

# General Relativity Unequivocally Repudiated

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## Abstract

The argument is given here that absolute time is a principle of our physical world. Any physical theory that violates this principle would be found to be invalid. So it is not surprising that special relativity is trivially repudiated by the Dingle observation. General relativity predicts gravitational time dilation. There have been claims of it being verified with cesium clocks - but it is no verification. Gravitational time dilation is unverifiable and it is only an internal logical contradiction of a theory. The argument is made that a physical theory is acceptable only if it is found to be valid for all clock-time type. Newtonian mechanics is clearly valid whether it is with pendulum-clock time or cesium-clock time; not a single failure was ever found. But general relativity's gravitational time dilation prediction is clearly contradicted with pendulum-clock time. It is presented here that the refutation of general relativity based on this contradiction is clearly founded on sound scientific principles and rigorous scientific reasoning.

## 0.1 keywords :

special relativity;general relativity;time dilation;invalid;relative time;absolute time;

## 1 Time

As this is an argumentation concerning time dilation, it is essential that there is a clear understanding of what is meant by time. Time is an undefined abstract concept that arises out of man's natural ability to discern changes

in his physical surrounding. It is a reflection and a representation of motion and evolution of things and events. Without our ability to sense change and motion, time does not exist - there is no time if we live in a static world. The passing of night and day, the seasonal cycles in the year all go uninterrupted of themselves. So time flows uninterrupted. Time is just accepted in physics as a fundamental physical dimension without the need to ascribe any metaphysical meaning to it nor would it be any more helpful. Time also passes in the simple situation of just waiting - time waits for no one. A final observation - time does not go backwards.

Isaac Newton had a notion of time that was absolute, universal and that flows forward by itself unaffected by external circumstances. To develop a mathematical principle of natural philosophy, it was necessary to deal with time quantitatively. So he would just introduce a mathematical variable,  $t$ , to mean time in his exposition; and  $t$  indicates a moment under discussion. There is an absolute 1-1 correspondence between time  $t$  and an event moment, both representing the same unique point in the relentless flow of time.

It is acceptable in Newtonian mechanics to talk in the manner: "Assume at the same moment  $t$ , a light pulse leaves a faraway galaxy... "; there is only one time for the universe in Newtonian mechanics. But such a statement is invalid in relativity theory. In SR (special relativity), time transforms according to the Lorentz transformation  $t' = \gamma(t - vx/c^2)$ . Every particle in the universe has motion relative to every other particle and so each has its own unique time frame running at a rate also uniquely different from that of other particles - infinitely many reference frames and infinitely many rates.

Time has another property that is seldom explicitly mentioned in physics:

***Time is unknowable.***

Time exist, but it is never possible to identify an exact time or moment as time does not stop at our convenience. There is no strong rational explanation why it is so and it has to be simply accepted. Or it could be so as an axiom as we accept that time cannot be clearly defined. So the true value of time at a moment is unknowable as it is undefinable. In the real world, what we have is only ***clock-time***; a reading from an agreed-upon clock at the moment  $t$ . It is accepted to be representative of time only through an implicit agreement that it is as good a number that could be found to represent time  $t$  at for the moment. Although a clock-time is dependent on the type of clock used, it should not matter what type of clock-time is chosen as long as the time provided by the clock gives the precision required for a use.

## 1.1 Clock independence of a physical theory

In a physical theory, we have no choice but to take time to mean just clock-time without much further ado otherwise we cannot have a quantitative theory that involves time and motion. A physical theory should not be dependent on clock-time type as there is no scientific principle that states only good clocks be acceptable to provide time in verifying a theory. If a physical theory is acceptable, it must pass the test that it is valid for all time type. Newtonian mechanics is clearly valid whether the clock is a pendulum clock or a cesium clock. The only criterion is that it is accurate enough for a purpose and that verification using the time type is within experimental error. That a scientific theory should be independent of time type may be understood if we realize that time is unknowable - it cannot be known if a bad clock-time flows following closer or further away from the the true unknowable time; or whether it is necessarily the cesium clock that somehow magically able to detect the flow of true time and adheres closely to it.

## 2 Gravitational time dilation

General Relativity predicts that time runs slower in lower gravitational potential, ie. nearer the masses which are the sources of gravity. There were reports that general relativity's time dilation due to height differences of less than one meter had been experimentally verified in the laboratory using very accurate cesium clock. Taking this as verification of the prediction of general relativity is unacceptable. General relativity fails the test that it has to be valid using all acceptable clock-type time. Clearly, a pendulum swings faster at lower heights in contradiction to what general relativity predicts. Although a pendulum is a bad clock, it contradicts general relativity with empirical analysis that are unquestionably well within any margin of experimental error. So general relativity is repudiated as it makes a wrong prediction.

There is yet another argument that clearly show why general relativity is invalid. Relativity theory is formulated with time, not just a specific clock-time. Variables such as  $t, t', t_1, t_2, \dots$  all are moments in time and their exact values are unknowable. Therefore, gravitational time dilation is unverifiable and any claim of it being verified using cesium clock is untenable. What was shown was only a behavior of the cesium clock that happened to match the

supposed predicted behavior. The claim that it verifies gravitational time dilation is nothing but stating that general relativity's gravitational time dilation is true by definition:

*A clock is one that satisfy the gravitational time dilation of general relativity.*

The definition excludes as clocks any that misbehaves. So if a much more accurate clock is invented in future but found to misbehave, it would not be accepted as a clock in general relativity.

### 3 Absolute time as a natural principle

It is proposed here that time is absolute and universal as a principle in nature. It is unknowable and any non-trivial transformation of time is disallowed as it would imply inherent knowledge of the manner of flow of or changes in time. It could be argued that the principle is only a manifestation of the limits of the created gift of the human consciousness. It is the same concerning man when it comes to his understanding of space - he cannot go beyond the common sense 3-dimensional Euclidean properties of space and the notion of infinity will always be the limit of man. So for those who somehow have an understanding that time is absolute, the invalidity of Einstein's relativity theory come as no surprise though it has been promoted for decades as one of the pillars of modern physics.

### 4 Conclusion

A physical theory is an exact formalism of the way the physical world works and it admits of no contradiction. General relativity's prediction of gravitational time dilation is clearly contradicted by logical inconsistencies as well as empirical evidence:

*General relativity is unequivocally repudiated.*