6. Positive Baselines & Minimum Mechanism Threshold

A diagnostic framework that only identifies failure risks an implicit asymmetry: anything that survives scrutiny appears exceptional, while anything new is presumed suspect. To avoid this, CEDA explicitly defines a **Positive Baseline Suite**—minimal constructions that unambiguously pass the diagnostic protocol. These baselines establish the **minimum structure** required for a proposal to qualify as a genuine mechanism under conservation-honest accounting.

The purpose of these baselines is not to privilege particular cosmological models, but to anchor CEDA's criteria in concrete, non-controversial examples. Any alternative proposal is evaluated against the same standards, not against inflation as a sociological benchmark.

6.1 Minimum Mechanism Threshold

Under CEDA, a proposal qualifies as a *mechanism* only if it satisfies all of the following:

- Introduces **explicit dynamical structure** beyond descriptive repartitioning.
- Localizes negative pressure or accelerated expansion to identifiable degrees of freedom.
- Preserves energy–momentum conservation without phenomenological closure terms.
- Remains stable under admissible changes in coarse-graining, horizon definition, or frame choice.
- Does not rely on privileged bookkeeping, interpretive reweighting, or goal-seeking parameters.

The Positive Baseline Suite demonstrates that these criteria are achievable, internally consistent, and not tuned to exclude known physics.

6.2 MB-1: Pure Λ Background (Coupling-Level Baseline)

Description.
A cosmological constant Λ included directly in Einstein's equations, without additional fields or couplings.

Why it passes.
Λ is a covariantly conserved contribution to the stress–energy tensor with a fixed equation of state $w=-1w = -1w=-1$. No exchange terms, partitions, or coarse-graining choices are required to sustain acceleration.

Diagnostic role.
MB-1 establishes the lowest possible bar: acceleration sourced by a genuinely conserved, background-level term. It passes not because it is explanatory, but because it is **structurally honest**. Any proposal claiming "emergent Λ" must reproduce this structure without hidden substitutions.

6.3 MB-2: Canonical Single-Field Slow-Roll Inflation (EFT Regime)

Description.
A minimally coupled scalar field with a potential satisfying slow-roll conditions, treated within its effective field theory regime of validity.

Why it passes.
Negative pressure arises from explicit field dynamics. Energy–momentum conservation is manifest. The inflationary phase persists under admissible variations of coarse-graining and horizon description. No descriptive reweighting is required to sustain w≈−1w \approx -1w≈−1.

Diagnostic role.
MB-2 demonstrates that CEDA does not penalize inflationary dynamics per se. It passes because the mechanism is explicit, localized, and dynamically closed—not because it is inflation.

6.4 MB-3: Starobinsky R+R2R + R^2R+R2 Inflation

Description.
Higher-curvature gravity with an R2R^2R2 correction, equivalently describable via a scalaron degree of freedom.

Why it passes.
The model introduces genuine new structure at the action level. Frame transformations (Jordan ↔ Einstein) are invertible and preserve solution space and conservation laws. Accelerated expansion originates in intrinsic dynamics, not in horizon bookkeeping or interpretive reclassification.

Diagnostic role.
MB-3 serves as a gold-standard robustness test. It shows that even when descriptions change, the mechanism survives. This directly contrasts with horizon- or entropy-based proposals whose behavior collapses under equivalent reformulation.

6.5 What the Baselines Do—and Do Not—Imply

The Positive Baseline Suite does **not** claim that these models are fundamental, complete, or uniquely correct. It establishes only this:

- CEDA recognizes mechanisms when genuine structure is present.
- The bar for passing is achievable and well-defined.
- Alternatives are evaluated against explicit criteria, not moving targets.

Any proposal—holographic, discrete, nonlocal, or otherwise—may pass CEDA if it meets the same minimum mechanism threshold. What CEDA refuses to credit is acceleration that exists only because bookkeeping was promoted to physics.