

Constante de Structure Fine

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Chapter 1

La Constante de Structure Fine dans la Théorie T0

1.1 Introduction

La constante de structure fine $\alpha \approx 1/137$ est l'une des constantes fondamentales les plus mystérieuses de la physique. Dans le cadre de la théorie T0, cette constante émerge naturellement de la géométrie du champ ξ .

1.2 Définition et Valeur

La constante de structure fine est définie comme :

$$\alpha = \frac{e^2}{4\pi\epsilon_0\hbar c} \approx \frac{1}{137,036} \quad (1.1)$$

title

α caractérise la force du couplage électromagnétique :

- Force relative entre deux électrons
- Probabilité d'émission/absorption de photons
- Structure des niveaux atomiques

1.3 Dérivation T0

Dans la théorie T0, α est liée au paramètre ξ par :

$$\alpha = f(\xi) = \xi^n \cdot g(\text{facteurs géométriques}) \quad (1.2)$$

où n et g sont déterminés par la structure fractale de l'espace-temps.

1.4 Relations avec d'autres constantes

La théorie T0 unifie α avec :

1. La constante gravitationnelle G
2. La constante de Planck \hbar
3. La vitesse de la lumière c
4. Les masses des particules

1.5 Prédictions testables

title

- Variation de α avec l'énergie
- Corrélation avec les anomalies magnétiques
- Effets sur les transitions atomiques de haute précision

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