the general science journal

Moving the goalposts method of adding extra assumptions to Special Relativity

Roger J Anderton
R.J.Anderton@btinternet.com

Special Relativity (SR) method as initiated by Einstein and taken up by his followers is to keep adding extra assumptions to the stated initial assumptions. When it is pointed out an assumption is nonsense, the method of the Einsteinians is to add extra assumptions to try to defend that assumption rather than admit the assumption is nonsense. This mimics the mistake that the medieval science world did with adding epicycles. In other words, they use the logical fallacy of moving the goalposts.

1. Introduction to the Study

This article is based on a study of a discussion on a science group whereby someone calling himself 'StarThrower' tries to convince some Einstein believers that they believe nonsense. [1] Of course the Einstein believers resist strongly such a claim and degenerate in saying their usual nonsense to defend their beliefs.

There are many relativity discussions on the Internet that end up with the Einstein Relativity believers refusing to accept their logical fallacies, and hurling abuse.

2. The method of Einstein believers

The general method of Einstein is of course to start from two supposed assumptions, and then when finds this does not fit in the existing paradigm of Newtonian physics (NP) to then start altering Newtonian physics.

The main assumption that does not fit is the constancy of light-speed in vacuum.

I have dealt with in previous articles - how I will set things up to make sense of what is otherwise nonsense from Einstein.

But for the course of this analysis will take light-speed in vacuum assumption as postulate as the position of Einstein and his believers.

When starting from that assumption – it does not fit with the Newtonian paradigm. From the Newtonian paradigm perspective that then would mean the assumption was false, and that would be the end of the story.

But of course, the Einstein believers like their hero Einstein do not take that perspective, instead when faced with this initial assumption of light-speed constancy in vacuum not making sense, they then just start adding extra assumptions. Logically this is a totally invalid procedure to take. But like Einstein, the Einstein believers abandon logic and reason, as they try to defend their beliefs.

3. The Study

Star Thrower does not give a very good scenario position, so I will give two scenarios where the second scenario is his.

He starts from saying: "Fundamental Postulate Of Special Relativity: The speed of a photon in any inertial reference frame must be measured as c, where c = 299792458 meters per second."

That's fair enough.

Then he says: "It is provable within the framework of the special theory of relativity, that Theorem Of Special Relativity**:** If all coordinates of reference frame F2 are moving in a straight line at a constant speed in some inertial reference frame F1, then F2 is also an inertial reference frame."

As one person later argued is there really such a "theorem"? Giving it the grand title of a "theorem" is too much a diversion; really SR usually considers the scenario of observers in inertial frames (i.e. of constant velocity); so, let's proceed with just that type of scenario.

Now I want to introduce scenario case 1: A particle of light (photon or wave call it what you like) let it be emitted from an inertial frame F1. Then from that frame F1 it has speed c. From the rest frame of the photon it is F1 that has speed c in the opposite direction to which F1 observes for that light. This thought experiment scenario is of course problematic and some of the problems with it will be considered anon.

Star Thrower scenario (case2) is: Let F1 be an inertial reference frame. Let two photons be moving in the same direction in F1. The speed of photon A in inertial reference frame F1 is the constant c = 299792458 meters per second. And the speed of photon B in inertial reference frame F1 is also c = 299792458 meters per second. Since they are moving in the same direction, the difference in their velocity vectors (as defined in F1) is equal to zero. Thus, the two photons are not moving relative to each other. Now define inertial coordinate system F2, to have photon A as origin, and let the unit vector on the positive x axis point to photon B. Now, since the photons are not moving relative to each other, the speed of photon B in F2 is equal to zero. And F2 is an inertial reference frame. And of course, the postulate of the special theory of relativity is that the speed of photon B must equal 299792458 meters per second in any inertial reference frame, hence since is not in frame F2. So, we have the contradiction that in frame F2 the photon is zero and c. Therefore, Star Thrower says the fundamental postulate of the theory of special relativity is false.

It is not the best proof that can be constructed to disprove SR, however it does highlight contradiction that photon B has speed zero and c from frame F2. In the way that other contradictions are dealt with in SR, they are however ignored. Other contradictions being such things as twin paradox etc. The mentality of the Einstein believers is such that they accept contradictions and say there is no contradiction. But let us suppose that for the moment that the Einstein believers are not prepared to accept the contradiction of photon B having speed zero and c from frame F2, and see where that leads us:

There were about nine people taking up supporting Einstein, but they were saying different things.

Einstein-believer#1 response is that it is a non-issue; when considering from frame F2 there is no information exchange between the photons, so not making the speed measurement. (Einstein believer#1 does say things badly, and muddles up reference frames; so, it is what he seems to be saying.): A can't measure anything from B. Non-issue. He says: “A and B are still moving at c (same reference frame) even though they don't notice any difference between themselves. Not that photons can notice anything...” His last comment makes no sense. Given an inertial frame of the photon then in thought experiment set-up can consider what would happen if observer is in that frame. He seems to be wanting to assume that there cannot be an observer in an inertial frame going at light-speed Of course from later extrapolations of SR there are claims that objects which have mass cannot be accelerated to light-speed. So really, he is assuming that set-up. We start from simple set up of what would be observed from an inertial frame going at light-speed and what gets added to that is the assumption no observer can be placed in that frame.

This is why I need case 1 – in that scenario observer in frame F1 observes light at speed c. So, from frame of rest of photon F2 it would be observer in F1 going at c in opposite direction. – This is all due to how Newtonian physics would deal with it. Now suddenly Einstein believer#1 wants to assume such a thing is not possible. The issue becomes why assume such a case as given by Newtonian physics cannot occur. And the Einstein believer will not give an answer and instead just assume it can't occur. So immediately we have from Einstein believer the adding of an extra assumption. Note this extra assumption is being added before the issue of mass is considered. When mass is considered even more assumptions are added by Einstein believer.

So, recapitulate-- Newtonian physics (NP) gives us if photon A emitted from frame F1 then from rest frame of photon A it is F1 moving at c in the opposite direction; this is considering set-up without needing to consider mass. The Einstein SR believer decides to assume no this cannot occur and gives no reason why it can't occur other than he is assuming it can't occur because he is assuming light-speed constancy in vacuum.

So, let us start listing our assumptions of the Einstein SR believer:

(1) light-speed constancy in vacuum
(2) Newtonian set-up of if light emitted from frame F1 then from rest frame of photon is F1 moving at c; does not occur.

The reason for Einstein SR believer adding (2) is because he does not want to stop believing (1).

If the Einstein SR believer were true to logic, then would accept the Newtonian set-up of F1 and photon disproving assumption (1).

However. Not true to logic and just wants to move the goalposts; and adds an extra assumption.

Einstein believer#1 does add another assumption about information. Given two photons moving in same direction then by Newtonian physics their speed with respect to each other would be zero. And further from Newtonian physics there would be inertial frames for each photon, and from such inertial frames photon A and B have speed zero contrary to what SR assumes by (1). So rather than accept that an extra assumption is added, something like:

(3) Photon cannot have a rest frame or
(3a) information exchange not possible from photon rest frame.

Where is the evidence for such a thing as (3) or (3a) and there isn't any. Newtonian physics deals with inertial frames for any speed, and that has been demonstrated by experiment. Now contrary to experiment Einstein SR believers want to believe there is no inertial frame for certain speed or speeds.

As some Einstein SR believers like to point out there is experimental evidence for SR, which I have pointed out in my articles is a false claim: there isn't any.

So, when they claim (3) it is just another claim they make which is contrary to the evidence; where evidence is as per Newtonian physics that for any speed there is an inertial frame.

StarThrower reply was: We have two photons, with the same velocity in inertial reference frame F1.

Photon A *_____* Photon B
Velocity: 299792458 m/s ---> Velocity: 299792458 m/s --->

The difference in the velocity vectors is zero in this frame, hence it is zero in all reference frames. Thus, these two photons are at rest with respect to each other in all reference frames.

I then define reference frame (really rectangular coordinate system) F2 as follows:

The origin of F2 is photon A.

The direction of the i^ unit vector points from photon A to photon B. Thus, photon B lies on the positive x axis of F2.

I then state (without proof yet) that by a theorem of special relativity, F2 is an inertial reference frame. It then follows by the fundamental postulate of the theory of special relativity that BOTH photons must be moving in F2, at a speed of 299792458 m/s (simply because F2 is an inertial reference frame).

An explicit contradiction follows. It doesn't get better than this.

The next Einstein believer decides to add a different assumption to save (1):

Einstein believer#2: Consider the idea that perhaps two photons travelling parallel to the X-axis could never measure each other's speed because they would never observe each other. Any light leaving photon A would have to travel some distance Δy at speed c. If $\Delta y > 0$, it will never reach photon B.

Which is wrong from Newtonian physics point-of-view; velocities are additive. What this is dealing with is assumption that velocities add as per relativistic velocity equation. But in Newtonian physics that is not the case; velocities add normally so that c+c can equal 2c. Thus, we have another assumption needed to be added to SR

(4) Velocities do not add as per Newtonian physics.

Again, there is no evidence for this.

StarThrower reply to it was: Since the photons must have the same speed in reference frame F1, it necessarily follows that if they are moving in the same direction in F1, that they are not in relative motion (whether an experiment could prove they aren't in relative motion is another issue). But, I have stipulated that they have the same velocity precisely so that they aren't in relative motion.

Now, if there is to be some measurement of the relative speed, that measurement has to be zero, in order to be a perfect measurement. If photon C (next to and moving parallel to photon A) emitted photon D in the direction of photon B, the speed of photon D in reference frame F1 would exceed the speed of light (299792458 m/s), contrary to the fundamental postulate of SR.

Einstein believer#3 misunderstood the scenario from Star thrower and represented it as: once you cut through star thrower's obfuscation (deliberate or not) his argument is:

1) The postulate says all photons move at c
2) Suppose I have a photon that's not moving at c3) Therefore the postulate is wrong

StarThrower reply: No, that isn't the argument, in fact what you said doesn't make sense.

First of all, the postulate doesn't say that all photons move at speed c=299792458 m/s. The postulate says that in any INERTIAL REFERENCE FRAME the speed of a photon must be 299792458 m/s. Certainly, there are non-inertial reference frames in which the speed of a photon isn't equal to 299792458 m/s.

The issue then becomes whether or not a reference frame moving along with a photon is an inertial reference frame or not.

I then clearly say that if the fundamental postulate of SR is true, then any reference frame moving along with a photon is an inertial reference frame. In any such frame the speed of a photon is zero, and not c=299792458 m/s.

It now follows that SR self contradicts.

Einstein believer#5: There is no inertial reference frame that can move at c=299792458m/s. Even if you try to define one at such a velocity, it does not exist. There are no reference frames at 1000000000 m/s either. SR is not self contradictory, but it does have limits of applicability. No secret that.

Both these claims are assumptions. The last claim is particularly insidious because it assumes no contradictions and hence ignores them.

StarThrower reply to Einstein believer#5: This is just you saying things.

Unfortunately, that was not very helpful, he should have pointed out Einstein believer#5 was making assumptions. It just left him wide open to the response of being accused of saying things.

Einstein believer#5 replied: Me saying things? You are the one violating the speed limit.

The speed limit in itself an extra assumption, what have is (1) now wants to add to it assumption of speed limit by c, now this Einstein believer wants to assume it.

Einstein believer#6: CAN a photon be an inertial reference frame? The fact that the photon always travels at c means that it cannot accelerate or otherwise be affected by a force, only distortions; therefore, according to my limited knowledge, it cannot not be an inertial reference system. So, the photon would be an absolute speed limit. Saying that photons are moving at the identical speed is incorrect, since their speed is imaginary. You can't force it beyond c, or force it back, so for all intents and purposes, the second photon is always travelling at the speed of light relative to the first.

That's another assumption – there is nothing in NP preventing photon having an inertial frame; now wants to change things and assume it can't have one.

Also says “fact” – when not – instead its him making an assumption.

Cannot accelerate or otherwise be affected by force – is another assumption. By Einstein was SR – special case, restricted case. In the more general case of general relativity it can look like lightspeed is variable (according to some texts). So, adding an extra assumption there was well.

Also has absolute speed limit assumption again. And the comment “imaginary speed” is not clear what that means; probably another obscure extra assumption.

StarThrower reply to Einstein believer#6: The first thing to say is that it isn't a fact that a photon always moves at speed c.

I agree.

StarThrower: Yes, a photon can be in an inertial reference frame. An inertial reference frame is a reference frame in which Newton's law of inertia is valid.

In order to discuss the motion of something using mathematics, physicists use coordinate systems. These are extensively studied in mathematics, and the concept of the Cartesian (rectangular) coordinate system dates back to Rene Descartes.

A rectangular coordinate system consists of three mutually perpendicular number lines, with a unit of distance in real space chosen. The international unit of distance is the meter.

So, the three lines are number lines, and are called the axes of the coordinate system.

Now, the fundamental postulate of the special theory of relativity is that the speed of a photon in any inertial reference frame must be 299792458 meters per second. Suppose you have a reference

frame set up, which you know for a fact is an inertial reference frame, and that currently there is a photon located at the origin of this reference frame (or coordinate system).

ASSUMING that the special theory of relativity is correct, it must be the case that after one second has elapsed, the distance from the origin of this coordinate system to the location of the photon in this coordinate system must be 299792458 meters. And the time measurement (which I am saying is one second) is to be measured by a clock which isn't moving in this coordinate system.

The point is, that certainly a photon can move through some inertial reference frame/coordinate system.

A different question is whether or not a reference frame which is 'attached' to a photon is an inertial reference frame.

If special relativity is correct then the answer is no.
If the answer is yes then special relativity is incorrect.

Also, photons can be accelerated. Keep in mind that if a photon changes direction of travel, it has been accelerated. Thus, when photons strike a mirror, they were accelerated.

Einstein believer#7 just decided to agree with something the other Einstein believers were saying.

Einstein believers decided to believe: StarThrower is not the best guide you can find (for physics at least). Relativity is extremely well established (both in terms of internal consistency and of agreement with experiment); physicists are nowadays working on quite different problems. Special relativity is just your basic "bread and butter" stuff.

As dealt with in my articles, those sorts of beliefs are just delusions.

Einstein believer#3: QUOTES Star thrower: "....the postulate doesn't say that all photons move at speed c=299792458 m/s. Then QUOTES: Einstein: "We will....also introduce another postulate....namely that light is always propagated through empty space with a definite velocity c which is independent of the state of motion of the emitting body". Your argument falls apart as soon as you say "the speed of photon B in F2 is equal to zero" According to the postulate of SR, photons don't EXIST at zero speed; they don't even exist at c/10 or c/2 or .999c. They only exist at speed c. If it's not going at speed c, it's not a photon!

That is of course just another assumption

Einstein believer#3: Is that counter intuitive? Of course it is! Does it seem wrong based on our everyday experience? Of course it does! But it's just a postulate.

Basically, now highlights the mental difficulty with these people – they accept SR even though it's absurd.

Einstein believer#3: The only way to disprove it, is to find an example in the physical world where it's not true. You don't get to disprove it with a thought experiment.

This belief is just weird, because Einstein constructed SR from thought experiments such as imagining travelling on a beam of light. So, believing Einstein and attacking thought experiments just don't sit happily together. But Einstein believers don't mind being contradictory because they can't see that they are being contradictory.

Einstein believer#3: Galileo didn't disprove that the earth was at the center of the solar system by just saying "Let the sun be at the center of the solar system. Now doesn't that seem more reasonable?" He disproved it by building himself a telescope and looking at the solar system. That's how physical science is done.

Now just weird in he does not know history. Galileo was unable to prove earth was not centre of solar system; he had to show earth moved and he could not do so. He gave arguments for his point of view. But it was later by Foucault pendulum – that was shown earth moved.

So now do we have to work from assumption of false history for Einstein believers?

Einstein believer#3: In a more positive vein, you seem interested in this theory. Why not just agree with yourself to pretend you believe the postulate.

That’s where many Einstein believers go wrong, first they pretend then it becomes dogma to believe the absurdity.

Einstein believer#3: Believe it conditionally for a while. Then get yourself an introductory textbook on SR and read it from cover to cover.

I have studied these things and one starts with open mind that maybe something in 'it', but eventually after long study realise its nonsense. This Einstein believers just wants to falsely believe that SR makes sense after sufficient study of it.

Einstein believer#3: Do all the problems until you can get the answers the book says are right (even if you think they're wrong). At that point, you'll understand the theory well enough to decide whether to abandon it. Keep us posted!

People have done that and realised it is nonsense.

Einstein believer#4: In the frame of reference of a photon there is no distance or time. As far as the photon is concerned it is adsorbed the instant it is emitted. Since it has travelled no distance in no time there is no problem.

That's lots of assumptions

Einstein believer#4: Any argument made from the frame of reference of a photon must take this into consideration. We live in the world of distance and time, the photon does not.

Another assumption

StarThrower comments on Einstein SR believers: They want to be in the majority. That is the herd instinct in them winning out over binary logic.

Einstein believer#4: Let me but this way, your assertion that you can measure the velocity of a photon from the frame of reference of a photon is incorrect. In SR there are no meaningful measurements that can be made in the frame of reference of a photon.

That is just another assumption contrary to NP

Einstein believer#9 --No observer can move at c (because he has some rest mass, unlike photons). So, no such thing as an inertial reference frame that moves at c

Just another extra assumption to say photon has no rest mass

Einstein believer#9 --You found a contradiction after assuming that the photon's rest frame is an inertial frame of reference. Congratulations Very well, then: Let's agree that every photon's rest frame is NOT an inertial reference frame. Let's please not push SR out of the boundaries of its validity. It was never meant to be a theory for ALL situations. There is after all a reason why Einstein went on to develop GR [general relativity]. And, have you never heard of efforts to develop GUTs [Grand unified theories]? Have you got no gut feeling for such things whatsoever (sorry couldn't resist).

In other words, adding another extra assumption. The initial assumption being added to NP is lightspeed constancy in vacuum, realises that this leads to contradiction with photon rest frame; and so instead of following Logic and recognising the assumption is false, decides to add an extra assumption instead.

Einstein believer#8 – no inertial frame for photon then Therefore, your example is invalid for an examination of SR. It quite simply doesn't apply.

StarThrower *to Einstein believer#8 - This is just you telling everyone here that you believe the theory of special relativity is self-consistent. We already knew you believed that.*

That sets the Einstein believer to give a nonsense reply: Einstein believer#8 – So.... you assert that our assertion that your assertion is erroneous is in error? OK, I assert you are wrong. Your move.

Einstein believer#8 – then wants to throw in quantum effects – To extend a little, "quantum weirdness" is likely due to the special nature of the photon. For example, a photon "knows" its path before its path even exists (yes, this has been experimentally proven). Why? Well, for a photon, there is no "before" since time doesn't exist for a photon. Its path just **is**.

So, trying to use another theory to try to save SR; clearly not following Logic.

Einstein believer#6 --That concepts of distance, time, and motion are unapplicable from the point of view of a photon. I figure that because of that, the idea of the speed of light is only true with reference frames moving below it. The speed of light is a good reference, but not a good observer.

Some of them just got abusive, which is a typical tactic of Einstein followers to be like that so as to destroy conversation. Just a sad consequence of their inability to realise that they do not conform to

Logic, and when others don't conform to their non-Logic they have nothing to fall back on except being abusive. Such is human nature that leads to numerous wars over disagreements.

So, there we have 'it' there general method. Now to list some of the arbitrary assumptions that they make:

4. List of assumptions

When starting from the assumption of light-speed constancy – it does not fit with the Newtonian paradigm (NP). From the Newtonian paradigm perspective that then would mean the assumption was false, and that would be the end of the story.

But of course, the Einstein believers like Einstein do not take that perspective, instead when faced with this initial assumption of light-speed constancy in vacuum not making sense, they then just start adding extra assumptions. Logically this is a totally invalid procedure to take. But like Einstein, the Einstein believers abandon logic and reason, as they try to defend their beliefs.

The Moving Goalpost that the Einstein SR believers use is:

"A method of denial arbitrarily moving the criteria for "proof" or acceptance out of range of whatever evidence currently exists. If new evidence comes to light meeting the prior criteria, the goalpost is pushed back further – keeping it out of range of the new evidence. Sometimes impossible criteria are set up at the start – moving the goalpost impossibly out of range -for the purpose of denying an undesirable conclusion." [1]

The following is a list of some of the extra assumptions of the Einstein SR believers. Different SR believers believe different things, so the list has variations because they invent variations:

(1) light-speed constancy in vacuum.

(2) Newtonian set-up of light emitted from frame F1 then from rest frame of photon it is F1 moving at c; does not occur.

(3) Photon cannot have an inertial rest frame (There is no inertial reference frame that can move at c=299792458m/s.)

(3a) Information exchange not possible from photon rest frame.

(4) velocities do not add as per Newtonian physics. --That's just change the maths. From NP velocities add in a way that would contradict (1), so rather than accept this the maths is changed. But it's an extra assumption to do that; no reason for making the change is given.

(5) Misunderstand the set-up. – This is not proper assumption – but SR believers get confused, and they try to amend NP in a confused seemingly meaningless way.

(6) SR is not self-contradictory - this assumption is used to ignore the contradictions; it means when they are faced with a contradiction from adding (1) to NP, they try changing NP.

(7) SR has limits of applicability. - this assumption is used to blur exactly where the limits of applicability are – different believers make different claims.

(8) c is a speed limit – assumption (1) is interpreted to make this extra assumption that there is no speed greater than c.

(9) Photon always travels at c means that it cannot accelerate or otherwise be affected by a force, – Cannot accelerate or otherwise be affected by force – another assumption. By Einstein his SR – special case, restricted case; from GR it seems that in the general case the light-speed is variable. But rather than accept this the SR believers try to add this sort of extra assumption so as to keep light-speed constant. However, light can change direction by being reflected of mirrors, that change in direction means change in velocity and that means acceleration; for some strange reason this assumption (9) ignores that. Refer then to (5) – they just seem confused.

(10) By assumption (9) can't have photon forced beyond speed c, so assumes for all intents and purposes, the second photon is always travelling at the speed of light relative to the first. - The usual sort of extra assumption they add that does not seem to make sense.

(11) Attack anti-Einstein group as trying to preach gospel. However, the pro-relativity group have closed their mind by taking SR as gospel, adding any number of extra assumptions to try to save it; failing to realise this is a failure of logic on their part.

(12) Relativity well established agreement with experiment. My articles have explained it isn't; so, it's an example of the false beliefs they have when they believe this.

(13) Interpretation of the postulate of SR to mean photons don't exist at zero speed; they don't even exist at c/10 or c/2 or .999c. They only exist at speed c. If it's not going at speed c, it's not a photon! -- That is just nonsensical, light travels at different speeds in different media; its speed in vacuum is supposed to be constant.

(14) Accepting that Einstein's physics is counter intuitive and seems wrong based on our everyday experience. But prepared to abandon that, because SR is taken to be just a postulate. –- This basically highlights the mental difficulty with these people – they accept it even though it's absurd. Refer to (5) – they have confused themselves, and no longer trust their own judgement; when faced with something absurd they are now prepared to accept it.

(15) Require an example in the physical world where SR is not true; won't accept disproof by a thought experiment. -- – Now just weird, SR was constructed by Einstein from his thought experiment of imagining what happens at light-speed; so apparently accepts that thought experiment even though when others point out the thought experiment does not make sense.

(16) Galileo didn't disprove that the earth was at the centre of the solar system by just saying "Let the sun be at the centre of the solar system. Now doesn't that seem more reasonable?" He disproved it by building himself a telescope and looking at the solar system. That's how physical science is done. --- This is just getting the history wrong. Galileo was unable to prove earth was not centre of solar system; he had to show earth moved and he could not do so. He gave arguments for his point of view. But it was later by Foucault pendulum – that was shown earth moved. So now presumably Einstein believers want to assume a false history to work from.

(17) To critics they – tell them to study the theory from texts; initially start from pretending to agree with postulate and see that it makes sense through worked examples etc. – But the texts don't make sense; those reading the texts can eventually delude themselves if they believe it makes sense.

(18) In the frame of reference of a photon there is no distance or time. As far as the photon is concerned it is adsorbed the instant it is emitted. Since it has travelled no distance in no time there is no problem. --- Usual type of nonsensical thing they assume.

(19) follow on from (18) - Any argument made from the frame of reference of a photon must take into consideration – we live in the world of distance and time, the photon does not.

(20) follow on from 18-19 - lets measure the speed of photon B in the frame of reference of photon A. It moves no distance in no time, remember time and distance do not exist for a photon. So, its speed is indeterminate and not c that violates assumption of it being c.

(21) Criticism of Einstein SR believers: They want to be in the majority. That is the herd instinct in them winning out over wanting to follow binary logic.

(22) Interpret maths as - Photons do not know time or distance. Therefore, do not know velocity. - but that is just the maths bodged to give those results-- and maths badly interpreted.

(23) In the frame of reference of a photon the velocity of all photons is zero; that is a constant and satisfies the postulate of SR. – Assumption (1) is that light-speed is constant c, now suddenly adding assumption that does not satisfy it, but claiming it does.

(24) the assertion that can measure the velocity of a photon from the frame of reference of a photon is incorrect. In SR there are no meaningful measurements that can be made in the frame of reference of a photon. – that is just another assumption contrary to NP

(25) No observer can move at c (because he has some rest mass, unlike photons). So, no such thing as an inertial reference frame that moves at c --- just another assumption to say photon has no rest mass. In the case considered; mass is not introduced; but then diversion into wanting to introduce it.

(26) – The concept "relativity" is applicable to any material objects, except of light. --- But Einstein was supposedly trying to construct a physics where relativity applied to everything; so now assuming the opposite.

(27) you cannot measure time or space from the frame of reference of a photon, therefore you cannot measure the speed of a photon. That is a photon cannot perceive motion, therefore does not see other photons moving at c. --But that's now saying that the speed of light is not constant to all observers.

(28) Also, diversion to Maxwell's equations, claiming constancy of light (1) comes from that. – But on that issue- Maxwell's equations should be adjusted to conform to NP. Maxwell's equations predict one universal value for the speed of light relative to the source. They do not say that the speed of light is independent of the motion of the source.

(29) Assumes no source related in the wave equation for velocities. --- But when we have velocities then it should be taken as relative to a frame; now wants to assume otherwise.

(30) When it is found that there is a contradiction after assuming that the photon's rest frame is an inertial frame of reference; that means every photon's rest frame is NOT an inertial reference frame. --- This viewpoint is almost recognising that it is moving the goalposts.

(31) SR should not be pushed out of the boundaries of its validity. It was never meant to be a theory for ALL situations. There is after all a reason why Einstein went on to develop GR.-- Yes but the Einstein SR believers all say different things.

(32) No inertial frame for photon therefore the example using it is invalid for an examination of SR. It quite simply doesn't apply. --- This is almost same as (30) but starting point is to assert this assumption without explaining where it comes from.

(33) That concepts of distance, time, and motion are unapplicable from the point of view of a photon means that the idea of the speed of light is only true with reference frames moving below it. --- Again, going against Einstein who wants relativity to apply to all physics.

(34) Then wants to throw in quantum effects – To extend a little, "quantum weirdness" is likely due to the special nature of the photon. For example, a photon "knows" its path before its path even exists --- Seeking now to throw in quantum effects into relativity when Einstein constructed it without.

(35) There is no inertial reference frame in which a photon is at rest. The only way to get a contradiction here is if you assume that there is one. But that is not an assumption made by special relativity. – But the point really is why keep adding extra assumptions that are contrary to NP; why the change; and why the moving of goalposts.

(36) Diversion to maths being different for SR for its velocities; relativistic definition of 4-velocity is different to NP velocities. --- Just wants to assume different maths of relativistic mechanics instead of classical mechanics.

(37) Confusion over starting with the example - wants the example to be studied from SR, without giving explanation of why the changes from NP, claims if don't do this then starting from assuming SR is wrong.

(38) The problem is that science doesn't conform to what people want to believe.

(39) I can't imagine how one would go about making a clock that can travel at light speed anyway. If light speed clocks don't exist, then it is vacuously true that all light speed clocks don't tick, and also true that all light speed clocks do tick. -- Dismissing thought experiments – but from thought experiments was how SR constructed.

(40) A claim of understanding the logic of the steps involved in the example as:
step (1) SR states that photons travel at c through a vacuum in all inertial reference frames.
Step (2) Photons have inertial reference frames.
Step (3) Photons do not travel through their own inertial reference frames at c.
step (4) Therefore SR is incorrect/inconsistent.

Prepared to accept the first premise as being SR. But wants steps 2-3 proved. --- that's just weird – from NP there is no problem for a photon having an inertial reference frame, the issue is why change from that; and now the reply is that wants to assume no photon reference frame unless can prove otherwise.

(41) Newtonian physics break down at near-light speeds why should they all of a sudden apply to a reference frame that is travelling at c.-- it has not been established that NP breaks now, that is just another assumption on SR believers' part. The process has been by the Einstein SR believers to change NP, but they are not being clear on what parts; having instead numerous different opinions.

(42) "how do you know space is three dimensional?"-- in other words prepared to abandon anything perceived. Einstein abandons Euclidean geometry when he goes to GR. But supposedly does not in SR. The context of the example is SR, now wants to be in an extra assumption but from GR.

(43) Our common-sense idea of space does not apply at relativistic speeds. "Things travelling at the speed of light don't have rest frames the way that other things do. The Lorentz transformation equations that relate coordinates in different frames are singular if the relative velocity of the two frames is c." – Just another assumption without reasoning or evidence.

(44) Re-interpret meaning of "postulate": Einstein is not obligated to prove anything about his postulate. That is the nature of a postulate. You most certainly cannot learn anything other than the results of a constant c by studying Relativity. It is after all a development that explores the implications of a constant speed of light. --- In other words, taking what Einstein supposedly did on unquestioning faith.

(45) The roots of the constancy of c you need to study and understand the work of Clerk Maxwell. The origins of a velocity that is independent of the source, is Maxwell's equations cast in the form of the wave equation. When this result was published in the late 1860s the world of Physics was changed forever. How to rectify the source independence of the speed of Electromagnetism with the accepted and well understood precepts of Classical Mechanics was the single largest issue in Physics of that era. Due to that Einstein was able to postulate a constant c. ---- NP was changed to try to conform to this strange interpretation of Maxwell's work, when it should have been the other way- Maxwell's work changed to conform to NP.

(46) The nature of space and time (and how they are related) is more complex than length, width, height, and how long it takes me to go to the bathroom. Furthermore, to fully understand their relationship I believe it takes general relativity...but I don't know anything about GR.--- An admission of not knowing what they are talking about, but it becomes a reason for carrying on believing SR.

(47) We don't live in Euclidean space, so the example is just wasted effort. – Just a big assumption to make, and a big diversion to go into dealing with.

(48) Photons simply do not emit photons, so it is non-physical to refer to a photon as an emitting body. The example which assumes that a photon has velocity c with respect to a second photon is doing just that. This is non-physical assumption; therefore, non-physical conclusions are the only possible result. ---- But the rest frame of the photon defines an inertial frame in

NP, so if there is a photon emitting device in that frame it should be able to emit a photon; it's not purely the photon that can exist in such a frame.

(49) Staying with NP is clinging to ancient precepts for your beliefs. The people who developed the classical systems of physics (i.e. Newton) used the knowledge of their predecessors to advance theories of their own age. Basics ideas developed by Euclid were developed and refined, used by Newton, and then Newton's ideas were refined and developed by Einstein. --- But there is a nonsensical change made by Einstein SR believers from NP.

(50) Finally, an anti-Einstein supporter points out – The game the SRists are playing goes like this: Let's change the definitions of the numbers 4 and 3 for example (but be discreet and hope no one will notice) and voilà, we dazzle the public with the result that 4 + 3 = 2. A great sleight of hand trick, all SR is. Basically, units are changed between inertial frames in SR but without using a different terminology as required. An inch becomes a centimetre in a different inertial frame but is mistakenly called an inch by the SR hoaxers. Ditto for the units of time. Everyone except SR elitists are required to give a conversion ratio between scales (e.g. 1 centimetres on a road map = 1 mile on the road) so that a set of values can be accurately compared- deception is the method by which SRists circumvent the logical and physical contradictions arising from SR's two postulates. If the proper units and terminology were used, SR's postulate of a constant speed of light independent of source must result in contradiction with its second postulate, that physics is the same in all inertial frames, since the speed of light then would be c+v and c-v round trip measured inside an inertial frame moving at v relative to the vacuum.

References

[1] Physics Forums: The Fundamental Postulate Of Special Relativity Is Self-Contradictory

http://www.physicsforums.com/showthread.php?t=17487

[2] http://www.theskepticsguide.org/resources/logicalfallacies.aspx

c.RJAnderton2012

Typo corrections: 9 Oct 2018