Value of Assumption Controls in Advanced Physics

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Many theoretical physicists failed in the past to justify (or even mention) some important assumptions during the 19thth and 20th centuries -- even though their results might be significantly influenced by those assumptions. For instance, improper results were repeatedly reached by Michelson & Morley, Einstein, Minkowski, and a host of other scientists and astronomers during much of the 20th century -- because they simply failed to list, check and control assumptions. A few examples of their flaws are discussed briefly below and ref. [3]. The good news is that such past errors in SRT have finally been recognized by many in the scientific and astronomy communities, and appropriate corrections made. And, the scientific community has already moved on to research into hyper-light speed particles (considered impossible by Einstein) and the many other challenging fields for the brilliant members of NPA and other scientific groups around the world.

1. Introduction

First, let's look at lengths of travel, times and velocities of objects or light over a moving body:

1. **Falling Weight:** We first return to Galileo's correct observation of a weight falling along a mast on a boat [1]. In a similar *kinematics* [2] analogy here, we assume the boat's vertical mast is 12 meters-long and the boat is moving forward at 4 m/s. Person A on that boat sees a weight fall along that mast and land next of the base of the mast in 4 seconds (an average speed of 3 m/s). Person B on shore sees that same weight fall in a parabolic path which is 16 m long, and also land in 4 seconds next to the foot of the mast. Its average speed is higher at 4 m/s because its path is really longer. Yet, it's the same event. The important point is that different observers at different speeds or location can see the same motion in different ways and speeds. For instance, IF the same vertical mast and falling weight and B were on land and A was on the boat., the identical parabolic path and average speed of 4 m/s would now be seen by A on the boat.
2. **Horizonal Motion:** Now, we change Galileo's above example and assume the 12 m mast is laid lengthwise (from stern to bow) on the boat's deck and that the boat moves forward at v = 4 m/s relative to shore. A sailor walks from the stern along the mast at a speed, w=2 m/s (relative to the boat) to the end of the mast at the bow of the boat) in 6 sec and instantly turns and walks back to the boat's stern at the same speed. in an additional 6 sec. That's a round-trip of 24 meters in 12 seconds seen by A on the boat.

What would be seen by B on the shore? The answer is that B on shore sees the boat moving at v = 4 m/s for 6 sec or 24 m along the shore, and the sailor has moved at a speed

$$v + w = 4 + 2 = 6 \text{ m/s}$$

where v and w are relative to B on shore. In the 6 seconds of his first lap to the forward end of the boat, the sailor's distance relative to shore was 36 m. Since the sailor reaches the front end of the mast in 6 seconds. The total distance that the bow has moved along the shore was 6 x 6 = 36 meters. Then, the sailor turns and returns to the stern end of the mast at v minus the boat speed, or:

$$v + w = 4 - 2 = 2 \text{ m/s}$$

At that time, the sailor and stern of the boat are 12 meters from the starting point at the boat's stern.

Note: *For some reason, it's difficult for the brilliant scientists in these fields to grasp simple kinematics. If a reader here has such difficulty, it's suggested he or she make a simple sketch using the above numerical examples to better understand the flaws in Einstein's and Michelson-Morley's assumptions. And also, see the obvious need for better assumption controls in the future.*

2. Refutation of Special Relativity

The same kinds of results are found when this sailor's role is replaced by a beam of light at speed c from a flash of light. Each light wave light travels over the length of a moving boat. That's correct regardless of the length of that boat or relative speeds of the boat assumed. This simple example refutes Einstein's theory of relativity--which was said to cause "time dilation" and "length contraction". Experments [8] sponsored by Shewhart have precisely measured light speed to a constant value to at least 8 places in a laboratory – regardless of its orientation to any frame of record. Also, length chances with speed have never been seen nor measured. These results also confirm Ritz's assumption [7] that light speed has a constant value relative to its source.

That, in turn, also contradicts any concepts of an *aether* affecting light speed such as postulated in the past. The simple example in Section 1 above clearly refutes such assumptions. So SRT's concepts of "time dilation" and "length contraction" could never be measured –even if light speed c did vary. And that rejection is what experiments to date continue to confirm, as discussed in Section 4.

3. Failures in MMX Were Due to Inappropriate Design and Expectations

The null results in the experiments by Michelson & Morley (MMX) occurred because they looked only at round trips of light

along two arms angled apart at 90°. Measurements of light speed *c* MAY change significantly in one-way trips of light along each of those arms. BUT, as shown in the above examples, round-trip light speeds over those same arms will always compensate for any differences in light speeds occurring in the one-way trips. And (in fact) that's what they (and others) have always observed no fringe shifts in the M&M interferometer.

4. More Recent Confirmations of SRT Rejection

By the end of the 20th century, an overwhelming proportion of astronomers have shifted back to concepts of 'Universal time' (such as Greenwich time -- slighty adjusted to specific locations of the astronomers on our earth). Almost no astronomers are still using Einstein's time dilation because Universal time gives more accurate answers in determining positions in our universe than do Relativity's concepts.

Physicists, such as Dr. Lene Hau [3] in Boston have slowly slowed the speed of light which was being bounced back and forth between mirrors in a transparent container where the light photons was chilled to a temperature only slightly above absolute zero. Over a period of months, the light speed was slowed from c= 186,282 miles/sec to a 'pokey' speed of 38 miles/hr as it bounced back and forth between mirrors at temperatures vert near absolute zero. A picture of a clump of that light at almost zero speed was in a Scientific American magazine about 8 years ago.

Finally, at its slowest speed, the visible light disappeared (usually un-men-tioned) which this author guesses might be due to its being at nearly absolute zero temperature. If so, that might settle the age-old discussions as to whether light is composed of energy or mass. That's because chilled photons very near absolute zero temperature would only disappear if they were composed of energy rather than mass.

"BL Jacertae" or "Blazars" are discussed in Wikipedia as some of the "greatest surprises in superluminal radio source in the radio source in the gamma ray blazer 3C 279. The fact is that some quasars, radio galaxies and BL Lacertae exhibit motion along their jets, which works out to several times faster than light. Motion of material at such velocities was forbidden by relativity and hence offered some of the greatest surprises in very-long baseline interferometry (VLBI) observations." These, are another illustration of the flaws permitted to date in advanced physics due to the simple failures in advanced physics assumption controls over the past centuries.

5. Super-luminal Cosmic "Particles" (or "Rays")

All of our failures to recognize actual contradictions to Einstein's relativity concepts pale in comparison to the un-imagined effects of super- high velocity (much greater than c) and hence kinetic energy of such particles called "Cosmic Particles" rather than "Cosmic Rays". Those have been recognized and have been studied in NASA meetings, e.g., in Alabama (and elsewhere) for the past 5 to 10 years. One of their major concerns is the deleterious effects such as the possible harmful effects on astronauts in space – and possibly to all of us on the ground.

In this author's opinion, this will be a great area for analysis and publication in the future by some or most of the many excellent scientists in the NPA. Now, instead of working and contradicting some of the research and reports by the 'establishment', we have the chance for working together on some of the implications and methods of protection for all people on Earth.

Sadly, textbooks change VERY slowly, as discussed in [8]. The majority of the scientific communities have finally realized that Einstein's publications (for both Special and General Relativity) are seriously flawed. Some of the major "turning points" came later in the 20th century were the experiments measuring light speed at a constant to eight places relative to the light source -- regardless of the speed of that source.

6. The Future of the NPA

But, overall the future for NPA research has never been brighter. For example, there are more and more questions arising every day, such as for analysis of the super-luminal speed effects that are now expanding by orders of magnitude in many different fields.

References

[1] D. Morrison, et al, **Abell's Exploration of the Universe**, 6th Ed., p. 39 (Harcourt College Pub., 1997).

[2] In the earlier days, engineers started with the left side of kinematics equations and derived the right side with mechanical analyses.

[3] N. E. Munch, "Flawed Assumption Controls have Retarded 'Modern Physics' Progress for a Century", *Proceedings of the NPA* **5** (1): 159 (2008).

[4] N. E. Munch, "Consequences of Relativity's Failure to Control Assumptions", *Proceedings of the NPA* **2**: 112-117 (2005). This used Escher's humorous print aptly named *"Relativity"*, which, like the science of relativity, used conflicting basic assumptions all at the same time. Then, when the conflicting directions of gravity were separated in this single picture into three separate pictures by this author, it all made perfect sense.

[5] W. J. Cromie, "Physicists Slow Speed of Light", *Harvard Gazette* (18 Feb 1999). Lene Hau et al describes the slowing of light by 20 million fold to nearly zero speed (38 mph), while kept at temperatures very near absolute zero. After a few seconds at the lowest temperature, the remaining lump of light waves disappeared, suggesting to this author that light quanta are composed of energy, not mass.

[6] Thomas Kuhn, **The Structure of Scientific Revolutions**, 2nd Ed. (University of Chicago Press, 1970; 1962). Kuhn admitted many flaws in Einstein's concepts of Special and General Relativity, now recognized by the majority of theoretical physicists.

[7] Walter Ritz, "Critical Researches on General Electrodynamics" *Annales de Chimie et de Physique* **13**: 145 (1908); English trans. R. Fritzius (980), http://www.datasync.com/~rsf1/crit/1908a.htm. It presents Ritz's concept of light speed constancy relative to its source, now called "emission theory". (His name is not Walther.)

[8] Walter Shewhart, "Statistical Method from the viewpoint of Quality Control" (Dept. of Agriculture, Washington, 1939), in "A History of the Speed of Light", www.sigma-engineering.co.uk/light/lightindex.shtml. Shewhart tracked measurements of light speed in laboratories up to 1939. As accuracy increased, his data show amazing convergence on light speed to 6 places – regardless of location or angle of orientation relative to space.