

Chapter 1. Introduction

Study Guide

The following is a brief list of topics covered in Chapter 1 of Wald's *General Relativity*. This list is not meant to be comprehensive, but only gives a list of several important topics. You should also carefully study the proofs given in class and the homework problems.

Section 1.1. Introduction.

Einstein's original 1905 paper on special relativity, Einstein's original 1916 paper on general relativity.

Section 1.2. Space and Time in Prerelativity Physics and in Special Relativity.

Event, light cone, world line, Galilean transformation, Lorentz transformation.

Section 1.3. The Spacetime Metric.

Interval and its absolute nature in special relativity.

Section 1.4. General Relativity.

Maxwell's original work on electromagnetism, the Principle of Equivalence, Mach's Principle.

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