

Unités SI dans la Théorie T0

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Chapter 1

Unités SI

1.1 Introduction

Le Système International d'Unités (SI) définit les unités de base de la physique. La théorie T0 offre une perspective unifiée sur ces unités.

1.2 Unités de base

1. Mètre (m) - longueur
2. Kilogramme (kg) - masse
3. Seconde (s) - temps
4. Ampère (A) - courant électrique
5. Kelvin (K) - température
6. Mole (mol) - quantité de matière
7. Candela (cd) - intensité lumineuse

1.3 Unités naturelles T0

Dans la théorie T0, nous utilisons les unités naturelles :

$$\hbar = c = k_B = 1 \quad (1.1)$$

title

Le paramètre ξ permet de relier les unités naturelles aux unités SI :

$$[L]_{SI} = \xi^n \cdot [L]_{nat} \quad (1.2)$$

1.4 Constantes fondamentales

Les constantes fondamentales en unités SI et leur expression en termes de ξ :

1. Vitesse de la lumière : $c = 299\,792\,458 \text{ m/s}$
2. Constante de Planck : $\hbar = 1,055 \times 10^{-34} \text{ J} \cdot \text{s}$
3. Charge élémentaire : $e = 1,602 \times 10^{-19} \text{ C}$

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