

Is space-time a conceptual mistake?

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Origins of physics are based on perception

From its very beginning physics was build on the visual perception of the physical world. Mathematics was a support of physics, a tool for description of natural phenomena. Using perception as a starting point of research physicists arrive to the very abstract conclusions as for example Max Planck with his fundamental units of Planck distance, Planck time and Planck volume. Originally physics was “perceptual science”, let’s say “Perceptual Physics”. With introducing Minkowski 4D space-time in the beginning of 20th century mathematics has overcome physics. That time is a 4th dimension of space you cannot perceive with your eyes, you simply has to believe it is so. In 20th century “Mathematical Physics” has produced new ideas which have never been observed: gravitational waves, multidimensional objects of String theory and some other “exotic theoretical predictions” as travel in time, parallel multidimensional universes, stuff which belongs to science fiction.

Today you can publish an article with a purely mathematical formalism without perceptual observation. Mathematics is ruling physics. According to our understanding in the begging of the 20th century a conceptual mistake was done in physics because fundamental statements do not require perceptual observation any more. Idea of time being 4th dimension of space leads physics into wrong direction where there is no experimental confirmation for theoretical predictions. In order to improve this conceptual mistake we develop a fundamental arena of the universe which is based on Planck research and on elementary perception: fundamental arena of the universe is 3D quantum vacuum made out of bipolar quanta of space volume of Planck which have positive or negative electrical charge. Time t we measure with clocks as a numerical order of material change in a 3D quantum vacuum. This is the starting point for resurrection of “Perceptual Physics” which is the core of Physics.

By Newton time is defined as fundamental physical entity that runs with the same velocity into entire universal space. What exactly time is, was not defined explicitly. However by Newton space is space and time is time. With Minkowski time has become a dimension of space. This is where conceptual mistake was done. Formalism itself shows time t is not forth dimension X_4 : $X_4 = ict$, $t \neq X_4$, $t \neq ict$. Today most

physicists believe time is a dimension of space. In order to overcome this conceptual mistake we have to improve Newton's idea on time based on change. Material changes run in space. Time t we measure with clocks is a numerical order of change. This means no change, no time. Time is an epiphenomenon of material change. Time does not run in space on its own. For time to exist requires material change. In quantum vacuum material changes are always there, so in this sense time is always present. Important to underline is, that material change do not happen in time. Time definitely is not a dimension of quantum vacuum.

Temporal and Atemporal View in Physics

The existing temporal view in physics sees material changes taking place in space-time as a fundamental arena of the universe where time, "past-present-future", is seen as the fourth dimension of space-time. This temporal view has no experimental proof; time as a 4th dimension of space has never been observed and has not been measured yet. This temporal view is the result of experiencing material changes within the framework of linear time, "past-present-future", which is the fundamental psychological model of the mind through which an observer experiences the material world. In universe there is no linear time as a dimension of space. Quantum space is 3D (Planck Volume is 3D) and time t is a numerical mathematical order of material changes in a 3D space. This atemporal view is closer to the real physical world as the temporal view. It gives us a more adequate picture of physical reality; it is based on the observer that is conscious of his/her psychological time. The atemporal view is not denying the existence of time, the atemporal view gives time t as measured with clocks its proper value; it is considering time t as being exclusively a mathematical quantity that describes the numerical order of the dynamics of the physical world. The concept of the "arrow of time" has lost its physical meaning as time is not a physical dimension and so has no physical direction. The arrow of time has exclusively a mathematical value.