

PHYS H304 Homework 0

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(Dated: January 26, 2023)

This is a trial of the LaTeX tutorial for the first problem set in PHYS H304.

1. INTRODUCTION

My favorite equation is Eq. 1, which is one of the fundamental equations in quantum mechanics.

$$E = m \cdot c^2 \tag{1}$$

Eq. 1 was coined by Albert Einstein, and is commonly thought to have laid the basis for the creation of the

atomic bomb. It relates energy to the mass of a particle, given by the 'm', proportional by a factor of the speed of light squared. Hence, this provides an estimate for the “rest mass” energy of any particle with a non-negligible mass. This equation is analogous to that of kinetic energy, as it corresponds to mass multiplied by the square of the speed of motion. However, it signifies the importance of considering particles traveling at relativistic speeds.