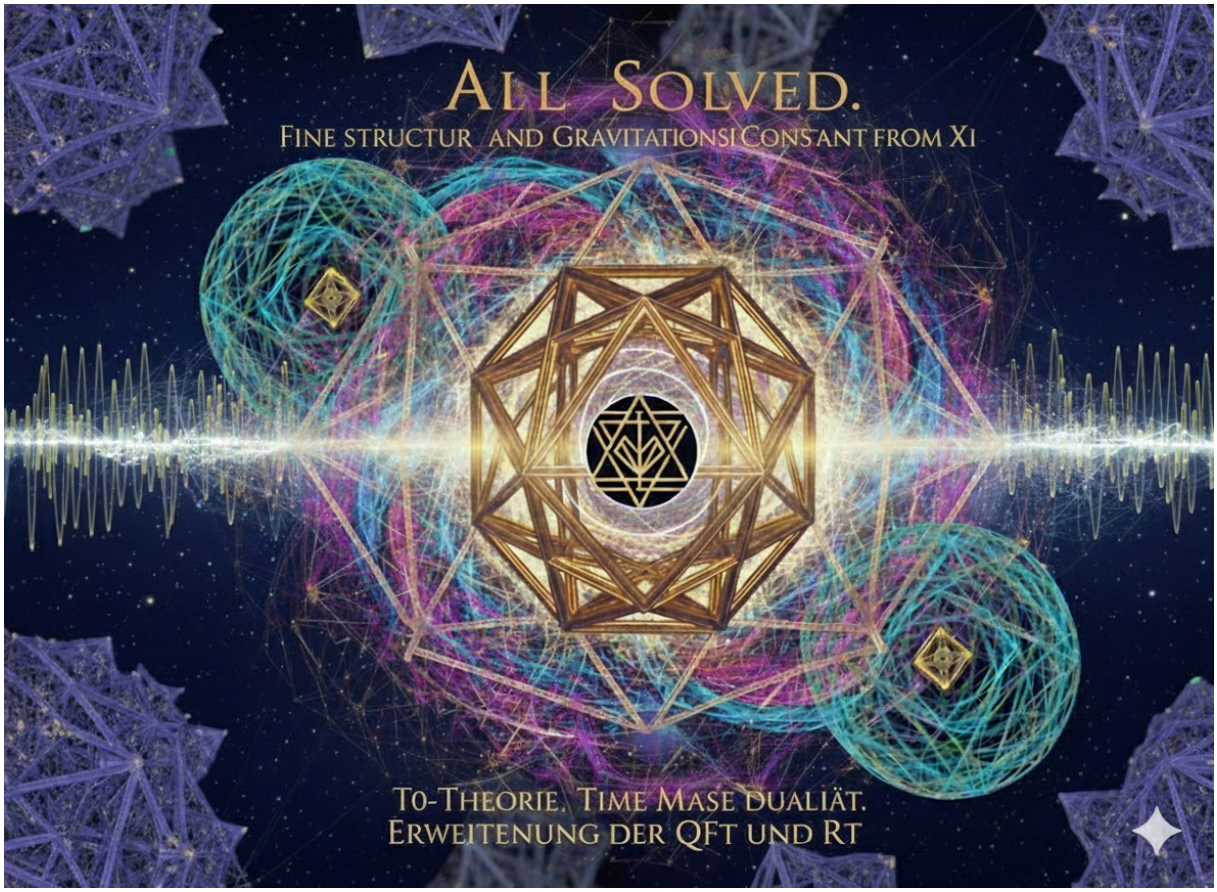
All Solved.
Fine structur and Gravitationsi Constant from Xi
To-Theorie. Time Mase dualiät.
Erweitenung der QFT und Rt

Abstract

The T0-Theory presents a fundamental paradigm shift in theoretical physics: **All natural constants and physical parameters can be derived from a single dimensionless number – the fine-structure constant $\alpha \approx 1/137$.**

Central Theorem

T0 Central Theorem

All physical parameters are manifestations of a single fundamental structure, characterized by the fine-structure constant:

$$\alpha = \frac{e^2}{4\pi\varepsilon_0\hbar c} \approx \frac{1}{137.036}$$

Time-Mass Duality

The foundation of T0-Theory is the **Time-Mass Duality**:

$$T \cdot m = \xi = \text{const}$$

where $\xi \approx 7.33 \times 10^{-51}$ kg·s is a universal constant.

Contents

1 Part I: Introduction and Foundations 3

2 Part II: Conceptual Comparisons and Analyses 3

3 Part III: Particle Masses and Fundamental Parameters 3

4 Part IV: Unit Systems and Constants 4

5 Part V: Energy, Mass and $E = mc^2$ 4

6 Part VI: The Fine-Structure Constant α 4

7 Part VII: Gravitational Constant 4

8 Part VIII: Cosmology and CMB 5

9 Part IX: Anomalous Magnetic Moments (g-2) 5

10 Part X: Lagrangian Formalism and Field Theory 5

11 Part XI: Quantum Mechanics and Quantum Field Theory 5

12 Part XII: Special Topics and Extensions 6

1 Part I: Introduction and Foundations

1. **T0_Introduction_En.tex** – Introduction to T0-Theory
2. **reise_En.tex** – From Acoustic Resonances to Geometric Duality
3. **T0_Grundlagen_En.tex** – Foundations of T0-Theory
4. **T0_Modell_Uebersicht_En.tex** – Model Overview
5. **T0_7-fragen-3_En.tex** – Seven Fundamental Questions
6. **Hannah_En.tex** – Hannah's Questions
7. **Markov_En.tex** – Markov Chains and Physics
8. **T0-Theory-vs-Synergetics_En.tex** – T0-Theory vs Synergetics
9. **T0_threeclock_En.tex** – The Three Clocks
10. **T0_penrose_En.tex** – Penrose and T0-Theory
11. **T0_peratt_En.tex** – Peratt's Plasma Cosmology

2 Part II: Conceptual Comparisons and Analyses

12. **T0_Analyse_MNRAS_Widerlegung_En.tex** – MNRAS Refutation Analysis
13. **T0vsESM_ConceptualAnalysis_En.tex** – T0 vs Standard Model

3 Part III: Particle Masses and Fundamental Parameters

14. **T0_Teilchenmassen_En.tex** – Particle Masses in T0-Theory
15. **Teilchenmassen_En.tex** – Mass Calculations
16. **T0_tm-erweiterung-x6_En.tex** – T0-Mass Extension
17. **T0_Neutrinos_En.tex** – Neutrino Physics
18. **detailierte_formel_leptonen_anemal_En.tex** – Lepton Formulas
19. **neutrino-Formel_En.tex** – Neutrino Formula
20. **T0_koide-formel-3_En.tex** – Koide Formula
21. **T0_xi-und-e_En.tex** – Xi and Elementary Charge
22. **T0_xi_ursprung_En.tex** – Origin of Xi
23. **xi_parmater_partikel_En.tex** – Xi Parameter and Particles

4 Part IV: Unit Systems and Constants

24. **T0_SI_En.tex** – SI Units in T0-Theory
25. **T0_nat-si_En.tex** – Natural and SI Units
26. **NatEinheitenSystematikEn.tex** – Natural Units Systematics
27. **parameterherleitung_En.tex** – Parameter Derivation
28. **T0_Vollstaendige_Berchnungen_En.tex** – Complete Calculations
29. **T0_verhaeltnis-absolut_En.tex** – Absolute Ratios
30. **RelokativesZahlensystemEn.tex** – Relative Number System

5 Part V: Energy, Mass and $E = mc^2$

31. **E-mc2_En.tex** – E=mc2 in T0-Theory
32. **T0_Energie_En.tex** – Energy in T0-Theory
33. **Formeln_Energiebasiert_En.tex** – Energy-Based Formulas
34. **Bewegungsenergie_En.tex** – Kinetic Energy

6 Part VI: The Fine-Structure Constant α

35. **T0_Feinstruktur_En.tex** – Fine Structure in T0
36. **FeinstrukturkonstanteEn.tex** – Fine-Structure Constant
37. **137_En.tex** – The Number 137
38. **musical-spiral-137-En.tex** – Musical Spiral 137
39. **ResolvingTheConstantsAlfaEn.tex** – Resolving Constants via Alpha

7 Part VII: Gravitational Constant

40. **T0_Gravitationskonstante_En.tex** – Gravitational Constant
41. **gravitationskonstante_En.tex** – G Derivation
42. **gravitationskonstnte_En.tex** – G Calculations

8 Part VIII: Cosmology and CMB

43. **TempEinheitenCMBEn.tex** – Temperature Units and CMB
44. **T0_Kosmologie_En.tex** – Cosmology in T0-Theory
45. **cosmic_En.tex** – Cosmic Scales
46. **T0_Geometrische_Kosmologie_En.tex** – Geometric Cosmology
47. **redshift_deflection_En.tex** – Redshift and Deflection
48. **Casimir_En.tex** – Casimir Effect
49. **Zwei-Dipole-CMB_En.tex** – Two Dipoles and CMB
50. **Ho_En.tex** – Hubble Constant

9 Part IX: Anomalous Magnetic Moments (g-2)

51. **T0_Anomale_Magnetische_Momente_En.tex** – Anomalous Moments
52. **T0_Anomale-g2-6_En.tex** – g-2 Analysis
53. **T0_Anomale-g2-9_En.tex** – Extended g-2

10 Part X: Lagrangian Formalism and Field Theory

54. **T0_lagrndian_En.tex** – Lagrangian in T0
55. **LagrandianVergleichEn.tex** – Lagrangian Comparison
56. **lagrandian-einfachEn.tex** – Simple Lagrangian
57. **Notwendigkeit_zwei_lagrange_En.tex** – Two Lagrangians
58. **diracEn.tex** – Dirac Equation
59. **diracVereinfachtEn.tex** – Simplified Dirac

11 Part XI: Quantum Mechanics and Quantum Field Theory

60. **T0_QM-QFT-RT_En.tex** – QM, QFT and Relativity
61. **QM-testenEn.tex** – Testing QM
62. **Bell_En.tex** – Bell Inequalities
63. **QM-DetrmisticEn.tex** – Deterministic QM
64. **NoGoEn.tex** – No-Go Theorems

65. **Mathematische_struktur_En.tex** – Mathematical Structure
66. **systemEn.tex** – System Theory
67. **QM_En.tex** – Quantum Mechanics
68. **QFT_En.tex** – Quantum Field Theory
69. **T0-QFT-ML_Addendum_En.tex** – QFT Addendum
70. **scheinbar_instantan_En.tex** – Apparent Instantaneity
71. **T0_QAT_En.tex** – Quantum Action Theory
72. **T0_QM-optimierung_En.tex** – QM Optimization

12 Part XII: Special Topics and Extensions

73. **Unit Charge_En.tex** – Unit Charge
74. **MathZeitMasseLagrangeEn.tex** – Math Time-Mass Lagrange
75. **T0_g2-erweiterung-4_En.tex** – g-2 Extension
76. **Amper_Low_En.tex** – Ampere and Low Energy
77. **DerivationVonBetaEn.tex** – Beta Derivation
78. **T0_freqeunz_En.tex** – Frequency Independence
79. **universale-ableitung_En.tex** – Universal Derivation
80. **T0_umkehrung_En.tex** – Inversion Principle
81. **DynMassePhotonenNichtlokalEn.tex** – Dynamic Mass Photons
82. **RSA_En.tex** – RSA and Physics
83. **RSAtest_En.tex** – RSA Tests
84. **Zeit_En.tex** – Time

Closing Remarks

This document collection presents the complete T0-Theory of Time-Mass Duality. The central insight – that all natural constants can be derived from the fine-structure constant $\alpha \approx 1/137$ – opens new perspectives for the unification of physics.

"One number rules them all: $\alpha \approx 1/137$"