APPENDIX A

Table of symbols

Symbol	Meaning	Example
$\equiv$	is defined as	$r\mathrm{E}n \equiv r \times 10^n$
Δ	the change in	$\Delta x = x(t + \Delta t) - x(t)$
d	the infinitesimal change in	$\frac{dx}{dt} \equiv \lim_{\Delta t \to 0} \frac{x(t+\Delta t) - x(t)}{\Delta t}$
D	dimension(s)	1D, 2D, 3D
$_i$	initial	$\vec{p}_i,\ E_i$
$_f$	final	$\vec{p}_f,\ E_f$
$\dot{}$	first time derivative	$v_x \equiv \dot{x} \equiv \frac{dx}{dt}$
$\ddot{}$	second time derivative	$a_x \equiv \ddot{x} \equiv \frac{d^2x}{dt^2}$
$\hat{i}, \hat{j}, \hat{k}$	unit vectors along x, y, z axes, respectively	$\vec{A} = 3\hat{i} + 10\hat{j} - 4\hat{k}$
RHS	right hand side	
LHS	left hand side	
$\|\|$	magnitude, absolute value	$\|a\hat{i} + b\hat{j}\| = \sqrt{a^2 + b^2},\ \|-4\| = 4$

TABLE AI.1. Symbols often used in this note