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Faster than the Speed of Light

Monday 15 June 2015 19:30 (1 hour)

In this talk I will give a short introduction to some of the basic concepts of Einstein's special theory of relativity, which is at the basis of all of modern physics. In particular, I will concentrate on the concept of causality, and why causality implies that nothing can travel faster than the speed of light in vacuum. I will later discuss some of the basic ideas behind Einstein's other great theory, General Relativity, which is the modern theory of gravity and postulates that the geometry space-time is dynamic and the presence of large concentrations of mass and energy produce a "curvature"in space-time. I will then talk about how the curvature of space-time can be used in several ways to travel "faster than the speed of light"by distorting the geometry away from that of flat space. In particular, I will discuss the ideas behind the geometric model for a "warp drive".

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