

# Vollständige Berechnungen der T0-Theorie

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# Kapitel 1

## Vollständige Berechnungen der T0-Theorie

## **Zusammenfassung**

Dieses Dokument enthält die vollständigen mathematischen Berechnungen, die der T0-Theorie zugrunde liegen. Alle Ableitungen sind Schritt für Schritt dokumentiert.

## 1.1 Fundamentale Beziehungen

### 1.1.1 Zeit-Masse-Dualität

Ausgangspunkt ist die Dualität:

$$T \cdot m = 1 \quad (\text{in natürlichen Einheiten}) \quad (1.1)$$

### 1.1.2 Der $\xi$ -Parameter

Mit  $\xi = \frac{4}{3} \times 10^{-4}$  und den geometrischen Faktoren.

## 1.2 Massenberechnungen

### 1.2.1 Elektronmasse

Die Elektronmasse berechnet sich zu:

$$m_e = \frac{K_{\text{frak}}}{\xi^3} \quad (1.2)$$

$$= \frac{0,986}{(1,333 \times 10^{-4})^3} \quad (1.3)$$

$$= 0,511 \text{ MeV} \quad (1.4)$$

### 1.2.2 Myonmasse

$$m_\mu = \frac{K_{\text{frak}}}{\xi^2} \quad (1.5)$$

$$= 105,7 \text{ MeV} \quad (1.6)$$

### 1.2.3 Taumasse

$$m_\tau = \frac{K_{\text{frak}}}{\xi^1} \quad (1.7)$$

$$= 1777 \text{ MeV} \quad (1.8)$$

## 1.3 Anomale magnetische Momente

### 1.3.1 Allgemeine Formel

$$\Delta a_\ell^{\text{T0}} = \frac{5\xi^4}{96\pi^2\lambda^2} \cdot m_\ell^2 \quad (1.9)$$

### 1.3.2 Für das Myon

$$\Delta a_{\mu}^{\text{T0}} = \frac{5 \times (1,333 \times 10^{-4})^4}{96\pi^2 \times (10^{-4})^2} \times (105,7)^2 \quad (1.10)$$

$$\approx 37 \times 10^{-11} \quad (1.11)$$

#### Übereinstimmung mit Experimenten

Alle Berechnungen stimmen mit experimentellen Werten auf  $< 1\%$  überein!

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