

# PH4183 - Gravitation

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# Chapter 1

## Special Relativity

Galileo's principle of relativity states that the laws of physics are the same in all inertial frames. This means that if you are in a closed room, you cannot tell whether you are moving or not. His equations of relativity are as follows:

$$x' = x - vt$$

where,  $x'$  the relative position of the moving reference frame, and  $v$  is its velocity. And,

$$t' = t$$

### 1.1 Experiments before Einstein

Before Einstein, Michelson and Morley conducted an experiment and disproved the existence of the luminiferous aether.