

What Time is it? What is Time?

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We live in a society of time conditions where time seems absolute. The physics of time tells us time may not be so absolute and it certainly cannot be an isolated quantity. Time is displayed by a chronometer by the changes of matter and energy to run our time devices. Time is intimately tied to movement in space. The Minkowski four spacetime is fundamental to modern physics. Yet, we know by relativity theory that time is mutable, whereby objects moving near the velocity of light are time dilated and time is slowed near a blackhole. Perhaps then, time is speeded up near a whitehole, if they exist? The velocity of light in a vacuum is taken as a universal constant and of course is expressed as a distance moved in a unit of time. We will explore the possible mutability in current experimental work proposed by theories of Marcel Urban (2013), Gerd Leuchs and Luis Sánchez-Soto (2013), who proposed details about the manner in which light can vary by fields associated with particle. We will further examine the research of Miles Padgett (2015) who recently altered the wave structure of certain photons to show that the “speed” of light can be manipulated for delayed arrival of photons to the target. This data is leading us to examine various ways in which time is a mutable quantity. The curvature of spacetime near massive objects, further removes the “river of time” from a fundamental constant. The relativistic twin paradox and causality relations in particle interactions at the microdomain give us a new view of causality, cause-effect sequences are intimately tied to the nature of time.

References

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