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The Misnomer of Absolute Reference Frame

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There are at least two meanings to the term absolute reference frame. Relativists capitalise on the first meaning to claim that absolute reference frame does not exist. But the second meaning of the term is consistent with relativity.

When relativists use absolute frame they use it to mean that of a frame at absolute rest then by their Principle of Relativity such a frame does not exist.

There is the group opposing the relativists who keep talking about absolute frame and keep asking for it to be reinstated into physics.

It is possible that what some of these "anti-relativists" mean by absolute frame is not what the relativists means by absolute frame. But the relativists then capitalise on these anti-relativists asking for an absolute frame and then discredit them.

Having discussed these issues with various anti-relativists – I find that they will insist on using the term "absolute frame".

This insistence on using the term "absolute frame" makes it seem that they have a misunderstanding the relation of measurements to reference frames.

Considering simple scenario of A observing B with speed v.

Have both of them as inertial frames (constant velocity). Then if A observes B with speed v from its rest frame, then B will observe A with speed v from its rest frame.

I use word "speed" because if talked about velocity then would have direction and A would say B was with speed v in opposite direction to what B claims A was travelling.

So proceeding with using term speed v.

A says B has speed v, and B has speed v.

So A claims B has greater speed than A.

And B claims that A has greater speed than B.

To say -- A says B is faster than itself AND B says A is faster than itself -- is not a paradox, because its measurements based on two different measuring systems (reference frames) AND not measurements based on same measuring system.

i.e. it would be contradictory if got A faster than B and B faster than A from measuring in same reference frame. BUT that is not what happens.

We then apply this to other concepts and Einstein did so with mass etc. with his Relativity. (Einstein I think made mistakes but I will not go into that here; and I go back to the motion case of relativity.)

If A and B agreed to a common frame of reference then A could say whether he moved with respect to this common frame, an similarly B would be able to say if he moved with respect to this common frame. And in the context of Newtonian physics they would then be making observations of their speed/velocities that they would agree upon.

i.e. if A observed itself as moving with speed v_1 with respect to the common frame then since B was using the same frame it would agree that A had speed v_1 .

Similarly if B observed speed v_2 then A would observe v_2 for B.

They would be in agreement with observations of speed.

But this common frame is not an absolute frame as meant by the relativists.

An absolute frame is one where it has absolute rest.

And we do not have absolute rest, instead we have relative frame.

i.e. this common frame is at relative rest

And so A and B have numerous choices to what to use as a common frame.

If A and B have a common frame where A has speed v_1 and B has speed v_2 .

There are numerous choices for common frame, and in another common frame A might have speed v_{1a} and B have speed v_{2a} . Where v_1 and v_{1a} can be different; and where v_2 and v_{2a} can be different.

So some of the anti-relativists group might be meaning common frame when they ask for absolute frame to be reinstated.

Conclusion

So the anti-relativist group that insists on using the term "absolute frame" and wanting it reinstated can be split into at least two factions as regards the term "absolute frame"-

Either they are the group that
(1) Misuses the term
Or
(2) They are the group that understands the term in the same way as the relativists

The first group should really be using another term other than "absolute frame" such as "common frame" and admit that this frame agrees with relativity.

Whereas the second group have a fundamental misunderstanding of relativity and keep insisting on an absolute frame of reference; in the sense of absolute rest.

It is thus well to point out the flaw in this second group's thinking as regards to relativity, because when it comes to issues of opposing Einstein's relativity, this group keeps interrupting with its flawed understanding of relativity that diverts from the real issues.

The real issues with Einstein's relativity are that different claims are made as to what Einstein's relativity "is" by its supporters. That the math left to us by Einstein is a mess etc., and confusion over the terms "absolute frame" is one of the factors serving as a block to sorting out the mess.