

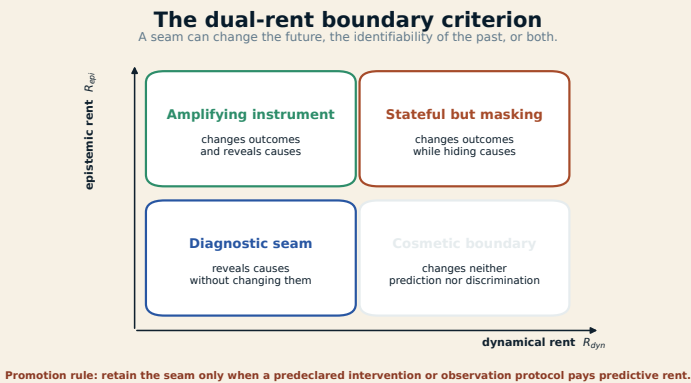
EARTH IS THE INSTRUMENT

Dual-Rent Seams, Prime Spectra, Local-to-Global Certificates, and Human Origins

Public Ground Reading

Exploratory synthesis · evidence graded · not peer reviewed

Ground reading. Earth is simultaneously reactor, archive, censor, and instrument. Its seams can change the physical future and change what an observer can infer. ASTRA v0.3.0 separates those two effects, then prevents a true local result from being promoted into a false global conclusion.



Local truth, global failure

An explicit 2026 polynomial map $F : \mathbb{C}^3 \rightarrow \mathbb{C}^3$ satisfies

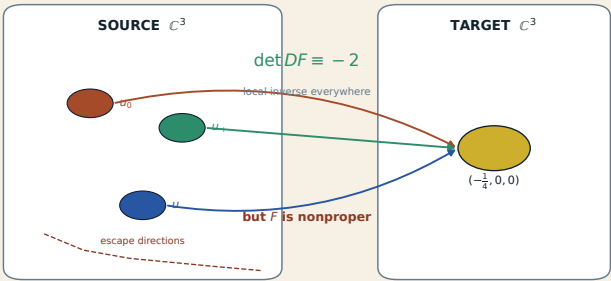
$$\det DF \equiv -2$$

while three distinct rational inputs share one output. The exact local derivative certificate is valid. The global injectivity conclusion is false. The missing conditions live in complete fibers and behavior at infinity. The plane case remains open. This supplies a reusable certificate stack:

local → fiber → closure/infinity → arithmetic → formal

A resonant mode is not a historical instrument. Protein expression is not an autonomous biosphere. A congruence or finite search is not an unrestricted theorem.

Constant local Jacobian, global three-point collision



The missing coordinate is global closure: bounded outputs can have inputs escaping to infinity.

The v0.3 research program

Legacy Origin Metrology Audit	Natural Boundary Fractionation Atlas	Multi-point Archive Sampling
Biological Integration Ladder	Arithmetic Seam Laboratory	Local-to-Global Certificate Registry
Seam-Gain Benchmark Suite	Off-world and second-biosphere comparison	Public failure memory across all portfolios

The operating rule. State the atomic claim. Type every edge. Declare reference, resolution, alternatives, chronology, and system boundary. Measure dynamical rent and epistemic rent separately. Complete the local-to-global certificate stack. Derive the residue field. Predict before looking. Preserve the failed prediction. Let Earth veto the story when the evidence fails.

Prime channels and finite differences

For integer-coefficient systems, each prime gives an arithmetic observation channel. In the released Keller example, 2 is bad; every tested odd prime preserves both the nonzero determinant and the three-point collision. These reductions are arithmetic realizations of one exact identity, not independent statistical replications.

For

$$E_p(a) = a^p - (a - 1)^p - 1, \quad A_p(t) = t^p - t,$$

ASTRA records the exact identity

$$E_p(a) = A_p(a) - A_p(a - 1).$$

In characteristic p , $A'_p(t) = -1$ yet $A_p(t + c) = A_p(t)$ for every $c \in \mathbb{F}_p$: local nonsingularity coexists with p -to-one fibers. Over the integers, $p \mid E_p(a)$, and a nonzero finite-log residue forces $v_p(E_p(a)) = 1$, excluding a perfect power in that stratum.

The released exact search found no perfect-power hit for

$$p \in \{5, 11, 17, 23, 29, 41, 47\}, \quad 2 \leq a \leq 5000.$$

That finite result is established within its bounds. The unrestricted claim remains open.