

Assignment 1

Special and General Relativity

Readings

Kogut ----- Chapter 1: Physics According to Newton - A World with No Speed Limit
Chapter 2: Physics According to Einstein

Ellis/Williams - Chapter 1: Space-time Diagrams and the Foundations of Special Relativity

Problem Assignments

Everyone Problem Assignments(hand in at end of seminar)

- Ellis 1.5 A collision in spacetime
Ellis 1.9 What is the past anyway?
Kogut 2.3 Pions at FermiLab
Kogut 2.5 Signals flying about
Kogut 2.7 Things are not what they seem

Individual Problem Assignments

- Ellis 1.1 Spacetime diagram of a train
Ellis 1.2 Reading a spacetime diagram
Ellis 1.8 Getting a reply
Ellis 1.11 What is that particle doing?
Ellis 1.12 Simultaneity is relative
Kogut 2.1 Events and intervals
Kogut 2.2 Two rockets passing
Kogut 2.4 Getting to Planet X

Subject Presentations (5 minutes)

- Galilean relativity
Light Clock
Spacetime diagrams
Length Contraction
Time Dilation