The 3-Tier Discipline

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LMR Position Paper 1

The Three-Tier Discipline

Purpose

This note formalizes the three-tier structure used throughout the Length–Mass Reduction (LMR) program.

The purpose of the tier system is to maintain strict separation between:

- structural grammar,
- observer-side representation,
- dimensional correspondence with standard SI expressions.

This separation prevents category errors, ontological promotion, and backward inference between layers.

Overview

LMR is organized into three distinct tiers:

- Tier 1 — Structural Grammar,
- Tier 2 — Observer-Side Overlays,
- Tier 3 — Dimensional Correspondence.

Each tier is internally consistent.
No tier may be used to derive another without explicit declaration.

Tier 1 — Structural Grammar

Tier 1 establishes the codex.
It defines:

- admissibility conditions,
- lattice structure,
- persistence and constraint,
- corridor relations,
- structural configurations.

Tier 1 is predynamical.
It does not introduce:

- forces,
- fields,
- transport mechanisms,
- dynamical laws,
- observer-side variables.

All statements in Tier 1 are structural.
They are expressed as relations among admissible configurations.

Tier 2 — Observer-Side Overlays

Tier 2 admits representational equations defined over Tier 1 quantities.
These equations arise from explicitly declared:

- Structural Inputs (SI#),
- Scale-Mapping Rules (MS#),
- Algebraic-Mapping Rules (MA#),
- Observer-Side Update Postulates (D#),
- Structural Constraints (SC#).

Tier 2 equations include:

- exponential update forms,
- diffusion-type equations,
- telegrapher-type equations,

- wave-type equations.

These equations are:

- representational,
- rule-dependent,
- non-ontological.

Tier 2 does not derive dynamics from structural grammar.

It declares admissible dynamical forms under chosen update rules.

Multiple distinct equation families may arise from the same structural cadence scale depending on which update postulates are declared. This non-uniqueness is a feature of the overlay layer, not an ambiguity in the structural grammar.

Tier 3 — Dimensional Correspondence

Tier 3 performs dimensional reduction of standard SI expressions.

This is implemented through the bridge quantity:

$$\ell_m = \frac{h}{c}.$$

Tier 3:

- removes explicit kilogram dependence,
- preserves algebraic structure,
- produces kilogram-free expressions,
- introduces no new physical content.

Tier 3 does not:

- derive structural grammar,
- determine overlay equations,
- introduce new physical laws.

It is a correspondence layer only.

Separation Principle

The three tiers are strictly separated.

- Tier 1 does not determine a unique Tier 2 equation.
- Tier 2 does not define Tier 1 ontology.
- Tier 3 does not derive Tier 1 structure or Tier 2 dynamics.

No result in one tier may be used to infer structure in another without explicit rule declaration.

Common Misinterpretations

The following misreadings are excluded:

- Treating Tier 2 equations as physical laws derived from Tier 1,
- Using Tier 3 dimensional reduction to justify Tier 1 structure,
- Interpreting Tier 1 relations as hidden dynamical equations,
- Promoting observer-side quantities to structural primitives.

These interpretations violate the tier discipline.

Interpretive Boundary

LMR establishes a structural grammar in Tier 1.
It admits representational dynamics in Tier 2.
It performs dimensional correspondence in Tier 3.
These functions are distinct.
The framework does not collapse them into a single layer.

Summary

The three-tier discipline is a foundational constraint of the LMR program.
It ensures that:

- structure is not conflated with dynamics,
- representation is not promoted to ontology,
- dimensional correspondence is not mistaken for derivation.

All results within LMR must respect this separation.