

Is There an Alternative to the Block Universe View?

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Abstract

This paper pursues two aims. First, to show that the block universe view, regarding the universe as a timelessly existing four-dimensional world, is the only one that is consistent with special relativity. Second, to argue that special relativity alone can resolve the debate on whether the world is three-dimensional or four-dimensional. The argument advanced in the paper is that if the world were three-dimensional the kinematic consequences of special relativity and more importantly the experiments confirming them would be impossible.

Keywords: Block universe, Minkowski spacetime, special relativity, existence

Subjects: Specific Sciences: Physics: Relativity Theory

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