The Principles of Relativistic Velocity

Avishek Dutta

January 29, 2022

1 Introduction

Velocity isn't absolute for all frame of reference. It is relativistic. It depends on two variables. These are distance and time. In the principles of relativistic velocity it is clear that, particles can't travel at the speed of light.

1.1 Principles

1. When an object is at a certain distance from us, we see the object relatively slow.

2. The greater the distance, the slower the velocity of the object

2 Equation

$$v = v_0 - \frac{d}{t}$$

here,
v = relativistic velocity
d = distance between the two objects
t = as long as it can be seen
v_0 = velocity, when the frame of reference is the object itself

2.1 Original Form

The main equation is not that. That is come from two other equations.

1. When two substances are opposite to each other

$$v = (v_1 + v_2) - \frac{d}{t}$$

2. When two substances are on the same direction

$$v = (v_2 - v_2) - \frac{d}{t}$$

here, v_1 is the velocity of the 1st object and v_2 is the velocity of the 2nd object.

3 Miscellaneous

The Principles of Relativistic Velocity relevant with the Lorentz Transformation and the Theory of Relativity. Also, it supports modern physics laws.

——— *The End* ———