

## **An Introduction to Andertonian Relativity**

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**As far as I know I am introducing a concept that is not in the scientific literature. It connects special relativity (as I understand it) with Newtonian physics, hence it needs a name. Being a modest person, [note1] I decided to call it after myself: "Andertonian Relativity." There is a type of relativity between Einstein's theory (or theories) and Newtonian physics that needs to be explicitly stated and named; hence this article intends to do just that.**

**When we approach Einstein's writings on relativity we find him unclear as to what he means, and subsequent to that he has had many fans who have tried to correct his mistakes.**

**However, taking all of that into account, from what Einstein was really saying for constancy of lightspeed (in vacuum); I think can be summarised as the following equation:**

$$c'^2 t'^2 = (c^2 - v^2)t^2 \quad (1)$$

**Einstein seems to assume  $c' = c$**

**then we have after dividing through by  $c^2$**

$$t'^2 = (1 - v^2/c^2)t^2$$

**and square rooting gives time dilation equation**

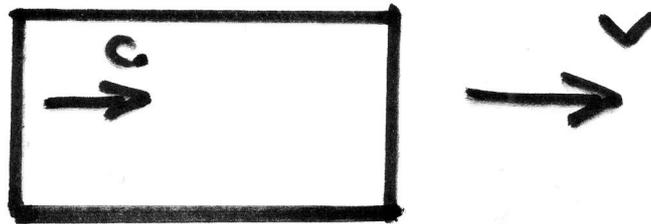
$$t' = \text{sqrt}(1 - v^2/c^2) t$$

(Usually written the other way as  $t = t' / \text{sqrt}(1 - v^2/c^2)$ .)

But by Newtonian physics, equation (1) would be  $t = t'$  instead of  $c = c'$  then have

$$c' = \text{sqrt}(c^2 - v^2)$$

The relevant setup that equation (1) is dealing with is as follows:



Light bouncing between two ends of a box, first covering distance  $(c - v)t$  as observed by someone looking at the box travelling at velocity  $v$ , then the light hits the side of the box and bounces back covering distance  $(c+v)t$  this then gets multiplied together to give  $(c-v)(c+v)t^2$  equated to  $c'^2 t'^2$

So there we have 'it' - the connection between Einstein's special relativity and Newtonian physics. When it comes to experiments those who set  $c = c'$  say that lightspeed is constant, and those who say  $t = t'$  get lightspeed as variable.

Einstein wants to look at things his way that is contrary to Newtonian physics.

Now the Principle of (inertial) Relativity - is that the Laws of Physics is the same for all (inertial) observers. Einstein takes that Law to be  $c = c'$ , while Newtonian physics would instead take  $t = t'$ . The connection then being between these two

**theories is that equation (1) is the true law for the theory of relativity; hence I call it “Andertonian Relativity.”**

**Why Einstein decides to abandon universal time and hence how Newtonian physics deals with (1) is not clear. Also Einstein being bad at mathematics still makes numerous mistakes proceeding from equation (1) with his  $c=c'$ , which would need to be tidied up in the relativity literature; but which I am not going to address in this short article of introduction.**

#### **Notes**

**note1: relative to my standards.**

**Note 2: See also my article: Dissident at Oxford Relativity course 1**

**c.RJAnderton17-07-2011**