

APPENDIX C: PAPER INDEX & CROSS-REFERENCES

Complete Navigation Guide

C.1 CORE PAPERS (P1-P10)

Paper	Title	Key Content	Status
P1	Mathematical Foundations v3.1	Axioms, signature (3,3), $\tau=i/\phi$	✓ FINAL
P2	Technical Derivations v3.1	Complete calculations, examples	✓ FINAL
P3	Dwarf Galaxies v1.1	$M < M_{\text{crit}}$ regime, LITTLE THINGS	✓ FINAL
P4	Effective 6D Gravity v1.2	Rotation law derivation, F_{pot}	✓ FINAL
P5	Cosmic Web v1.0	$\lambda_{13} = 0.856$ Mpc, structure	✓ FINAL
P6	Geometric Clustering Bias	Galaxy clustering from Q-field	✓ FINAL
P7	Thermodynamics 6D	Arrow of time, entropy flow	✓ FINAL
P8	Moduli Stabilization	T^2 stability, string connection	✓ FINAL
P9	Black Holes 6D	Singularity resolution, info	✓ FINAL
P10	Chronology Protection	No CTCs, causal structure	✓ FINAL

C.2 OBSERVATIONAL PAPERS (P11-P21)

Paper	Title	Key Content	Status
P11	NANOGrav Analysis	PTA signal, 23σ detection	✓ FINAL
P14	Gamma Ray 3D3D	GC emission, vs WIMP	✓ FINAL
P15	Gaia MW Rotation	Milky Way test	✓ FINAL
P21	Oxford Filament	Cosmic web validation	✓ FINAL
WALLABY	WALLABY Validation	HI survey, SKA pathfinder	✓ FINAL
Beta	Robustness SPARC	Statistical robustness	✓ FINAL

Paper	Title	Key Content	Status
HALOGAS	HALOGAS Validation	Extended HI	✓ FINAL
NGC3198	Dark Matter Demolished	Single galaxy deep analysis	✓ FINAL

C.3 THEORETICAL PAPERS (P22-P40)

Paper	Title	Key Content	Status
P22	Mathematical Completeness	Completeness theorem	✓ FINAL
P23	Primordial Cosmology	Inflation from Q-field	✓ FINAL
P24	Gravitational Waves 6D	Modified GW spectrum	✓ FINAL
P25	Baryogenesis 6D	η_B from CP violation	✓ FINAL
P26	Solar System Screening	Cassini, Vainshtein	✓ FINAL
P27	Q-Field Parameters	Complete derivations	✓ FINAL
P28	Two Harmonic Ladders	Scale hierarchy	✓ FINAL
P31	Einstein Limit	GR recovery	✓ FINAL
P32	Bullet Cluster	Collision dynamics	✓ FINAL
P33	UV Completion NLO	2-loop analysis	✓ FINAL
P34	Topology Uniqueness	T ² unique	✓ FINAL
P35	Baryogenesis Complete	Full mechanism	✓ FINAL
P36	SM Coupling EW	Electroweak transition	✓ FINAL
P37	Mathematical Glossary	Notation standardization	✓ FINAL
P40	QFT Formalization	Complete QFT	✓ FINAL

C.4 PARTICLE PHYSICS PAPERS (P41-P61)

Paper	Title	Key Content	Status
P41	M_crit Derivation	Critical mass formula	✓ FINAL

Paper	Title	Key Content	Status
P42	φ-e Bridge v2.0	Golden-Euler connection	✓ FINAL
P43	Unified Geometric Origin	All constants from τ	✓ FINAL
P44	Antiparticles CPT	Winding interpretation	✓ FINAL
P45	Lepton Mass Hierarchy	Koide from geometry	✓ FINAL
P48	Neutrino Masses 6D	Δm^2 , PMNS, $\theta_{\text{QCD}}=0$	✓ FINAL
P53	Alpha Derivation	$\alpha^{-1} = e^3 \varphi^4 - 1/\varphi$	✓ FINAL
P54	Three Generations	$N_{\text{gen}} = N_{\text{time}} = 3$	✓ FINAL
P58	Gauge Couplings Draft	$\sin^2 \theta_W, \alpha_s$	✓ FINAL
P59	Geometric Unification	Complete gauge sector	✓ FINAL
P59B	Effective Dimensions	$S_6 \rightarrow S_4$ reduction	✓ FINAL
P60	Unified Action S_6	Complete Lagrangian	✓ FINAL
P61	Uniqueness Theorem	4 no-go theorems	✓ FINAL

C.5 ADVANCED PAPERS (P62-P72)

Paper	Title	Key Content	Status
P64	Final Closure	All derivations complete	✓ FINAL
P65	Cosmological Constant	Λ solution	✓ FINAL
P66	Formal Uniqueness	Mathematical proof	✓ FINAL
P67	Spectral Theory	Complete spectrum	✓ FINAL
P70	Complete Theory Summary	Overview	✓ FINAL
P72	Geometric Framework v2.1	Updated formulas	✓ FINAL

C.6 LAGRANGIAN PHASES

Phase	Title	Content	Status
Phase2	Gravitational Sector	6D Einstein-Hilbert	✓ FROZEN
Phase3	Gauge Sector	$SU(3)\times SU(2)\times U(1)$	✓ FROZEN
Phase4	Higgs Sector	v, m_H, λ_H	✓ FROZEN
Phase5	Fermion Sector	Masses, Yukawas	✓ FROZEN
Phase6	CKM/PMNS	Mixing matrices	✓ FROZEN
Phase7	Complete Lagrangian	Full L6D	✓ FROZEN
Phase8	Wolfenstein A	$A = \varphi/2$	✓ FROZEN

C.7 SPECIAL TOPICS

File	Topic	Key Result
Golden_Nuclear	Nuclear binding	$B/A = (3/2)\varphi^5 m_e$
Atomic_Physics	Ionization energies	$IE = Ry \times \tilde{\lambda}(n_2, n_3)$
Entanglement	EPR resolution	6D locality
NonLinear_FULLL	Q_2 - Q_3 dynamics	$\lambda_4/\lambda_2 = e$
Screening	Multi-scale	Vainshtein mechanism
Asymptotic_Safety	UV completion	2 relevant operators

C.8 PARAMETER CROSS-REFERENCE

Gauge Couplings

$\alpha^{-1} = 137.036 \rightarrow \text{P53, LIII}$
 $\sin^2\theta_W = 0.2303 \rightarrow \text{P58, P59}$
 $\alpha_s(M_Z) \rightarrow \text{P59}$

Higgs Sector

$v = 246.22 \text{ GeV} \rightarrow \text{Phase4}$
 $m_H = 126.8 \text{ GeV} \rightarrow \text{Phase4}$
 $\lambda_H = 0.133 \rightarrow \text{P60, FROZEN_CORRECTION}$
 $m_W = 80.36 \text{ GeV} \rightarrow \text{Phase4}$
 $m_Z = 91.19 \text{ GeV} \rightarrow \text{Phase4}$

Quark Masses

$m_t = 174.1 \text{ GeV} \rightarrow \text{Phase5}$
 $m_t/m_c = \alpha^{-1} \rightarrow \text{Phase5}$
 $m_s/m_d = 20 \rightarrow \text{FREEZE_UPDATE}$
 $m_b/m_s = 44 \rightarrow \text{FREEZE_UPDATE}$
 $m_p = 937.3 \text{ MeV} \rightarrow \text{Phase5}$

Lepton Masses

$m_e = 0.512 \text{ MeV} \rightarrow \text{P_Electron_Mass}$
 $m_0 = 312.4 \text{ MeV} \rightarrow \text{P45}$
 $\theta_0 = 132.69^\circ \rightarrow \text{P45}$
 $m_\mu/m_e = \varphi^9e \rightarrow \text{Golden_Nuclear}$

Neutrinos

$\Delta m^2 \text{ratio} = 32.66 \rightarrow \text{P48}$
 $\theta_{\text{QCD}} = 0 \rightarrow \text{P48}$
 $\Sigma m_\nu \sim 60 \text{ meV} \rightarrow \text{P48}$

CKM Matrix

$\lambda = 0.2203 \rightarrow \text{Phase6}$
 $A = 0.809 \rightarrow \text{Phase8}$
 $\delta = 68.75^\circ \rightarrow \text{Phase5, Phase6}$
 $V_{cb}, V_{ub} \rightarrow \text{Phase6}$

PMNS Matrix

$\sin^2\theta_{12} = 0.309 \rightarrow \text{PA3v2}$
 $\sin^2\theta_{23} = 0.539 \rightarrow \text{PA3v2}$
 $\theta_{13} = 8.30^\circ \rightarrow \text{PA3v2}$

Galactic Scales

$\lambda_2 = 4.30 \text{ kpc} \rightarrow \text{P1-P4}$
 $M_{\text{crit}} = 2.43 \times 10^{10} \rightarrow \text{P31, P41}$
 $r_V(\odot) = 2600 \text{ ly} \rightarrow \text{P26, MultiScale}$
 $\lambda_{13} = 0.856 \text{ Mpc} \rightarrow \text{P5}$

Cosmology

$\rho_{\Lambda} = 3.3 \times 10^{-47} \rightarrow \text{P65}$
 $\eta_B = 6 \times 10^{-10} \rightarrow \text{P35}$
 $w_0 = -0.80 \rightarrow \text{P65}$

C.9 VALIDATION STATUS

Confirmed (>3σ)

- ✓ SPARC 175 galaxies (94.2%)
- ✓ NANOGrav PTA (23σ)
- ✓ SLACS lensing (4σ)
- ✓ LITTLE THINGS dwarfs (100%)
- ✓ Cassini screening (10⁹× margin)

Consistent

- ~ Cosmic web λ_{13}
- ~ WALLABY HI
- ~ CMB/BAO
- ~ High-z galaxies (JWST)

Pending 2026

- ⊙ Euclid DR1
- ⊙ DESI DR2
- ⊙ KATRIN
- ⊙ DUNE/HK

C.10 FALSIFICATION MAP

Prediction	Threshold	Test	Timeline
$\lambda_{13} = 0.856 \text{ Mpc}$	$\pm 0.05 \text{ Mpc}$	Euclid	2026
$\sin^2\theta_{23} > 0.5$	Lower octant	DUNE	2027+
$\Sigma m_\nu \sim 60 \text{ meV}$	$> 120 \text{ meV}$	KATRIN	2026
No WIMPs	Detection	LZ	2025+
No axions	Detection	ADMX	2025+
Cassini OK	Violation	Future	N/A

C.11 DOCUMENT HIERARCHY

MASTER DOCUMENTS:

3D3D_COMPRESSED_MASTER_v2.md ← START HERE

APPENDIX_A_Particle_Physics.md

APPENDIX_B_Galactic_Cosmological.md

APPENDIX_C_Paper_Index.md (this file)

SINGLE SOURCE OF TRUTH:

Clarification_Note_Parameter_Registry_v1_0.md

FROZEN RESULTS:

Phase2-8 (Lagrangian)

FREEZE_UPDATE_mW_mZ.md

FROZEN_CORRECTION_lambda_H.md

REFERENCE:

README_3D3D_Navigation_Guide_v2_0.md

C.12 RECOMMENDED READING ORDER

For New Readers

- 3D3D_COMPRESSED_MASTER_v2.md (overview)
 - P1 Mathematical Foundations (axioms)
 - P4 Effective 6D Gravity (rotation curves)

- 4. Phase5 Fermion Sector (particle physics)
- 5. P61 Uniqueness Theorem (why this theory)

For Particle Physics Focus

- 1. APPENDIX_A_Particle_Physics.md
- 2. P53 Alpha Derivation
- 3. P45 Lepton Hierarchy
- 4. P48 Neutrino Masses
- 5. PA3v2 42-Parameter Theorem

For Astrophysics Focus

- 1. APPENDIX_B_Galactic_Cosmological.md
- 2. P1-P4 Core rotation curve papers
- 3. P5 Cosmic Web
- 4. P26 Solar System Screening
- 5. Beta_Robustness papers

For Mathematical Rigor

- 1. P22 Mathematical Completeness
- 2. P61 Uniqueness Theorem
- 3. P66 Formal Uniqueness
- 4. Master_Mathematical_Structure_v4_CORRECTED.md

END OF APPENDIX C

Correction Note (February 21, 2026): Cosmological values updated: $w_0 = -0.80$, $\gamma = 0.567$.