Lecture 2

Thursday 30$^{\text{th}}$ October, 2014

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1 Newton's Laws of Motion

1.1 First Law

Every body continues in its state of rest, or of uniform motion, unless there is a net force acting upon it.

1.2 Second Law

$$\sum \overrightarrow{F} = \frac{\mathrm{d}\overrightarrow{p}}{\mathrm{d}t} \tag{1}$$

If the mass of a body is constant,

$$\sum \overrightarrow{F} = m\overrightarrow{a} \tag{2}$$

1.3 Third Law

The mutual actions of two bodies upon each other are always equal, and directed in opposite directions.