

Redefinition of inertial frames and Galilean (and Einstein's) invariance principle - all inertial frames are at rest relative to each other and relative to an absolute reference point.

January 03, 2013

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Abstract

In his principle of Invariance, Galileo (and Einstein) assumed inertial reference frames to be those moving in uniform rectilinear motion with respect to each other. This paper redefines the inertial reference frames as those at rest relative to each other and relative to an absolute reference point. Therefore, Galilean (and Einstein's) Invariance Principle is restated as follows: All laws of physics, including the speed of light and the laws of mechanics and electromagnetism, are invariant in all inertial frames (with the new definition of inertial frames). The laws of physics should be applied only in inertial frames and, for an observer in non inertial frame (frame in absolute motion), the results obtained in inertial frames should be transformed to the non inertial frame. The speed of light, like all laws in physics, is invariant in all inertial reference frames, as redefined in this paper. However, the constancy of the speed of light for all inertial frames doesn't result in Einstein's relativity and Newtonian (and Galilean) relativity doesn't exist as known so far because there is no relative velocity between inertial frames.

Introduction

In his Galilean Principle of Invariance, Galileo assumed an inertial reference frame to be one which is moving in uniform rectilinear motion.

The accepted (assumed) definition of inertial frames so far is [1]:

All inertial frames are in a state of constant, rectilinear motion with respect to one another; they are not accelerating in the sense that an accelerometer at rest in one would detect zero acceleration.

In an inertial reference frame, the laws of mechanics take their simplest form.

Physical laws take the same form in all inertial frames. By contrast, in a non-inertial reference frame the laws of physics vary depending on the acceleration of that frame with respect to an inertial frame, and the usual physical forces must be supplemented by fictitious forces.

The inertial frame has been redefined in this paper, and this may solve many unsolved problems by relativity theory. This paper is based on a theory of an absolute reference point

proposed on my other paper[2]. Inertial frames are frames that are at rest relative to each other and relative to an absolute reference point.

The absolute constancy of the speed of light applies only to inertial frames. The source independent speed of light is also accepted and the emission theory of light is rejected in this paper [3]. The speed of light is independent of its source but dependent on the absolute state of motion of the observer. It is constant only relative to the absolute reference point and in all inertial frames (frames at rest relative to the absolute reference point).

Discussions

In this paper inertial frames are re-defined as:

All inertial frames are in a state of rest with respect to one another and with respect to an absolute reference point. In an inertial reference frame, the laws of mechanics (and all laws of physics) take their simplest form. Physical laws (and the laws of electromagnetism) take the same form in all inertial frames. By contrast, in a non-inertial reference frame (those in absolute motion) the laws of physics vary depending on the motion (velocity, acceleration) of that frame with respect to an inertial frame. The laws of physics cannot (should not) be applied correctly in such reference frames. Instead, the laws of physics should always be applied in inertial frames and the results transformed for observers in non inertial frames. This eliminates the need for introduction of fictitious forces.

Invalidation of relativity theory

Since the speed of light is the same in all inertial frames and since inertial frames are redefined to be frames at rest relative to each other and relative to an absolute reference point, Einstein's relativity and the whole concept of relativity (including Newtonian relativity) do not exist in their form known so far or are incorrect because there is no relative motion between inertial frames, as redefined in this paper. This means that the laws of physics are not the same in frames in relative motion (uniform or accelerated) with respect to each other. The constancy of the speed of light in all inertial frames doesn't result in special relativity theory because there is no relative motion between inertial frames.

References

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http://en.wikipedia.org/wiki/Inertial_frame
2. <http://vixra.org/abs/1211.0096>
3. Emission Theory-Wikipedia : http://en.wikipedia.org/wiki/Emission_theory