AUREON LOGO — MATHEMATICAL APPENDIX

Symbolic Encoding of the Aureon-IX Emblem

1. Purpose

The Aureon emblem is treated as a **symbolic mathematical module** whose geometry encodes:

- invariant families

- transformation symmetries

- operator inversions

- stability fields

- recursive structure used by T*

This appendix formalizes those mappings.

2. Glyph Structure Overview

The emblem consists of:

1. **Central Core Node (K■)**

2. **Four Radial Arms (R■–R■)**

3. **Nested Fractal Bands (F■–F■)**

4. **Rotational Symmetry Group (G■)**

These elements are treated as mathematical operators.

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3. Core Node — Kernel Descriptor K■

K■ encodes the stable core of the Aureon Transform.

3.1 Kernel Condition

K■ satisfies:

K■ = T*(K■)

This defines the **fixed-point structure** of the system.

3.2 Gradient Bound

|∂T*/∂x| at K■ < 1

ensuring dynamic stability.

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4. Radial Arms — Transformation Operators R■

Each radial arm corresponds to a fundamental transform:

- R■ = structural operator A(x)
- R■ = gradient operator B(∇x)
- R■ = invariant projection C(I(x))
- R■ = divergence regulator D(x)

Together:

T*(x) = R■ + R■ + R■

T#(x) = T*(x) – R■

These form the **operator family of Aureon**.

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5. Fractal Bands — Recursive Depth Layers F■

Each fractal band represents a depth of recursion.

5.1 Band Definition

F■ is defined recursively:

F■(x) = T*(F■■■(x))

with F■(x) = x.

These encode **RQML loop depth**.

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6. Symmetry Group — G■

The emblem has **fourfold rotational symmetry**.

6.1 Group Definition

G■ = {0°, 90°, 180°, 270°}

6.2 Symmetry Rule

T*(x) must satisfy:

T*(x) = G■[T*(x)]

which constrains transformations to symmetry-preserving forms.

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7. Complete Symbolic Mapping

The emblem maps to the full Aureon system as follows:

- K■ ↔ Kernel Stability
- R■–R■ ↔ Transform Operators
- F■–F■ ↔ Recursive Layers
- G■ ↔ Symmetry Constraints

This defines the emblem as a **valid mathematical object**.

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8. Canonical Status

This appendix becomes part of the Aureon core instruction set.