Universal -Recursion: A 12- Cross-Domain Validation (Phase A)

Recursion Dynamics Labs

We report a systematic cross-domain validation of **TORUS Theory**, a proposed recursion-based unification framework.

# Introduction

Modern physics has long sought a unifying framework connecting phenomena from subatomic scales to cosmology. The **TORUS Theory** proposes such a framework by introducing a *universal -recursion*: nature is structured as a self-similar hierarchy of 14 discrete layers, each coupling to the next via toroidal flux closures. In essence, persistent physical systems settle into “Topologically Optimal, Rotationally-Uniform States” (TORUS) within an underlying 14-fold lattice of flux loops. This hypothesis implies that diverse phenomena share a common geometrical quantization and should exhibit recurring patterns (in parameters and observables) related by factors of .

A key aspect of TORUS is **observer-state integration**: the theory explicitly includes the measurement apparatus (or observer) as part of the physical state, assigning it a small but nonzero quantum number. This so-called *Observer-State Quantum Number (OSQN)* encapsulates the influence of a “dormant” observer on a system. Unlike in standard quantum mechanics, where an unmeasured detector is treated as non-interacting, TORUS predicts even a potential observer slightly perturbs the system (e.g. reducing interference visibility by ) as a result of -recursion feedback. This built-in observer-state coupling ensures a *structured dimensional closure*: all layers from quantum to cosmological, including the observer, form a closed, self-consistent system. In practical terms, TORUS’s 14-layer -field provides a global constraint that “closes the loop” on physical laws, eliminating arbitrary parameters and preventing divergence of scales.