A. EINSTEIN'S THEORY OF RELATIVITY - A CRITICAL REVISION

(From Albert Einstein to Lev Okun is just one step).

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Summary. An analysis of the presentations of the special theory of relativity (STR) in many physics lecture courses, as well as in a classic book of E. F. Taylor and J. A. Wheeler “Spacetime Physics”, W. H. Freeman and Company, San Francisco London 1966, as well as in TONS of internet resources on STR, as well as Einstein's original STR paper published in 1905, shows CLEARLY that they all use the SOFISM of REPLACING THE TRAJECTORY OF LIGHT in a moving system - with the trajectory of light seen in a moving system from point of view of a stationary system (note the difference!). From here length contraction, time dilation and other STR effects in a moving system are ERRONEOUSLY or SOPHISTICALLY deduced with the so-called Lorentz transformations. Here I discuss this SOPHISM, the groundlessness of the central postulate of STR (“invariance of c, speed of light”, which is false and that was proven by Olaf Roemer already in 1679), as well as the absurdist consequences of STR, obtained precisely as results of sophistic techniques when designing this ill theory. When cleared from these sophisms, there are NO "relativistic effects" (time dilation, length contractions etc., allegedly happening during movement, according to A. Einstein). The theorem of M. V. Telkov about the falsehood of STR+GTR as physical theories is proven and presented. The consequence of these is the physical falsity of all theories based on A. Einstein's STR+GTR as having a false and wrong basis. The statement that the speed of light is unattainable by material bodies or, what is the same, c is the limit of speeds achievable by material bodies is also false.

In this paper the foundations of A. Einstein's Special Theory of Relativity are critically examined and TWO independent proofs of the FALSITY of A. Einstein's theory of relativity are presented: one was discovered, the second was logically proven.

Let's start from considering the consequences of the so-called "Lorentz transformations", the mathematical basis of STR (see Fig. 1. And Fig. 2. Consequences of Lorentz transformations).

The "Lorentz transformations" are mathematical equations for the coordinates x, y and z, and time t, for a certain object. They are used to find new coordinates from a stationary system (or frame), in a new moving one; using "Lorentz transformations", one can find/recalculate the coordinates of an object in a new coordinate system/frame.

However, when moving, according to the Special Theory of Relativity of A. Einstein (and only according to it), quite unexpected events are happening: time dilation and length contraction of objects in a moving system! Especially they are noticeable at the speeds comparable to the speed of light c = 300,000 km/sec: objects must be compressed to zero length along the axis of motion, and not from the action of some force, but from the contraction of a space itself! But A. Einstein reassures that it is not possible for physical bodies to achieve such a speed, because, according to his equations, the mass of a body and its momentum become infinitely large and the time itself stops forever! – Isn’t it fascinating?

- But is this really so?
- Let us investigate!

Below there are fig. 1 and fig. 2. Consequences from Lorentz transformations": time dilation and length contraction in a moving system/frame (see).

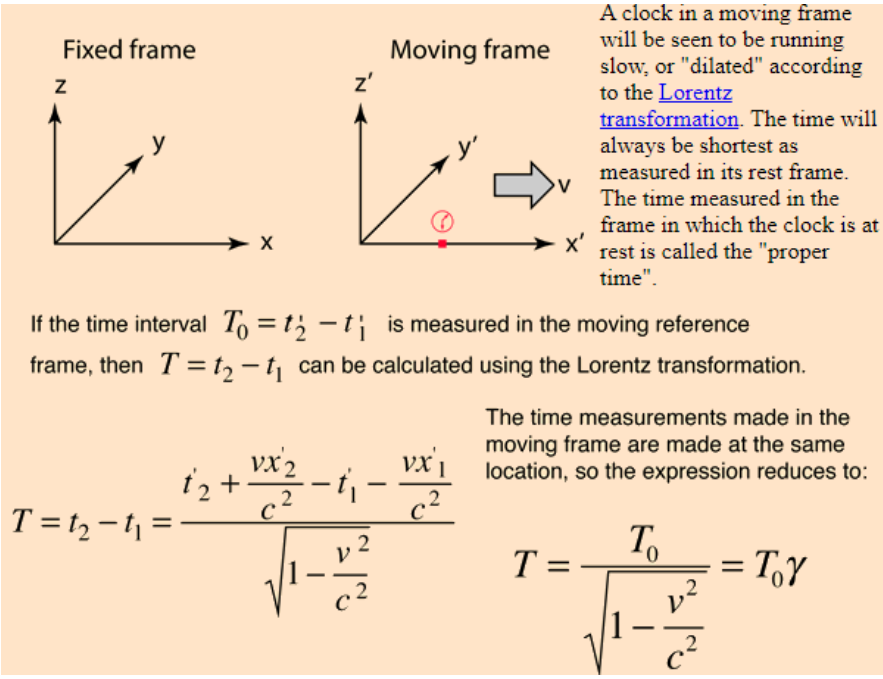


Fig. 1. Consequences from Lorentz transformations: time dilation in a moving system/frame.

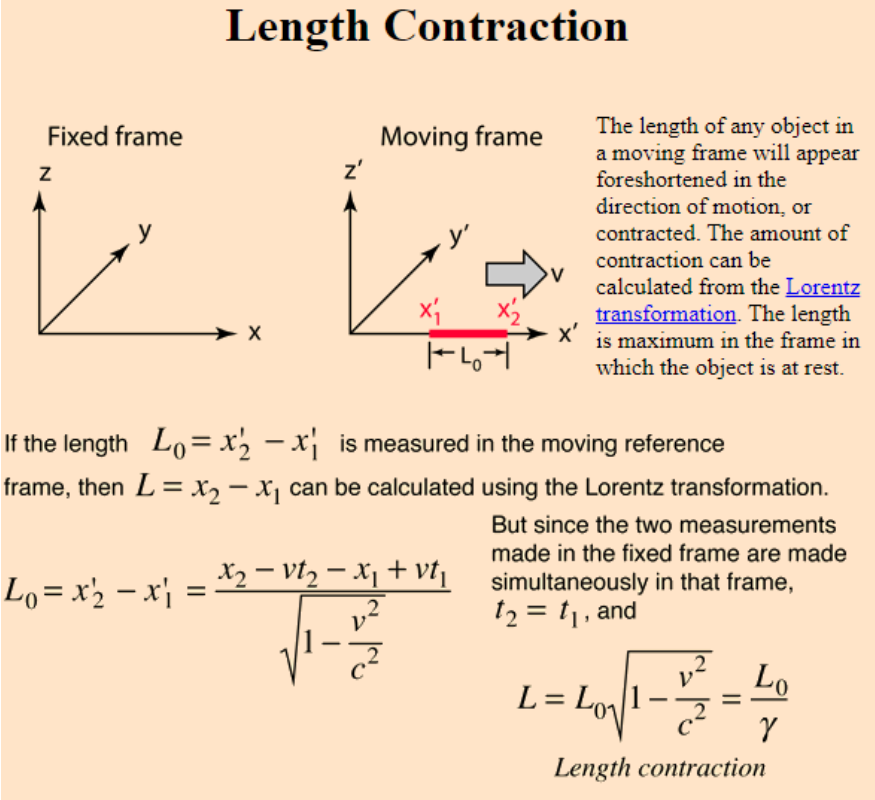


Fig.2. Consequences from Lorentz transformations: length contraction in a moving system/frame.

When deriving the equations of “Lorentz transformations”, authors often use a thought experiment with the so-called “light clocks” (which are used to visually demonstrate the passage of time and which are designed by sending a beam of light from bottom to top - to the mirror, where it is reflected back down, and it constantly runs back and forth, and each such send of light measures 1 unit of time).

Below is fig. 3, a print from the lecture “Poincaré-Einstein mechanics, introduction to the special theory of relativity (M.D. Fitkevich)”, Inst. Nuclear Physics RAS, MIPT, April 20, 2023. It is in Russian but everything is pretty clear: they compare trajectories of light in light clocks in a stationary system/frame and in a moving one…

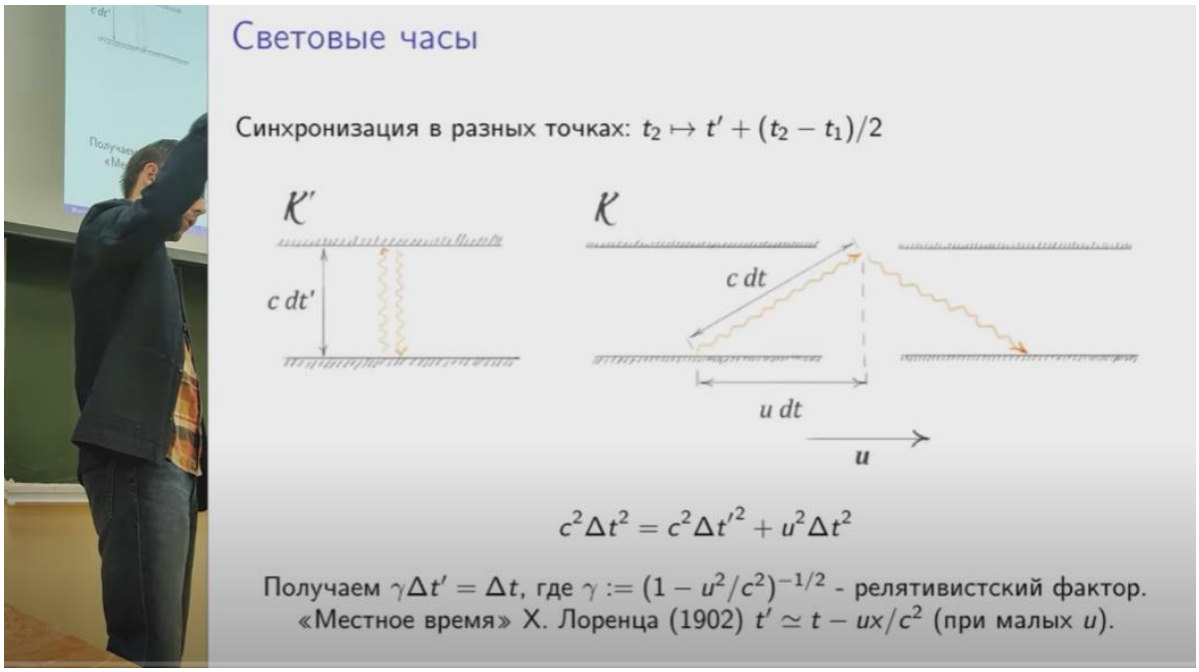


Fig. 3. Trajectories of light in light clocks in a stationary frame K’ and a moving frame K. And deduction of Lorentz factor which is used extensively later in many “relativist equations”.

There, Einstein’s followers try to convince everyone that for a moving person/frame, the light in his light clock allegedly goes along the HYPOTENUSE, and not along the vertical cathetus of a right triangle, as it goes for a stationary observer/frame, that is why Einstein’s followers say, the time slows down for a moving system/frame as compared to a stationary observer/frame (“The hypotenuse is always longer than the cathetus in a right triangle, right?").

Let’s look closely at Fig. 3 from the lecture: Einstein’s followers claim that light in the stationary system/frame K’ goes vertically up and down along the side cdt’, and in the moving system/frame K, due to its shift in the direction of movement, light goes along the hypotenuse cdt. They use the Pythagorean theorem (the square of the hypotenuse is equal to the sum of the squares of the cathetes, see figure 3) and from there they cheerfully derive the equations of Lorentz transformations, which supposedly lead to time dilation and the lengths contraction along the axe of movement in the moving system/frame! They receive there the so-called “Lorentz factor”, or “relativistic factor”, or gamma = $((1- (v/c)^2)^{-1/2}$, where v is the speed of the object, and c is the speed of light, which is then used in various equations.

Let us note that light along the hypotenuse cdt goes in a moving system from the VIEWPOINT OF A STATIONARY OBSERVER/FRAME (i.e., this is how he sees it from the outside).

- But wait: Why a moving observer should care about how it is seen by a stationary observer? And HOW WHAT “SEEMS” TO A STATIONARY OBSERVER should influence on the moving one, and why on earth should it “slow down the time for the moving observer?” And why its lengths would be contracted"??? - What kind of nonsense is this? This trick in Logic is called “substitution of concepts” - a violation of one of the basic laws of Logic - the “law of Identity”!

This is sheer sophistry or fraud!

- The fact is that there are at least TWO trajectories of light moving here in the PHYSICAL and LOGICAL sense: ONE trajectory - from the point of view of the moving observer/frame (here - along the vertical segment - cdt'), so to speak - “REAL”, and the other - THE TRAJECTORY THAT SEES TO AN EXTERNAL, STATIONARY OBSERVER/frame, - the hypotenuse - cdt, - the “APPEARING” trajectory or “MOCK” (at least in the logical sense).

And by replacing one trajectory with another, the sophists get that the light in a moving system/frame goes along the “HYPOTENUSE” - cdt, and not along the “UPRIGHT SEGMENT” - cdt’, as it goes in stationary system/frame, from which follows “TIME DILATION”! (See fig. 1 Consequences from Lorentz transformations).

And from this, by transforming the coordinate x' into x, according to the corresponding simple expression, $x = (x' + Vt') * \text{Lorentz factor} = (x' + Vt') * ((1- (v/c)^2)^{-1/2}$, where V is the speed of movement of the moving system, c is the speed of light, and t is time, “LENGTH CONTRACTION” is obtained in the moving system along the axis of movement (See fig. 2 Consequences from Lorentz transformations).

- Is not it smart, right?

Nonetheless, it is ABSOLUTELY CLEAR that in the above thought experiment, both in the moving and in the stationary/still system/frame, the light in their “light clocks” ACTUALLY goes EXACTLY THE SAME WAY – straight vertically (cdt'), and therefore the light clock (like ordinary clocks, of course) for both, in the moving frame and the stationary/still frame/observer, ACTUALLY go EXACTLY THE SAME PATH, and therefore there is NO TIME DILATION, and NO LENGTH CONTRACTIONS in a moving system/frame!

Just so! - AND NOT OTHERWISE!

(This approach with the false hypotenuse of the movement of light in the so-called “light clock” for a moving one in comparison with the movement of light along a vertical cathetus for a stationary observer is used in many lectures for physics students, and also in the classical book by Taylor and Wheeler “ Physics of Space-Time", 1971, edition "Mir", see page 34, Fig. 13 and further; there is also a fresh English-language video on YouTube with a popular prof. Cox from Oxford, which convinces his audience in the same thing and in the same way. Actually, the same sophistic approach is used in TONS of other sources of STR… Including Wikipedia on STR (see fig. 4 Time dilation in moving system/frame B as compared to stationary system/frame A).

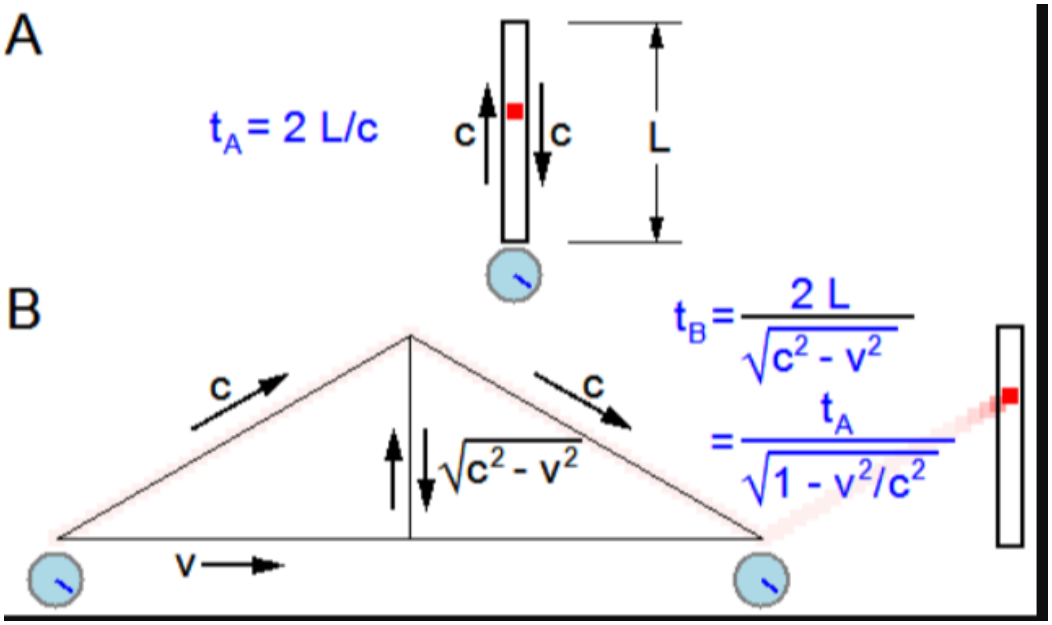


Fig. 4. Falsified trajectory of light in light clocks in a moving frame B, as compared with that in a stationary frame – A. Allegedly that caused time dilation in a moving frame. From wikipedia.

And principally the same type of a SOFISM is contained in A. Einstein's ORIGINAL WORK "ON THE ELECTRODYNAMICS OF MOVING BODIES". A. EINSTEIN, June 30, 1905).

- But a sophistry is only a sophistry, just as a deception is only a deception, and thus we see that the main conclusions of the STR - time dilation and lengths contractions during movement - HAVE BEEN FALSE – these are NOT actually HAPPENING.

So, the theory of STR by A. Einstein is based on a logical error... Or sophism and fraud?!

Let historians decide on this, and I, paraphrasing, CONCLUDE: "EINSTEIN IS MY FRIEND, BUT THE TRUTH IS DEARER."

And this was the FIRST of the REFUTATIONS of EINSTEIN'S THEORY OF RELATIVITY that I promised, made on the basis of a number of lecture courses for university physics students, tons of the internet resources on STR, the classic book by E. F. Taylor and J. A. Wheeler "Spacetime Physics", W. H. Freeman and Company, San Francisco London 1966, and also the original article of A. Einstein himself, published in 1905, - namely, by the finding and a refutation of the SOPHISTRY of substitution of light trajectories.

Someone may object by saying that these were simply "childish ways" of introducing STR, "for students and neophytes". And there are others "highly scientific" methods: with rotors, tensors etc., which are not yet comprehensible to neophytes...

- Well, there are such more intricate methods, so what? - Are you sure that if you were deceived by the trajectory of light, you will not be deceived by complex mathematics?! After all, the sophistry with the substitution of the trajectory of light is contained in the very first work on STR published in 1905, written by A. Einstein himself!

In fact, the whole essence of the Theory of Relativity and its oddities stems from the special properties of the speed of light declared by A. Einstein in his II postulate: its invariance, absoluteness and non-additivity to movement of any body. But this is ABSOLUTELY FALSE, as astronomer Olaf Roemer in 1679, used the additivity of the speed of light and the motion of the Earth around the Sun to calculate the quantitative value of the speed of light (from the apparent changes in the period of revolution of the satellite Io around Jupiter – which depends on the phase of rotation of the Earth around the Sun and its speed of movement towards or from the Jupiter)...

So, the speed of light is probably quite an ordinary speed, and probably quite achievable by material bodies!

In the meantime, let's continue:

Some professors, obviously "embarrassed" by the "false hypotenuse" described above, derive Lorentz transformations from the properties of mathematical groups (See, for example, S. S. Gershtein "Field Theory. Lecture No. 1: Theory of Relativity. Lorentz Transformations. 2013."). - But where are the mathematical groups, and where are physics and nature? Moreover, the properties of mathematical groups are distorted by the very special, invariant speed of light in all systems, and by the fact that it cannot be combined with any movement - it is absolute, unchangeable and unattainable by material bodies! This is the main postulate of STR. And this is precisely from where "time dilation", "length reduction", and all other so-called "STR paradoxes" come from.

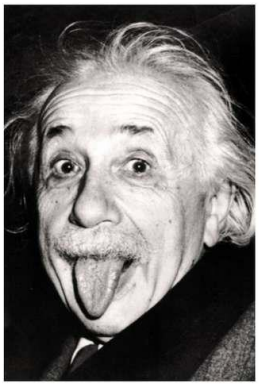
Other followers of Einstein derive "Lorentz transformations" differently, say, in Soviet-Russian physics textbooks for university students (for example, A.N. Matveev "Mechanics and STR") this is done by ordinary algebraic substitution. But again – very special speed of light "breaks" everything: lengths, times,

masses - with the same “cheerful” logic of the “cheerful mathematician” which states: “it’s impossible to divide on zero, and therefore the speed of light is unattainable for material bodies and this does not happen in nature”...

But: mathematics is dry and paper tolerates everything...

- There are about two dozen of methods for deriving Lorentz transformations... However, physics is not mathematics, and in physics mathematical “discoveries” should be supported by physical proofs/experiments...

- One way or another, but the result is the same as with the false hypotenuse - “time dilation” and “length contraction” in the moving system, which, of course, do NOT happen IN REALITY.



Albert Einstein

Fig. 5. Albert Einstein, genius of all timesб the designer of STR+GTR, in playful mood.

This is where from the well-known “paradoxes of STR” (read: “absurdities”) flow, which in their essence are true “logical denial” of STR!

- In OUR TIME, physicists confidently say that the dilation of time and the reduction of lengths along the axis of motion of a moving object are REAL... See, for example, the lecture of a docent from the faculty of Physics, of the Moscow State University A.A. Yakut “Mechanics - STR. Lorentz transformation and its consequences"; description of the paradox of aging twins in a rocket and on Earth from the book E. F. Taylor and J. A. Wheeler “Spacetime Physics”, 1966; the Hafele-Keating experiment of 1971 with the measurement of time dilation during a long flight on an airplane around the Earth…

Though, there is an opinion that the Hafele-Keating experiment of 1971 was simply fabricated, - see the video of physicist-engineer E. N. Avdeev on the website: https://efirfizika. ru/)

In this regard, the book V. I. Sekerin “THE THEORY OF RELATIVITY - A MYSTIFICATION OF THE XX CENTURY”, Novosibirsk: Art Avenue Publishing House, 2007, is very pertinent, where, quote: “The inconsistency of STR as a physical theory is proven, the history and origins of its invention are described, the idealistic philosophical essence and harmfulness of study and it’s applications in practice are shown.”

On the website https://efirfizika.ru/ E.N. Avdeev provides as many as 7 (seven) proofs of the falsity of Einstein’s theories in HIS OPEN LETTER to the Academy of Sciences of the Russian Federation.

And I agree with them!

And here is another proof, and a strict one:

M. V. TELKOV'S THEOREM ABOUT THE FALSETY OF A. EINSTEIN'S THEORY OF RELATIVITY as a physical theory.

1.According to the Special Theory of Relativity (STR) of A. Einstein, in a moving system/frame the following occurs: 1) Length contraction along the axis of motion, 2) time dilation, all according to an outside stationary observer. The length contraction and time dilation for a moving system occurs in REALITY (i.e., these are NOT changes that "seem" to someone). Mathematically this is described by the Lorenz transformations.

2. However, if there are several or many "observers", and they themselves move at different speeds, then WHAT - the first moving one, observed, contracts to DIFFERENT DEGREES, and "TIME DILATION" occurs in DIFFERENT ways (and at the same time DIFFERENT) - according to all these observers – too???

That is, the first observed one is SIMULTANEOUSLY reduced/shortened TO DIFFERENT DEGREES, and indefinitely (presumably, by the number of "observers" and their moving activity), acquiring differently existing many DIFFERENT ENTITIES, which are also in DIFFERENT TIMES at the same time?

3. But they themselves ("observers"), according to the principle of relativity, mutually, must contract relative to the first subject/object of movement (and ALL AT THE SAME TIME, EACH IN DIFFERENT WAYS, and to an UNDETERMINED DEGREE!!!) and thus should happen for them all this BEDLAM!???

4.YES? SO?

According to STR - SO!

5. But it is IMPOSSIBLE for a physical body to neither be AT DIFFERENT TIMES AT THE SAME TIME, nor HAVE AT THE SAME TIME DIFFERENT, indefinitely different (!!!), SIZES!

-Right?

-RIGHT!

This blatant ABSURDITY in its physical IMPOSSIBILITY and at the same time a NECESSARY consequence of the STR proves the FALSE of Einstein's Special Theory of Relativity as physical theory.

6.And since GTR (General Theory of Relativity) is a generalization of STR (Special Theory of Relativity), then GTR (General Theory of Relativity) of Einstein is false!

Or: applying the technique discussed above to accelerated motion (which is what theory of general relativity considers) - we obtain an absolutely symmetrical situation - i.e. We'll also come to the absurdity - the impossibility of a physical body to be in different (and indefinitely different) times and sizes at the same time.

That's all - as a logical result, A. Einstein's theory turned out to be "completely absurd," that is, we carried out a complete negation of Einstein's theory according to the strict criteria of Aristotle's Logic!

– So we have come to the proof of the complete physical INCONSISTENCE and FALSENESS of A. Einstein's SRT+GTR!

THE THEOREM IS PROVEN.

<u>Consequences</u>: ALL THE THEORIES BASED ON A. EINSTEIN'S THEORY OF RELATIVITY are FALSE ("Big Bang Theory", "theory of an expanding universe", "black holes", "white holes", "dark matter" and etc.) as having a false basis.

And therefore: forget about STR + GTR (and all their "paradoxes") as of bad, inappropriate "jokes".

- There are no "Lorentz transformations" and no "Einstein's theories" - all these are "jokes", universally and very OBSESSIVELY inflated by the mass media.

I understand that it is difficult to accept the abovementioned, as Mark Twain once said: “It is easier to deceive people than to convince them that they are deceived.”

As a result: manipulations-sophisms, paradoxes-absurdities, absence of confirmation by experimental data, the presence of astronomical data that directly contradict STR+GTR - and still: “STR+GTR and quantum mechanics are the best parts in modern physics - its basis” (c)!!!

And such pearls: “From the formulas $E=mc^2/(1-(V/C)^2)^{1/2}$ and $p=mV/(1-(V/C)^2)^{1/2}$, it is obvious that a massive body unable to move at the speed of light, since in this case the energy and momentum of the body must turn to infinity,” L. Okun.

- BUT this is still the same pointing finger to NATURE: “Hony, lie down, it’s written so in the formula.”

In relation to mass, different relativists believe differently.

They give the formula: $m=m_o/(1-(v/c)^2)^{1/2}$, but then goes a mess:

Einstein wrote: "The mass of a body increases as the velocity of the body increases".

Feynman. Vol. 2 §4 Relativistic Mass. "The mass of a body grows with the increase of its velocity".

The best Soviet and Russian authority in STO+OTO academician-physicist Okun L. B. writes: "The mass of a body does not grow with the growth of the velocity of the body".

Okun L. B. 2010. "University professors who allow themselves to say that the mass of a body grows with the growth of its velocity or momentum, mislead school teachers and their students".

But further - more:

Lev Okun. "Mass, energy, relativity", 02/04/2012. :

"Thus, if one tries to define as "inert mass" the ratio of force to acceleration, m=F/a, this quantity in the theory of relativity depends on the mutual direction of force and velocity, and therefore cannot be unambiguously defined. To the same conclusion concerning "gravitational mass" leads to the consideration of gravitational interaction."

And a little further: "If in the Newtonian theory the force of gravitational interaction is determined by masses of interacting bodies, in the relativistic case the situation is much more complicated. The point is that in the relativistic case the source of the gravitational field is a complex quantity having ten (!!!!????) different components - the so-called energy-momentum tensor of the body".

And a little further on:

"We have already noted above that in the theory of relativity the mass of the system is not equal to the mass of the bodies composing the system."

And in confirmation of the words Lev Okun gives an example of flying apart photons - BUT again - in mental experiment (!!!!!????) and with use of formulas of abracadabrial Einsteiniana! - And he declares: "these formulas are absolutely correct. They are used in building of the atomic particle accelerators".

- So what? Construction of atomic particle accelerators is certainly profitable business, especially for those who know where to go for their "small share", but where else do STR+GTR used?

BUT: why THE THEORY OF RELATIVITY has not been refuted so far? Has no one ever thought of such simple considerations as I outlined above (Theorem)?

- It’s unlikely, because everything is so elementary!

In my view, they do not refute it because:

1. IN PRACTICE (and we do not consider the media and their fooling of the population to be a worthy practice) STR and GTR ARE NOT USED. ANYWHERE.

A) The advertised use of STR in car navigators is nothing more than a marketing ploy. If the STR formulas were used by some navigation systems (God forbid, since they are FALSE), then in any case these "STR corrections" at our typical speeds, very slow as compared to the speed of light (and our typical speeds: 1 m/s – 1000 m/s – 10 km/s, i.e. 300,000,000 – 300,000 and 30,000 times slower than the speed of light), and accordingly, Einstein's corrections, even if they were used, would be extremely insignificant (especially since quadratic values of velocities v^2/c^2 (according to Lorentz transformations) must be used there, which further diminish their relative significance, already negligible).

B) Application in nuclear physics/atomic bomb - is a ploy of relativists, because neither Becquerel, nor the Curies, nor Rutherford, nor Hahn, nor other founders of nuclear physics used A. Einstein's ideas on STR+GTR.

Nuclear reactors use the properties of the chemistry of elements, heat engineering and electrical engineering... But - not at all STR or GTR. And the "mass defect" calculated on the basis of $E=mc^2$ is somehow much too general to be implemented in practice. Most likely this formula is also deeply erroneous (equate matter and mass - but in what conditions, have you taken into account?).

2. STR and GTR "feed" a LOT of professors, as well as "sages-stargazers" who invent "Big Bangs", "black holes", "white holes", "dark matter", the Higgs boson, etc., on the basis of STR+GTR, and yet the observed astronomical and other effects ACTUALLY allow hundreds of alternative explanations. "Sages-stargazers" are surrounded by administrations of institutes and pseudo-scientific environments, as well as the mass media, so in total this is a colossal force that retards the free development of science immensely! And at present, it also sets the direction for science, because: "Whoever pays a girl, dances her!"

And heavy artillery comes:

Already in the first quarter of the 20th century, many thinkers understood the unrealizable character of Einstein's speculative theories of relativities, probably they also noticed their sophistical tricks, as well as the wild absurdities to which it leads, and as a result they did not accept it; dozens of outstanding names can be named: K. E. Tsiolkovsky, A.K. Timiryazev (son), philosopher and logician A.A. Zinoviev, as well as famous foreign physicists I. Stark, L. Brillouin, N. Tesla, Nobel laureates P. Bridgman, J.J. Thomson, F. Lenard et al.

The founder of solid-state physics L. Brillouin (France, USA) called the theory of relativity a purely speculative construction: "The General Theory of Relativity is a brilliant example of a magnificent mathematical theory, built on sand and leading to an ever-increasing accumulation of mathematics in cosmology (a typical example of science fiction)."

Academician-physicist of the Russian Academy of Sciences S. S. Gershtein from MIPT, a student of Landau and Livshits, reported on YouTube that at the Moscow State University in the 1930-1950s THEY DID NOT RECOGNIZE either Einstein's STR+GTR, nor quantum mechanics.

- Perhaps at that time at the Moscow State University there were classical professors of the old honest school... Later "something went wrong" (c).

P.S. The fact that in modern physics "much is WRONG", and thoroughly infested with idealistic phantoms that have nothing to do with the nature, but which poison the consciousness with incorrect ideas about the world - physicists are well aware!

A group of specialists concerned about this situation published a work: “Errors, prejudices and misconceptions in modern electrodynamics,” which contains an analysis of a number of dubious provisions.

It raises the topic of the struggle between materialistic and idealistic trends in science, administrative prohibitions on criticism of the “sacred doctrines of modern physics” (in particular A. Einstein and his theories), etc. (see http://kuligin.mylivepage/ru)

Similarly, in the Internet there are a lot of sketches by physicists (usually anonymous) about certain absurd physical theories, in particular about STR+GTR.

O. Kh. Derevensky, in his work “Fig Leafs of the Theory of Relativity” http://newfiz.info/, conducts a very caustic professional analysis of the absurdities of STR+GTR, which are probably well known to theoretical physicists, but are completely unknown to the general public, for whom Einstein and his theories remain supreme achievements of human thought.

But as was shown: A. Einstein's STR and GTR are speculative mathematical theories contradictory not only to nature, but also to Logic and to common sense.

Unfortunately, on the basis of STR+GTR, non-critical thinkers and the Einstein mafia have created many speculative theories, which, due to the physical inconsistency of STR+GTR, are themselves physically inconsistent, but still fill the field of modern physics.

It is clear that the difficult but necessary path of cleansing lies ahead.

And this is my “message to the world” - is a small but necessary step in this direction...

It seems to me that I found two simple but absolute proofs of falsity of A. Einsteins Theories of Relativity (STR + GTR) which can be presented in rather short paper.

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