

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 311

LECTURE 10

RELATIVITY

Special Relativity

Galilean Relativity

Galilean relativity is the principle that the laws of physics are the same in all inertial frames of reference. This means that if you are in a train moving at a constant velocity, you can perform experiments that will give you the same results as if you were at rest.

Galilean relativity is based on the assumption that time is absolute and that the speed of light is infinite. This leads to the Galilean transformation, which relates the coordinates of an event in one frame to the coordinates in another frame moving at a constant velocity relative to the first.