

## How Einstein was Wrong about $E=MC^2$

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Einstein made three basic mistakes in his interpretation of the  $E=MC^2$  equation.

**Einstein's first mistake with  $E=MC^2$**  was to take a simple equation and then try to interpret it with two contradictory and paradoxical ideas of mass and energy. In the general interpretation,  $E=MC^2$  defines the relationship between mass and kinetic energy. This means that when a body of mass is decelerated it loses mass and energy and when it is accelerated it gains mass and energy. This mass increase/decrease for all matter is proportional to each body's kinetic energy relative to a common position of rest for all matter. In this interpretation of  $E=MC^2$ , energy and mass coexist together. When a body is accelerated to a given velocity, the kinetic energy inherent in that velocity contributes to overall mass of the body. One Joule has a mass of  $10^{-17}$  kg and a kilogram of mass weighs  $10^{17}$  Joules. Here there is no conversion of matter to energy. While a Joule is a quantity of energy it is also a quantity of mass.

### **Einstein's Second Mistake with $E=MC^2$**

Einstein's second mistake with his equation was in his failure to realize that the primary meaning of  $E=MC^2$  is that it defines the mass of the photon as the truest measure of mass. Out of convention and with no experimental verification, Einstein arbitrarily declared the photon to be a massless particle. Einstein used Planck's Constant to make the transformation between the mass of an atom and the energy of a massless photon. By failing to give the photon mass, he was unable to divide Planck's constant into its component parts  $h=M\lambda C$ . Planck's constant is equal to the mass of a photon times its wavelength times the speed of light.

Einstein is responsible for the popular ideas among the general public and even some scientists, that ordinary matter has the potential to be converted into enormous amounts of energy. This idea is simply not true. Photons can only be produced by the annihilation of matter and antimatter and the universe seems to contain almost no antimatter that could be combined with its matter to produce energy. The energy contained within matter is in a two lock box and we only have one key.

### **Einstein's third mistake with $E=MC^2$**

Einstein failed to understand that all photons travel at  $C$  through the same inertial reference frame and not just relative to observers. Einstein made the speed of light relative to the observer's frame. It is true, as Einstein claimed, that all observers will

measure the speed of light to be  $c$  in any frame. However this does not mean that they are all measuring the same exact quantity. Capital  $C$  is the velocity of photons relative to photon rest and small  $c=C\pm v$  is the speed that photons travel relative to moving observers. Due to mass changes in the moving observer's measuring devices,  $c=C\pm v$  always come out to have the same value.

### **Einstein's Failure to Understand**

#### **Deceleration**

The mass increase/decrease effect of motion on matter has to occur within a single universal reference frame for all matter. Just as photon motion occurs within a single frame, the inertial motion of matter must occur within the same frame.

If this were not so, then all protons and all electrons would not have identical masses in a given reference frame. Since matter gains mass when it is accelerated, it must also give up that mass when it is decelerated. Any change in a body's motion must result in either an absolute deceleration, that decreases its mass or an absolute acceleration, that increases its mass.

#### **Einstein's Mistake with the Doppler Effect**

The Doppler effect allows us to very accurately measure the relative motion between a source and observer but by its very nature it does not allow us to determine the absolute motion of either. Einstein's mistake was to conclude from the Doppler effect that motion itself was intrinsically relative and not just hidden from the view of observers. Einstein failed to believe in a fixed

frame that connected all forms of motion. However, with a more careful look at the Doppler effect, one must conclude that a common absolute motion for all photons must exist. Photons provide the ultimate example of absolute motion since the evidence virtually proves that all photons move at exactly  $C$  within the same inertial reference frame. Einstein must have concluded from the Doppler effect that photons have no intrinsic wavelengths as they travel through space and that until they are measured there is no difference between a gamma-ray photon and a visible light photon.

Physicists working at CERN believe they may have discovered neutrinos traveling faster than the speed of light. If the discover is validated it would mean Albert Einstein's special theory of relatively marked as E-MC<sup>2</sup> would be incorrect. Einstein states in his theory that notice is able to travel faster than light