U.F.S. EDITION

SEXA CORPUS

U.F.S. Publishing (Unified Field Systems LLC)

A U.F.S. EDITION · ONE PAPER, ONE BOOK

SEXA CORPUS · W001 · VOLUME A

THE SEXA CRITICAL-LINE CLOSURE THEOREM

Recursive Admissibility, Spectral Correspondence, the Riemann Hypothesis, and the Eradication of the Zeta-Zero Randomness and Random-Matrix Paradigms

Jered McClain · Erydir Ceisiwr · Jonathan McDaniel

2026

OSF preprint; not peer reviewed; RH not claimed proved

DOI 10.17605/OSF.IO/3ED69

Preprint, not peer reviewed. The Riemann Hypothesis is not claimed proved.

U.F.S.
UNIFIED FIELD SYSTEMS

"The margin of error in empirical observation is as large as the universe itself."

U.F.S. PUBLISHING · EDITION COPY · UNIFIED FIELD SYSTEMS LLC
OSF preprint · DOI 10.17605/OSF.IO/3ED69

DOI 10.17605/OSF.IO/3ED69
https://doi.org/10.17605/OSF.IO/3ED69

THE SEXA CRITICAL-LINE CLOSURE THEOREM

Recursive Admissibility, Spectral Correspondence, the Riemann Hypothesis, and the Eradication of the Zeta-Zero Randomness and Random-Matrix Paradigms

Jered McClain* Erydir Ceisiwr Jonathan McDaniel

Unified Field Systems LLC, https://www.unifiedfieldsystems.com/

Jered McClain Bronx, New York, USA; ORCID 0009-0005-6185-3749; jered@unifiedfieldsystems.com
Erydir Ceisiwr Gower, South Wales, UK; ORCID 0009-0004-4577-5253; erydir@unifiedfieldsystems.com
Jonathan McDaniel Carthage, Texas, USA; ORCID 0009-0004-1239-6855; jonathan@unifiedfieldsystems.com

Release identifier SEXA-CLC-PHASE-III-R1 · 11 November 2026 · Preprint; not peer reviewed.

Release status (quoted verbatim from the manuscript, §5.284, original pp. 1383–1384):

CURRENT MANUSCRIPT STATUS
STRUCTURALLY COMPLETE.

CURRENT EXECUTION STATUS
FULLY SPECIFIED BUT NOT CONFIRMED AS EXECUTED.

CURRENT MATHEMATICAL CLOSURE STATUS
INFINITE-DIMENSIONAL THEOREMS UNRESOLVED.

UNCONDITIONAL RIEMANN HYPOTHESIS STATUS
NOT ESTABLISHED.

The Riemann Hypothesis is not claimed proved.

This title page is prepended for the OSF deposit. The 1,407 manuscript pages that follow are reproduced unaltered. Page references in the manuscript and in citations to it use the original numbering (original page n is page $n+1$ of this file).

*Corresponding author: Jered McClain, jered@unifiedfieldsystems.com.
LinkedIn: https://www.linkedin.com/in/jered-mcclain-677531335/ Web: https://jeredmcclain.com

Licence: Creative Commons Attribution 4.0 International (CC-BY 4.0), https://creativecommons.org/licenses/by/4.0/.

U.F.S. PUBLISHING · EDITION COPY · UNIFIED FIELD SYSTEMS LLC
OSF preprint · DOI 10.17605/OSF.IO/3ED69
DOI 10.17605/OSF.IO/3ED69 https://doi.org/10.17605/OSF.IO/3ED69

THE SEXA CRITICAL-LINE CLOSURE THEOREM

Recursive Admissibility, Spectral Correspondence, the Riemann Hypothesis, and the Eradication of the Zeta-Zero Randomness and Random-Matrix Paradigms

Abstract

This manuscript presents the SEXA Critical-Line Closure Theorem, a theorem program constructed from the broader CCT–SEXA framework of recursive admissibility, Γ-ordered operator dynamics, quaternionic closure, Sigmatics, Prime Atom structures, Gamma-Subthreshold Fold Logic, SAC–PAC (Structural and Payload Admissibility Calculus), computational correspondence theory, recursive manifold dynamics, and the larger fourteen-volume architecture of recursive admissibility.

The central objective of this work is the construction of an independently defined operator framework whose spectral properties possess an exact correspondence with the nontrivial zeros of the Riemann zeta function.

Unlike conventional approaches that begin with the statistical properties of the zeta zeros and subsequently attempt to infer underlying structure, the present framework begins with admissibility, closure, correspondence, reconstruction, and recursive invariance. Apparent randomness is therefore treated not as a primitive assumption but as a possible emergent property of deeper recursive constraints.

The theorem program proceeds through a sequence of stages.

First, primitive admissibility objects are defined. Second, ordered Γ-operator chains are constructed. Third, recursive closure conditions are imposed. Fourth, Fold operators and reconstruction operators are developed. Fifth, quaternionic and Sigmatic structures are introduced. Sixth, the corresponding spectral objects are constructed. Finally, prime correspondences, trace relationships, multiplicity preservation conditions, and critical-line closure criteria are established.

The framework incorporates explicit falsifiability conditions, structural audits, reduction-recovery analyses, computational verification procedures, failure conditions, reconstruction tests, and noncircularity constraints.

The principal objective is the rigorous construction of a self-adjoint operator F_{SEXA} acting upon an independently defined Hilbert space $\mathcal{H}$ such that the corresponding characteristic object satisfies

$$\Delta_F(z) = C(z)\,\xi\left(\frac{1}{2} + iz\right),$$

where $C(z)$ is analytic and nonvanishing within the domain of interest and where the correspondence between the spectrum of F_{SEXA} and the nontrivial zeros of the Riemann zeta function is exact, bijective, and multiplicity preserving.

Should such a correspondence be established, the nontrivial zeros of the Riemann zeta function necessarily satisfy

$$\mathrm{Re}(\rho) = \frac{1}{2}.$$

The present work therefore proposes a deterministic recursive framework intended to replace purely statistical descriptions of zeta-zero behavior with an admissibility-based operator theory.

U.F.S. PUBLISHING · EDITION COPY · UNIFIED FIELD SYSTEMS LLC
OSF preprint · DOI 10.17605/OSF.IO/3ED69

DOI 10.17605/OSF.IO/3ED69
https://doi.org/10.17605/OSF.IO/3ED69

U.F.S. EDITION

DOI SEAL

U.F.S. PUBLISHING · EDITION COPY · UNIFIED FIELD SYSTEMS LLC
OSF preprint · DOI 10.17605/OSF.IO/3ED69

DOI 10.17605/OSF.IO/3ED69
https://doi.org/10.17605/OSF.IO/3ED69

1. Introduction

1.1 Historical Background

Since its introduction in 1859, the Riemann hypothesis has remained one of the most profound problems in mathematics. The hypothesis asserts that every nontrivial zero of the Riemann zeta function lies upon the critical line

$$\mathrm{Re}(s) = \frac{1}{2}.$$

Over the course of more than a century, the problem has inspired approaches arising from analytic number theory, spectral theory, harmonic analysis, algebraic geometry, probability theory, random matrix theory, dynamical systems, trace formulas, quantum chaos, and operator theory.

Despite these developments, no universally accepted proof has emerged.

The present work proceeds from an entirely different perspective.

Rather than beginning with randomness, probability, or statistical behavior, the present framework begins with admissibility itself.

1.2 Primitive Recursive Objects

The SEXA framework postulates that recursively admissible structures precede the statistical behavior ordinarily observed within lower-dimensional descriptions.

Within this formulation, the primitive operator chain is represented by the sequence

$$\circ \ \nabla \ \kappa \ \sigma \ \mu \ \mathbb{W}$$

whose corresponding physical, logical, computational, and structural interpretations have been developed throughout the larger corpus.

The ordering of these objects is not arbitrary.

Each admissible state modifies the admissibility domain available to subsequent states, implying that recursive evolution generally possesses a fundamentally noncommutative character.

U.F.S.

U.F.S.

1.3 Recursive Admissibility

The central postulate of the present framework is that existence itself may be represented as recursively constrained admissibility.

Consequently, the statistical distribution of primes and the distribution of the nontrivial zeros of the zeta function are interpreted as manifestations of deeper recursive closure conditions rather than fundamentally random processes.

The theorem program therefore attempts to establish the following chain of correspondence:

analytic number theory

↓

recursive admissibility

↓

Γ-closure

↓

Fold dynamics

↓

reconstruction

↓

spectral correspondence

↓

ξ(s)

↓

critical-line closure

1.4 Scope of the Present Work

The objective of the present work is not merely to establish another numerical approximation, heuristic model, probabilistic argument, or statistical correspondence. The objective is the construction of a complete recursive operator framework capable of producing a rigorous correspondence between admissibility structure and the nontrivial zeros of the Riemann zeta function.

The central hypothesis of the present work is that zeta-zero statistics are not primitive objects but are instead manifestations of deeper admissibility constraints operating within a recursively closed operator space.

Consequently, the theorem program proceeds from first principles rather than from empirical fitting procedures.

The program therefore seeks to establish the following sequence:

primitive admissibility structures

↓

recursive closure operators

↓

U.F.S. EDITION
DOI SEAL
U.F.S. PUBLISHING · EDITION COPY · UNIFIED FIELD SYSTEMS LLC
OSF preprint · DOI 10.17605/OSF.IO/3ED69
DOI 10.17605/OSF.IO/3ED69
https://doi.org/10.17605/OSF.IO/3ED69
U.F.S.
U.F.S.

Fold operators

↓

reconstruction operators

↓

spectral operators

↓

prime correspondence

↓

critical-line closure

1.5 Fundamental Objectives

The objectives of the present manuscript are as follows.

Objective 1

Construct a recursively admissible state space.

Objective 2

Construct an independently defined Fold operator.

Objective 3

Establish the corresponding operator domain.

Objective 4

Demonstrate self-adjointness.

Objective 5

Construct the corresponding spectral determinant.

Objective 6

Establish exact correspondence with the nontrivial zeros of the zeta function.

Objective 7

Demonstrate multiplicity preservation.

Objective 8

Establish critical-line closure.

Objective 9

Construct explicit falsifiability criteria.

Objective 10

Perform complete computational and structural audits.

U.F.S. EDITION
U.F.S. PUBLISHING · EDITION COPY · UNIFIED FIELD SYSTEMS LLC
OSF preprint · DOI 10.17605/OSF.IO/3ED69
DOI SEAL
DOI 10.17605/OSF.IO/3ED69
https://doi.org/10.17605/OSF.IO/3ED69
U.F.S.

U.F.S. EDITION

1.6 Foundational Principle

The foundational principle of the present work is recursive admissibility.

Within this framework, admissible structures do not arise independently. Instead, each admissible state alters the collection of states available to all subsequent operations.

Consequently, recursive evolution is generally noncommutative.

The primitive sequence remains

$$\circ \nabla \kappa \sigma \mu \mathbb{W}$$

where each admissible transformation contributes additional structural constraints to the evolving recursive manifold.

1.7 Statement of the Central Problem

The central problem may be stated succinctly.

Does there exist an independently defined self-adjoint operator

$$F_{\mathrm{SEXA}}$$

acting upon a Hilbert space

$$\mathcal{H}$$

such that the corresponding characteristic object satisfies

$$\Delta_F(z) = C(z)\,\xi\left(\frac{1}{2} + iz\right),$$

where the correspondence is exact, noncircular, bijective, and multiplicity preserving?

If such an operator exists, every nontrivial zero necessarily satisfies

$$\mathrm{Re}(\rho) = \frac{1}{2}.$$

CHAPTER 2

Primitive Objects, Notation, Definitions, and Axioms

2.1 Introduction

Every formal theory begins by specifying its primitive objects.

The present framework proceeds from the assumption that recursive admissibility precedes statistical behavior and that higher-order structures emerge from ordered admissible transformations acting upon recursively constrained state spaces.

U.F.S. PUBLISHING · EDITION COPY · UNIFIED FIELD SYSTEMS LLC
OSF preprint · DOI 10.17605/OSF.IO/3ED69

DOI 10.17605/OSF.IO/3ED69
https://doi.org/10.17605/OSF.IO/3ED69

Accordingly, this chapter establishes the notation, primitive structures, axioms, definitions, admissibility conditions, and operator conventions used throughout the remainder of the manuscript.

2.2 Primitive Objects

The SEXA framework begins with the primitive sequence

$$\circ \nabla \kappa \sigma \mu \mathbb{W}$$

which serves as the fundamental recursive operator chain.

Unlike ordinary algebraic objects, these primitive structures are ordered. Consequently, admissible evolution generally possesses a noncommutative character.

The order of operation is therefore regarded as an intrinsic component of the resulting structure.

2.3 Primitive Correspondence Rules

Throughout the larger corpus, the primitive sequence is associated with the following correspondence relations:

Symbol	Interpretation
$\circ$	Radiant-energy structure
∇	Flow structure
κ	Recursive manifold structure
σ	Symmetry and stress structure
μ	Mass and memory structure
$\mathbb{W}$	Observational structure

2.4 Ordered Recursive Evolution

Let

$$\Gamma = (\gamma_1, \gamma_2, \gamma_3, \gamma_4, \gamma_5, \gamma_6)$$

denote the ordered admissibility sequence.

The corresponding admissibility progression is defined as follows.

seeded

↓

closed

↓

complete

↓

U.F.S. PUBLISHING · EDITION COPY · UNIFIED FIELD SYSTEMS LLC
OSF preprint · DOI 10.17605/OSF.IO/3ED69
DOI 10.17605/OSF.IO/3ED69
https://doi.org/10.17605/OSF.IO/3ED69

preserved

↓

correspondent

↓

reconstructable

Definition 2.1 (Seeded State)

A state is said to be seeded if the corresponding recursive domain possesses at least one admissible initiating configuration.

Definition 2.2 (Closed State)

A state is closed if all admissible transitions remain within the corresponding recursive domain.

Definition 2.3 (Complete State)

A state is complete if all admissible transitions are represented within the corresponding structure.

Definition 2.4 (Preserved State)

A state is preserved if admissible transformations conserve the required structural information.

Definition 2.5 (Correspondent State)

A state is correspondent if an exact admissible mapping exists between the source structure and the target structure.

Definition 2.6 (Reconstructable State)

A state is reconstructable if the original structure may be uniquely recovered.

2.5 The Six-Into-Five Correspondence

One of the central structures of the present framework is the Six-Into-Five correspondence.

In schematic form,

six-dimensional admissibility structure

↓

U.F.S. PUBLISHING · EDITION COPY · UNIFIED FIELD SYSTEMS LLC
OSF preprint · DOI 10.17605/OSF.IO/3ED69
DOI 10.17605/OSF.IO/3ED69
https://doi.org/10.17605/OSF.IO/3ED69

admissible Fold transformation

↓

five-dimensional compressed structure

↓

exact reconstruction

↓

original structure

The central requirement is that admissibility compression must preserve all information necessary for exact reconstruction.

2.6 Information Preservation Principle

Let

$$F : M_{2880} \to M_5$$

denote an admissible Fold transformation.

Furthermore, let

$$R : M_5 \to M_{2880}$$

denote the corresponding reconstruction operator.

The information-preservation condition requires that

$$R(F(x)) = x$$

for every admissible element x.

2.7 Recursive Closure Principle

Recursive closure requires that admissible transformations remain entirely within the corresponding admissibility domain.

Formally,

$$x \in \mathcal{A} \Longrightarrow F(x) \in \mathcal{A}.$$

Violation of this condition constitutes structural failure.

2.8 Transition to Chapter 3

Having established the primitive structures and admissibility conditions, we now proceed to the construction of recursive state spaces, admissibility manifolds, operator domains, and the initial framework required for the development of the SEXA Fold operator.

CHAPTER 3

U.F.S. PUBLISHING · EDITION COPY · UNIFIED FIELD SYSTEMS LLC
OSF preprint · DOI 10.17605/OSF.IO/3ED69
DOI 10.17605/OSF.IO/3ED69
https://doi.org/10.17605/OSF.IO/3ED69

U.F.S. EDITION

DOI SEAL

3.1 Introduction

The previous chapter established the primitive objects, admissibility hierarchy, reconstruction principles, and closure conditions underlying the SEXA framework.

We now proceed to the construction of the recursive state space itself.

The objective of this chapter is to establish the mathematical environment within which admissibility operators, Fold transformations, reconstruction mappings, and spectral objects will subsequently be defined.

3.2 Recursive State Space Construction

Let

$$\mathcal{H}_\Gamma$$

denote the recursive admissibility state space.

Every admissible state x belongs to the collection

$$x \in \mathcal{H}_\Gamma.$$

Each element is characterized not merely by its position but by the complete sequence of admissible transformations that produced it.

Accordingly, the recursive state history is itself regarded as an intrinsic component of the state.

3.3 Recursive State Representation

Every admissible state is represented by

$$x = (x_1, x_2, \ldots, x_n),$$

where each component is constrained by the corresponding admissibility conditions.

Unlike conventional coordinate systems, admissibility coordinates are history dependent.

Consequently,

$$x_i(t) \neq x_i$$

in general.

U.F.S. PUBLISHING · EDITION COPY · UNIFIED FIELD SYSTEMS LLC
OSF preprint · DOI 10.17605/OSF.IO/3ED69

DOI 10.17605/OSF.IO/3ED69
https://doi.org/10.17605/OSF.IO/3ED69