

# Geometrische Kosmologie in der T0-Theorie

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# Kapitel 1

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## **Zusammenfassung**

Die T0-Theorie bietet einen geometrischen Rahmen für die Kosmologie, in dem die großräumige Struktur des Universums aus dem fundamentalen  $\xi$ -Parameter folgt. Dieses Dokument untersucht die geometrischen Aspekte der T0-Kosmologie.

## 1.1 Geometrische Grundlagen

### 1.1.1 Die Raumzeit-Metrik

Die kosmologische Metrik in T0 hat die Form:

$$ds^2 = -c^2 dt^2 + a(t)^2 \left[ \frac{dr^2}{1 - kr^2} + r^2 d\Omega^2 \right] \quad (1.1)$$

wobei  $a(t)$  der Skalenfaktor und  $k$  die Krümmung ist.

### 1.1.2 Das intrinsische Zeitfeld

In kosmologischen Koordinaten:

$$T(r, t) = T_0 \cdot f(a(t), r) \quad (1.2)$$

## 1.2 Kosmologische Parameter

### 1.2.1 Hubble-Parameter

Der Hubble-Parameter folgt aus dem Zeitfeld:

$$H = \frac{\dot{a}}{a} = \frac{1}{T} \cdot \frac{\partial T}{\partial t} \quad (1.3)$$

### 1.2.2 Kritische Dichte

Die kritische Dichte in T0:

$$\rho_c = \frac{3H^2}{8\pi G} = \frac{3}{8\pi GT^2} \quad (1.4)$$

## 1.3 Geometrische Interpretation

### T0-Geometrie des Universums

Das Universum ist geometrisch durch das Zeitfeld strukturiert:

- Hohe Dichte  $\Leftrightarrow$  Kurze intrinsische Zeit
- Voids  $\Leftrightarrow$  Lange intrinsische Zeit
- Expansion  $\Leftrightarrow$  Zeitfeld-Evolution

#### Kosmologie ohne Singularität

Die geometrische T0-Kosmologie vermeidet die Urknall-Singularität: Das Zeitfeld hat einen minimalen Wert, der durch  $\xi$  bestimmt ist.

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