The geometry of special relativity : a concise course

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In this concise primer it is shown that, with simple diagrams, the phenomena of time dilatation, length contraction and Lorentz transformations can be deduced from the fact that in a vacuum one cannot distinguish physically straight and uniform motion from rest, and that the speed of light does not depend on the speed of either the source or the observer. The text proceeds to derive the important results of relativistic physics and to resolve its apparent paradoxes. A short introduction into the covariant formulation of electrodynamics is also given. This publication addresses, in particular, students of physics and mathematics in their final undergraduate year.