

QM, QFT und Relativitätstheorie in T0

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Kapitel 1

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Zusammenfassung

Die T0-Theorie bietet einen einheitlichen Rahmen, der Quantenmechanik (QM), Quantenfeldtheorie (QFT) und Relativitätstheorie (RT) verbindet. Dieses Dokument untersucht die Beziehungen zwischen diesen fundamentalen Theorien im T0-Framework.

1.1 Die drei Säulen der modernen Physik

1.1.1 Quantenmechanik

Die QM beschreibt Phänomene auf atomarer Skala:

$$i\hbar\frac{\partial}{\partial t}|\psi\rangle = \hat{H}|\psi\rangle \quad (1.1)$$

1.1.2 Quantenfeldtheorie

Die QFT vereint QM mit spezieller Relativität:

$$\mathcal{L} = \bar{\psi}(i\gamma^\mu\partial_\mu - m)\psi \quad (1.2)$$

1.1.3 Allgemeine Relativitätstheorie

Die ART beschreibt Gravitation als Raumzeitkrümmung:

$$G_{\mu\nu} = 8\pi GT_{\mu\nu} \quad (1.3)$$

1.2 T0-Vereinheitlichung

1.2.1 Das verbindende Element

In T0 verbindet das intrinsische Zeitfeld alle drei Theorien:

T0 als Vereinheitlichung

$$\begin{aligned} \text{QM: } T \cdot E &= 1 \text{ (Unschärfe)} \\ \text{QFT: } \mathcal{L}_{\text{T0}} &= \mathcal{L}_{\text{SM}} + T\text{-Feld} \\ \text{RT: } g_{\mu\nu} &\sim T_{\mu\nu}^{\text{Zeit}} \end{aligned} \quad (1.4)$$

1.2.2 Emergenz aus einem Prinzip

Alle drei Theorien emergieren aus der Zeit-Masse-Dualität:

$$T \cdot m = 1 \quad (1.5)$$

Eine Theorie für alles?

Die T0-Theorie zeigt, dass QM, QFT und RT keine separaten Theorien sind, sondern verschiedene Aspekte einer einzigen fundamentalen Struktur: der Zeit-Masse-Dualität.

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