

SPECIAL RELATIVITY

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1. INTRODUCTION

Axiom 1.1. *Contravariance*

$$z' = \mu(z - vt)$$

Axiom 1.2. *Linearity*

$$\lambda \begin{pmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{pmatrix} \begin{pmatrix} z \\ ct \end{pmatrix} = \begin{pmatrix} z' \\ ct' \end{pmatrix}$$

Axiom 1.3. *Invariance*

$$\lambda^2(z^2 - c^2t^2) = (z')^2 - c^2t'^2$$