Tab 1

Phase II — Lock the Arena Rules (V2)
Before analyzing any paper, CEDA v1.2 is formally frozen—no edits, reinterpretations, or diagnostic tweaks are allowed mid-audit. The audit commits *in advance* to the exact Model Card, the A0 Admissibility Declaration, and a complete Translation Card with Ambiguity Budget. Only claims, structures, and assumptions **explicitly stated by the paper** are admissible; narrative intent, implied motivations, or charitable reinterpretations are excluded. This prevents post-hoc disputes about interpretation—the model is evaluated strictly on what it actually commits to, not what it gestures toward.

That's the whole rule set. After this point, the paper either carries its own weight or it doesn't.

CEDA Model Card

CEDA Model Card

Purpose:
This document records the **declared structure** of a proposed early-universe model *prior to any diagnostics*.
All entries must be explicit. **Omissions default to failure of the Run Validity Gate (RG).**

No diagnostic interpretation is permitted in this document.

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0. Proposal Identification

- **Title:**
- **Authors:**
- **Year / Venue (arXiv / journal):**
- **Primary reference (link):**

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1. Claimed Mechanism (Concise, Author-Stated)

In **1–3 sentences**, state exactly what the authors claim *causes* accelerated expansion, smoothing, or inflation-like behavior.

> Avoid interpretive language.
> State the mechanism **as the authors intend it to function physically**, not how it is often described secondarily.

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2. Degrees of Freedom (DOF)

2.1 Explicit Dynamical DOF

List all fields, modes, or variables that enter the **action or equations of motion** as dynamical entities.

2.2 Effective / Collective DOF

List any coarse-grained, emergent, averaged, or expectation-value quantities treated as contributors to stress–energy or dynamics.

2.3 Fixed / Constrained Quantities

List quantities assumed fixed, frozen, externally specified, or constrained by hand (e.g., constant ε, imposed background, fixed equation of state).

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3. System–Environment Partition

- **System (interior degrees of freedom):**
- **Environment (traced-out / inaccessible / external DOF):**
- **Boundary definition (horizon, cutoff, causal surface, none):**

State explicitly:

- whether any DOF are *traced out*,
- whether the partition **evolves in time**, and
- what physical principle enforces the partition.

If no partition is claimed, state **"closed system"** explicitly.

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4. Conservation Accounting (RG-Critical)

4.1 Stress–Energy Structure

- **Stress–energy tensor(s) used:**

- **Origin (action-derived / effective / expectation value):**

4.2 Exchange-Term Status (Mandatory)

Declare **one and only one**:

- ☐ No exchange term QQQ; system is closed
- ☐ Explicit exchange term QQQ derived from partition evolution
- ☐ Effective / phenomenological exchange term (must be flagged for D3)

If **no exchange term** is claimed, explicitly state:

> "No exchange term is introduced or required; any effective-fluid representation is reducible to action-derived field equations."

4.3 Conservation Enforcement

- Where conservation is enforced (equations, identities, symmetries):
- Whether conservation holds exactly or only effectively / on average:

Failure to complete this section **fails RG**.

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5. Horizon Use (if applicable)

- **Horizon definition (event / particle / apparent / effective / none):**
- **Role in the argument:**
    - ☐ bookkeeping only
    - ☐ constraint
    - ☐ dynamical (must be flagged)
- **Quantities explicitly dependent on horizon choice:**

If the horizon is claimed to be non-dynamical, state **how** it nevertheless enters the bookkeeping.

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6. Coarse-Graining Prescription

- **Smoothing / cutoff scale(s):**
- **Justification for choice:**
- **Admissible variations (must be physical):**

If no admissible variation is specified, this will be flagged in **D2**.

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7. Location of Negative Pressure / Acceleration

Identify **where the inflationary behavior physically resides**.

- **Equation number(s):**
- **Term(s) responsible:**
- **Physical source:**
    - ☐ dynamical DOF
    - ☐ constraint
    - ☐ geometric term
    - ☐ boundary / bookkeeping term

“Emerges from interpretation” is not an acceptable entry.

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8. Model Scope Declaration (Framework vs Submodel)

This section prevents C1/D4 ambiguity.

Declare **one**:

- ☐ **Submodel:**
  Explicit functional forms / parameters are fixed and audited as a concrete mechanism.

- ☐ **Framework:**
  Claims apply only to generic properties across a class of models; mechanism-level credit requires additional restriction.

If **Framework** is selected, list:

- what is claimed to be generic,

- what is explicitly *not* claimed to be generic.

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9. Known Fragilities / Author-Acknowledged Limits

List all caveats acknowledged by the authors, including but not limited to:

- regime restrictions (e.g., constant ε, slow variation),

- stability conditions (ghosts, gradients),

- EFT cutoffs / strong coupling,

- scheme, state, or vacuum dependence,

- need for resummation or nonperturbative control.

These declarations are **binding** in diagnostics.

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10. Diagnostics Requested (Pre-Declared)

Check only diagnostics that are intended to be applied.

- ☐ **D1** — Horizon Reconfiguration Null

- ☐ **D2** — Coarse-Graining Stability
- ☐ **D3** — Exchange-Term Provenance
- ☐ **C1** — Coupling Provenance & Redundancy
- ☐ **S1** — Scheme / State Dependence Classification
- ☐ **D4** — Predictive Wedge

Unchecked diagnostics may not be invoked later.

End of Model Card

CEDA DIAGNOSTIC CARD

CEDA DIAGNOSTIC CARD

Purpose:
Declare *in advance* what will be tested, how, and under what constraints.
No diagnostics may be executed unless this card is complete.

Header

- **Audit ID:**
- **Paper Title:**
- **Authors:**
- **Year / Venue:**
- **Audit Role / Class (e.g., inflationary, inflation-adjacent, alternative):**

Run Validity Gate (RG) — PRE-CHECK

Requirement	Status
RG1 Model Card complete	☐
RG2 Translation Card complete	☐
RG-X Exchange-term status verified against Translation Card	☐
RG3 Forbidden moves pre-screen	☐
RG4 Diagnostic criteria fully predeclared	☐
RG5 Null binding acknowledged	☐

RG Status: ☐ PASSED ☐ PENDING ☐ FAILED
(Diagnostics may not run unless PASSED.)

Diagnostics Requested

D1 — Horizon Reconfiguration Null

Requested: ☐ Yes ☐ No
Justification (required either way):

D2 — Coarse-Graining Stability

Requested: ☐ Yes ☐ No

Admissible variations (must be physical):

-
-

Failure criteria (pre-declared):

-
-

D3 — Exchange-Term Provenance

Requested: ☐ Yes ☐ No

Key questions (pre-declared):

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C1 — Coupling Provenance & Redundancy

Requested: ☐ Yes ☐ No

Target-of-audit mode (select one):

- ☐ Submodel (explicit functions/parameters fixed)
- ☐ Framework (generic class claims only)

C1 criteria (must be explicit):

- Compression test definition:
- Retuning sensitivity definition:

S1 — Scheme / State Dependence Classification

Requested: ☐ Yes ☐ No

Operational distinction (must be stated):

- What counts as *state-conditional*:
- What counts as *scheme-fragile*:

D4 — Predictive Wedge

Requested: ☐ Yes ☐ No ☐ Conditional

Trigger condition (if conditional):

Wedge definition (observable / invariant):

Conditional Verdict Symmetry

Enabled: ☐ Yes ☐ No

Rule (must be stated if enabled):

Ambiguity & Branching Declaration

Known admissible ambiguities:

-

Branching rule (required):

Diagnostic Integrity Statement

- ☐ No diagnostics have been run
- ☐ No interpretation beyond translation applied
- ☐ No verdict language present

Auditor Declaration:
“This card fully declares the diagnostic protocol. No criteria will be added post hoc.”

CEDA TRANSLATION CARD

CEDA TRANSLATION CARD

Purpose:
Map author language and constructs into **CEDA descriptive primitives** *without judgment*.
No diagnostics, interpretations, or verdict language permitted.

A. Inflation / Acceleration Outcome Mapping

Author Term / Phrase	CEDA Translation

List only terms the authors explicitly use.
Do not infer intent or mechanism.

B. Mechanism Localization (Author-Claimed)

Layer	Claimed Location
Dynamical source	
Negative pressure / acceleration	
Time dependence	
Horizon role	

"Claimed location" means *where the authors say the effect lives*, not where it is later judged to live.

C. Coarse-Graining & Scheme Dependence (Author-Declared)

List any dependencies or sensitivities **explicitly acknowledged by the authors**, including but not limited to:

- regularization schemes
- slicing or foliation choices
- state or vacuum dependence
- fixed background assumptions
- perturbative truncations

If no claim of scheme-independence is made, state so explicitly.

D. Exchange-Term Interpretation (Descriptive Only)

Describe how the authors treat any effective stress–energy, source terms, or bookkeeping constructs.

- Are these treated as physical sources?
- Are they derived from the action or introduced phenomenologically?

No classification here.
Flag only what is *asserted*, not what is *true*.

E. Explicit Non-Claims (Binding)

List all statements of limitation or non-claim made by the authors, such as:

- no UV completion

- no nonperturbative control
- no uniqueness claims
- no validity beyond stated regime

These declarations are binding for diagnostics.

F. Translation Integrity Check

- ☐ Model Card complete
- ☐ Translation is faithful to author language
- ☐ No diagnostics applied
- ☐ No verdict or evaluative language present
- ☐ Regime limits captured where stated

Translator Declaration:
"This card contains translation only. No diagnostic reasoning has been applied."