

CHAPTER OVERVIEW

4: Tensors

We now have enough machinery to be able to calculate quite a bit of interesting physics, and to be sure that the results are actually meaningful in a relativistic context. The strategy is to identify relativistic quantities that behave as Lorentz scalars and Lorentz vectors, and then combine them in various ways. The notion of a tensor has been introduced [earlier](#). A Lorentz scalar is a tensor of rank 0, and a Lorentz vector is a rank 1 tensor.

[4.1: Lorentz Scalars](#)

[4.2: Four-vectors \(Part 1\)](#)

[4.3: Four-vectors \(Part 2\)](#)

[4.4: The Tensor Transformation Laws](#)

[4.5: Experimental Tests](#)

[4.6: Conservation Laws](#)

[4.7: Things that Aren't Quite Tensors](#)

[4.E: Tensors \(Exercises\)](#)

Thumbnail: Standard configuration of coordinate systems; for a Lorentz boost in the x -direction. (Public Domain; [Gerd Kortemeyer](#)).

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