, made mathematical mistakes in general relativity. In particular, the well-known Wheeler School even made many mistakes in mathematical without being known by the scientific community. This is a reason that some aspects of general relativity is currently in such a poor state.

Although I am known by the physics department to do excellent calculations in physics in MIT, my specialty was not gravity. However, I was very lucky to have the best teacher in gravitation, Prof. S. Weinberg, and an excellent consultant in gravitation, MIT Institute Professor P. Morrison. These made me to have the ability to do research in gravitation after my graduation.

Currently, it were believed that Einstein's major achievements are the formula  $E = mc^2$  and the Einstein equation. Thus, there are memorial buildings in Beijing, Taipei, and Berlin because Einstein and his

followers did not know that these two achievements are not consistent with each other. In other words, the mistake is universally made by everybody, including MIT. As a graduate of MIT, I feel that I have the obligation to tell you this error because you are our department head. Moreover, this mistake also leads to overlooking the important repulsive gravitational force, which most physicists still do not know. Einstein believed  $E = mc^2$  is generally true because he failed to see there are at least two kinds of energies; one is related to a non-zero trace energy momentum tensor, and another is related to a traceless energy momentum tensor such as the electromagnetic energy.

Moreover, Einstein is clearly wrong because experimentally a heated metal would have reduced weight instead of increased weight as Einstein predicted. In addition, the photons as massless particles includes not only electromagnetic energy, but also gravitational energy. Einstein also make other errors without being well-known. For instance, his covariance principle is invalid as Prof. Zhou Pei-Yuan pointed out and I support this with explicit examples.

Two years ago I went to Hong Kong and reported the news of the repulsive gravitational force being discovered to Pui-Ching high school. Now, they are very interested in repulsive gravitation and asked what is MIT attitude toward my discovery. Thus, I have no choice but to ask you to tell them your attitude. They would have a conference around August. I hope that you can give me an answer before then. Nevertheless, I do expect that you would have the right conclusion that  $E = mc^2$  is not generally valid, and the repulsive gravitational force does exist. Moreover, Mr. H. Y. Woo has published, "Is Einstein's Equation  $E = mc^2$  always correct?" to Hong Kong Institution of Engineers (HKIE), which is a HK government recognized organization with 30 thousand professional engineers of various disciplines such as Mechanical, Electrical, Electronic, Civil, Marine, ect. .

For your convenience, my related paper is attached for your perusal. Any comments and suggestions you may have will be appreciated. Thank you. I would like to tell you also that the MIT support of my work is very limited. So far, I have only the support of Prof. Susan Hockfield and partial support from Prof. Frank A. Wilczek. It was a surprise that Einstein had made so many errors without being known.

Sincerely yours,

C. Y. Lo, 77 Physics.