

On the Experimental Proofs of Relativistic Length Contraction and Time Dilation

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Recent advances in the theory of electromagnetic retardation have made it possible to derive the basic equations of the special relativity theory and to duplicate the most important practical results of this theory without using the concepts of relativistic length contraction and time dilation. Thus the reality of these concepts appears to be questionable. It is imperative therefore to reexamine the experimental evidence supporting these concepts. The calculations presented in this paper show that some of the experiments allegedly proving the reality of length contraction and time dilation can be unambiguously interpreted as manifestations of velocity-dependent dynamical interactions taking place within the systems involved in the experiments rather than as manifestations of length contraction or time dilation.

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