

Teaching Einstein's Relativity: A New Model of Special Relativity and the Connection between General and Special Relativity

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Abstract.

Einstein's two theories of relativity were introduced over 100 years ago. High school science students are seldom exposed to these revolutionary ideas as they are often perceived to be too difficult conceptually and mathematically. This presentation introduces a new model of 'special relativity' and brings together the two theories of relativity in a way that is logical and consistent and enables the teaching of relativity as a single subject. The models and analogies presented here are suitable for the teaching of Einstein's relativity at upper secondary school level, exposing students to our best understanding of time, space, matter and energy.