عنوان مقاله:
Minkowski Geometry and Space-Time Manifold in Relativity

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خلاصه مقاله:
Space-time manifold plays an important role to express the concepts of Relativity properly. Causality and space-time topology make easier the geometrical explanation of Minkowski space-time manifold. The Minkowski metric is the simplest empty spacetime manifold in General Relativity, and is in fact the space-time of the Special Relativity. Hence it is the entrance of the General Relativity and Relativistic Cosmology. No material particle can travel faster than light. So that null space is the boundary of the space-time manifold. Einstein equation plays an important role in Relativity. Some related definitions and related discussions are given before explaining the Minkowski geometry. In this paper an attempt has been taken to elucidate the Minkowski geometry in some details with easier mathematical calculations .and diagrams where necessary

کلمات کلیدی:
Causal structure, Geodesics, Ideal points, Minkowski metric, Space-time manifold