

# Mécanique Quantique dans la Théorie T0

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# Chapter 1

## Mécanique Quantique

### 1.1 Introduction

La mécanique quantique standard décrit les phénomènes à l'échelle atomique et subatomique. La théorie T0 offre une nouvelle perspective sur ses fondements.

### 1.2 Le Principe d'Incertitude

Le principe d'incertitude de Heisenberg :

$$\Delta x \cdot \Delta p \geq \frac{\hbar}{2} \quad (1.1)$$

Dans la théorie T0, ce principe est une conséquence de la dualité temps-masse :

$$\Delta t \cdot \Delta E \geq \frac{\hbar}{2} \quad (1.2)$$

title

L'incertitude quantique n'est pas une limitation de notre connaissance, mais une propriété fondamentale de l'espace-temps fractalisé par le champ  $\xi$ .

### 1.3 Fonction d'Onde et Mesure

La fonction d'onde  $\psi$  dans la théorie T0 :

$$i\hbar \frac{\partial \psi}{\partial t} = \hat{H}\psi \quad (1.3)$$

La mesure quantique est comprise comme une interaction avec le champ  $\xi$  qui sélectionne un état parmi les superpositions possibles.

### 1.4 Intrication Quantique

L'intrication quantique dans le cadre T0 :

- Non-localité : propriété fondamentale du champ  $\xi$

- Corrélations : maintenues par la structure fractale
- Vitesse : transmission instantanée via le champ  $\xi$

## 1.5 Applications

1. Ordinateurs quantiques
2. Cryptographie quantique
3. Téléportation quantique
4. Métrologie de précision

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