

Quantenmechanik in der T0-Theorie

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Kapitel 1

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Zusammenfassung

Die Quantenmechanik wird im T0-Framework als natürliche Konsequenz der Zeit-Masse-Dualität neu interpretiert. Dieses Dokument zeigt, wie fundamentale Quantenphänomene wie Unschärfe, Verschränkung und Wellenfunktionskollaps aus dem ξ -Parameter folgen.

1.1 Quantenmechanik aus T0-Prinzipien

1.1.1 Die Unschärferelation

Die Heisenberg'sche Unschärferelation:

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

folgt in der T0-Theorie direkt aus der Zeit-Masse-Dualität:

T0-Herleitung der Unschärfe

Mit $T \cdot m = 1$ und $E = \hbar\omega$ ergibt sich:

$$\Delta T \cdot \Delta E \geq \frac{1}{2} \quad (1.2)$$

was der Zeit-Energie-Uncertainty entspricht.

1.1.2 Wellenfunktion und T0-Zeitfeld

Die Wellenfunktion $\psi(x, t)$ kann als Manifestation des intrinsischen Zeitfeldes verstanden werden:

$$|\psi(x, t)|^2 \propto T(x, t) \quad (1.3)$$

Die Wahrscheinlichkeitsdichte ist damit direkt mit dem Zeitfeld verknüpft.

1.2 Verschränkung in T0

1.2.1 Nichtlokalität und Zeitfeld

Quantenverschränkung wird in der T0-Theorie als Korrelation im intrinsischen Zeitfeld interpretiert:

T0-Interpretation der Verschränkung

Verschränkte Teilchen teilen ein gemeinsames intrinsisches Zeitfeld. Die „spukhafte Fernwirkung“ (Einstein) ist keine instantane Signalübertragung, sondern eine Korrelation in der Zeit-Masse-Struktur.

1.2.2 Das EPR-Paradoxon

Die T0-Theorie löst das EPR-Paradoxon durch:

1. Nichtlokale Korrelationen im Zeitfeld
2. Erhaltung der Kausalität
3. Vereinbarkeit mit der Relativitätstheorie

1.3 Kollaps der Wellenfunktion

1.3.1 T0-Interpretation des Messprozesses

Der Kollaps der Wellenfunktion wird in T0 als Übergang zwischen Zeitfeld-Konfigurationen verstanden:

$$\psi_{\text{vor}} \rightarrow \psi_{\text{nach}} \Leftrightarrow T_{\text{vor}}(x) \rightarrow T_{\text{nach}}(x) \quad (1.4)$$

Dies eliminiert die „mysteriöse“ Rolle des Beobachters.

1.4 Vorhersagen und Tests

Die T0-Interpretation der Quantenmechanik macht spezifische Vorhersagen:

Phänomen	Standard-QM	T0-QM
Unschärfe	Axiom	Hergeleitet
Verschränkung	Nichtlokal	Zeitfeld-Korrelation
Messung	Beobachter-abhängig	Zeitfeld-Übergang

Tabelle 1.1: Vergleich: Standard-QM vs. T0-QM

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