

RM — Relativity of Matter

Pillar IV

Foundation/TRD Constitution

The Rules of the RM Universe

Ontology, Laws, Postulates and the Discipline of Non-Repair

Version v7.3.0 — Canonical Concordance / Technical Reception Edition

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English constitutional edition

Status. *This Constitution is the highest normative level of **RM** — **Relativity of Matter**. It fixes the ontology, laws, active postulates, distribution of physical prerogatives and rules of discipline with which the technical branches must comply. It does not replace demonstrations: Pillar II remains the technical authority for derived results, their domains and their debts.*

Founding sentence. Cosmological time is universal; only local physical cadence varies.

Public sentence. The Universe may change its state; time does not change its direction.

Historical sentence. Clocks slow down, therefore we believe that time slows down.

Principle of non-repair. *A branch that fails cannot be saved by introducing, after the fact, a coefficient fitted to the result it was supposed to derive. It is withdrawn, reopened or explicitly replaced.*

Motto. Simplex sigillum veri.

How to read Pillar IV

Pillar IV is the *Constitution* of RM. Its authority is normative, not substitutive: it fixes what may be postulated, named or claimed, but it never turns a hypothesis into a result by decree.

Distribution of authority. Pillar I fixes methodological discipline, anti-circularity and the separation of prerogatives between matter m and State $\mathcal{A}$. Pillar II fixes the technical derivations, conditional closures and the debt register. Pillar III provides the canonical synthesis. Pillar IV fixes the common constitutional norm. In the event of divergence, no text may use Pillar IV to silently rewrite a Pillar II calculation, nor use an older calculation to circumvent a constitutional prohibition.

External status. Within Foundation/TRD, the Absolute Principles and Fundamental Laws are normative inputs. Externally, the physical existence of State $\mathcal{A}$, the postulated transitions and the proposed mechanisms remain subject to experimental confrontation. This Constitution organises the burden of proof; it does not remove it.

Four epistemic statuses. Every technical statement received by the Constitution must remain in one of four classes: **POSTULATE**, **FORMAL RESULT**, **CONDITIONAL CLOSURE**, or **OPEN PROGRAMME**. A reception entry may record a change of status; it may not silently promote a postulate into a result or a conditional closure into an unconditional theorem.

RM in one page

The Constitution can be read before any equation. Its public logic is deliberately simple.

One open time. *Time orders physical history; it is not a substance, a reservoir or a fourth geometrical direction in RM. The manifested physical domain is three-dimensional and evolves along the open line T .*

One relational continuum. *State $\mathcal{A}$ is the physical relational continuum of the manifested Universe. Remove $\mathcal{A}$ and RM does not leave “the same Universe with less support”: it removes the transmissive architecture in which light and gravitational manifestations are defined.*

One separation of prerogatives. *Matter keeps matter’s internal cohesion, charges, structure and internal transitions. State $\mathcal{A}$ relates, transmits, carries gradients and modulates cadence. Neither sector is allowed to steal the other’s job.*

One constitutive refusal. *No manifested real state reaches a perfect end-state. When a constitutive channel approaches its admissible limit, further loading in that same channel becomes progressively inadmissible. This is the **Exclusion Interaction**, LF-09.*

One geometric question beyond GR. *GR asks how matter curves geometry. RM additionally asks what geometry itself is constitutionally able to sustain. In the current nonlinear strong-field candidate, that question is carried by a constitutive length ℓ_* .*

One methodological rule. *A failed branch is not cosmetically repaired. It is withdrawn, reopened or replaced.*

The matter loads; the geometry answers.

A useful image. The Universe may, if the global equations ultimately require it, pass through expansion, slowing, contraction and another slowing. Such an oscillation would belong to the *state of the Universe*, not to time itself. A cyclic cosmic history does not make time cyclic.

What v7.3.0 changes

- The Constitution executes the non-repair rule on the homogeneous sector: provisional HCR-1 is historical because the common zero-mode audit did not reproduce it. GHC-1, GEC-1 and HBR-1 are received as the active reduced homogeneous closure under their declared balances.
- The stellar energetic hierarchy is corrected. Thermal-radiative loading is primary in the active stellar application through $\varepsilon_{\mathcal{A}}^{\text{th}}$; redshift remains a physical propagation observable and a possible secondary energetic contribution whose quantitative share is not imposed.
- Maria M-02 is received as a conditional homogeneous thermal bound. UC-1 remains a postulate; the bridge from approach to the Maria limit through Exclusion to $EM \rightarrow \mathcal{A}$ remains a working constitutive bridge rather than a derived microscopic conversion law.
- P-CIN is received as a candidate kinetic-capacity closure whose local kinetic canonical audit is healthy: regular velocity-momentum inversion, positive single-branch Hamiltonian, positive Hessian and non-dynamical lapse. The complete strong-field constraint chain and observational activation remain open.
- The Black-Core programme receives the separate optical scale R_S , mechanical scale r_c , conditional double-layer surface and static interior cadence plateau without promoting them to a complete stable solution.
- Boundary production is kept distinct from homogeneous bulk response. The unit identification $\mathcal{U}_{\partial} = P/\ell_{\star}^2$ and $K_{\text{cryst}} = \ell_{\star}^2/P$ are downgraded from a complete formation law to a conditional constitutive boundary branch. Formation cost may include layer storage, outgoing products and exchanged work.
- The off-center mechanical reception records that spherical symmetry fixes an axis, while amplitude, sign and observable transfer require compatible mechanics and propagation. No observed sky direction or amplitude is constitutionalised.
- Canonical concordance is updated to Pillar I v5.3.0, Pillar II v4.7.0 and Pillar III v7.5.0.

Technical reception, not constitutional derivation. Pillar IV records the current statuses established in the competent technical sources. It does not reproduce their full derivations and does not convert them into Fundamental Laws merely by receiving them.

On the reduced homogeneous branch,

$$\boxed{H[3B'(e) + 3\rho_m + 8u_{\gamma}] = s} \quad (\text{HBR-1, reduced } U = 0 \text{ branch}).$$

When the declared curvature stock $U(X)$ is retained under the stated homogeneous balances, the conditional extension is

$$H [3B' + 8XU' + 16X^2U'' + 3\rho_m + 8u_\gamma] = s.$$

For $U = 0$ this returns exactly to HBR-1. Changing the transfer ledger requires a fresh derivation.

The natural volumetric scale $P/\ell_\star^2$ remains technically important, but its identification with the unit boundary formation cost is conditional. No boundary coefficient, Maria bound or P-CIN capacity is allowed to become a fitted rescue parameter.

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Official denominations and rule of discipline

Denominations (arbitrations A2 and A13, closed).

- **RM — Relativity of Matter** designates the complete theoretical architecture (arbitration A13);
- **State $\mathcal{A}$** designates the physical relational continuum of the manifested Universe. The former denomination of the continuum is withdrawn from all new work; it survives only in dated archives, with no active terminological value;
- **Silentium** designates exclusively the ideal limit external to the manifested domain. It is neither the name of State $\mathcal{A}$, nor the name of the model, nor a physical region of the Universe;
- **Foundation** designates the present Constitution;
- **TRD — Thermodynamics of the Continuum** designates the theoretical reference framework;
- **Foundation/TRD** designates the normative whole (Constitution, Analysis Constitution, laws, postulates and canonical definitions).

Terminological note.

The capitalised term “Absolute Principles” is reserved for constitutional level PA-00 to PA-11 (Title I). The five principles of V5, formerly called “five absolute principles”, carry the labels **P.I** to **P.V** and the name *structuring physical principles* (Title IV).

Rule of discipline (scope of application).

A physical principle of Title IV must produce an equation, an observable consequence and a possible test. This rule remains complete and sovereign over Title IV.

Titles I to III are ontological or postulatory in nature: their function is to define the domain of admissible states, the structural laws and the working foundations. A constitutional Absolute Principle may fix the domain of admissibility of reality without itself constituting a dynamical equation; it must nevertheless produce precise constraints on permitted or forbidden states, admissible mechanisms, acceptable solutions and the logical consequences of the framework.

Testability remains sovereign (Axiom XI). Confrontation with reality remains sovereign.

Chapter I

Absolute Principles (PA-00 to PA-11)

The highest level of the RM normative reference framework. No law, postulate, definition, hypothesis, mechanism or equation may contradict them or silently rewrite them. Any challenge to an Absolute Principle must be explicitly announced, justified by internal reasoning, confronted with its consequences and then with observations, and submitted to the explicit agreement of the author. A contradiction with an external theory does not, by itself, invalidate an Absolute Principle.

PA-00 — Domain and authority. *The Absolute Principles constitute the highest level of Foundation/TRD. Nothing modifies them implicitly.*

PA-01 — Prohibition of accomplished perfect states. *No manifested real state reaches absolute perfection. The following are forbidden as accomplished physical states: perfect singularity; absolute vacuum; perfect symmetry; absolute equilibrium; perfect immobility; infinite compression; total erasure of information; a perfectly closed final state. These objects remain ideal limits.*

*PA-01 fixes a **domain of admissibility**, in the explicit sense of the Rule of discipline: a constitutional Absolute Principle may fix the domain of admissibility of reality without itself constituting a dynamical equation. It states **no universal causal law**.*

*Residual transition clause (non-universal). Beyond the minimal persistence of information governed separately by LF-05, a real state may retain an **autonomous dynamical trace**: gradient, tension, continuum-memory variable or evolutionary potential. The existence of such a dynamical trace is an **architectural avenue**, not a law: it does not necessarily apply to every transition. The rank of “First Law of the Universal Exception” is withdrawn by arbitration A15; the “residual stock” remains withdrawn since A12.*

PA-02 — Open universal time. *Time is an open, non-geometrical universal coordinate, without memory and without energy, $t \in (-\infty, +\infty)$. It orders the direction of irreversible energetic transformations without being produced by them. The manifested physical domain is three-dimensional and evolves along this coordinate; RM does not identify time ontologically with a fourth geometrical dimension.*

PA-03 — Status of Silentium. *Silentium is an ideal limit and a conceptual reference external to the Universe manifested in State $\mathcal{A}$. No law specific to our Universe exists in Silentium. PA-01 does not apply there: Silentium is not a manifested real state and lies outside its domain of admissibility.*

PA-04 — Existence and transmissive necessity of State $\mathcal{A}$. *State $\mathcal{A}$ exists as a fundamental state and physical continuum of the manifested Universe. Without State $\mathcal{A}$, neither light nor gravitational manifestations can be transmitted.*

PA-05 — Founding transition of radiation. The change of electromagnetic radiation into State $\mathcal{A}$ is validated: $EM \rightarrow \mathcal{A}$. This transition modifies and energises the continuum; it constitutes the boundary property between the absence of transmissive structure in Silentium and the energised state of the continuum, whose ontological existence falls under PA-04.

PA-06 — Maximal cohesion and the limit of E . E represents the state of maximal cohesion. It possesses a fundamental and impassable density limit that forbids perfect singularity, infinite compression and absolute erasure of information.

PA-07 — Ignition transition. The change of state from E into matter by Ignition in the Cosmic Core is validated: $E \xrightarrow[\text{Cosmic Core}]{\text{Ignition}} m$. This transition is distinct from the transition $EM \rightarrow \mathcal{A}$.

PA-08 — Fundamental gravity. Gravity is fundamental and without exception in the manifested Universe. Nothing real is outside gravity. State $\mathcal{A}$ does not create gravity; it makes possible its transmission, its structured gradients and its observable manifestations.

PA-09 — Global production, homogeneous response and expansion. The conversion $EM \rightarrow \mathcal{A}$ feeds the global state of the continuum, but boundary production and homogeneous bulk response are distinct operations. The local sector $k \neq 0$ does not determine the zero mode. The later homogeneous audit derives the reduced deep-bulk rate $H(T)$ from the surviving zero-mode constraints under declared matter–radiation balances; the total manifested-volume rate may therefore be written schematically as $H_{\mathcal{A}} = H + g_{\partial}$, with g_{∂} belonging to a separate inhomogeneous production layer. Lock: the microscopic conversion law, complete boundary formation cost, birth state, perturbations and observational transfer must be derived independently; no function may be selected solely to reproduce an external cosmological history.

PA-10 — Stability domains and critical transitions. Every real energetic state possesses a stability domain. A critical boundary may open a change of channel or state; the case $E \xrightarrow[\text{Cosmic Core}]{\text{Ignition}} m$ remains constitutionally validated. Passages involving $m \rightarrow E$ or $\mathcal{A} \rightarrow E$ hold only in sectors where an action or phase law derives them explicitly: they may never be invoked to attribute the ordinary nuclear cohesion of matter to $\mathcal{A}$. No real transition is perfectly homogeneous, total or devoid of trace. The symmetric bifurcation $E \rightarrow \{m, \mathcal{A}\}$ as a single process is forbidden without explicit amendment.

PA-11 — Separation of the prerogatives of matter and State $\mathcal{A}$. Nuclear cohesion, internal structure, internal energy, charges and matter-specific transitions belong to m . State $\mathcal{A}$ transmits, relates, carries gradients, modulates cadences and manifests the external imprint; it does not manufacture matter and does not replace matter’s own interaction. An interface with $\mathcal{A}$ may condition a passage without usurping the prerogatives of the material sector.

Chapter II

Fundamental Laws (LF-00 to LF-09)

Each law of this title falls under LF-00: the law receives no exception; its manifestations always do.

LF-00 — Non-exception of fundamental laws. *A fundamental law never receives an exception. The exception applies to states, transitions, manifestations and real forms, never to the fundamental law itself. A fundamental law may generate imperfect, asymmetric or variable forms without itself becoming imperfect.*

LF-01 — Fundamental gravity. *Gravity is a fundamental law without exception. Nothing real is outside gravity. Its intensity, form, direction, distribution or local manifestation may vary; the gravitational law itself never vanishes.*

Manifestation clause. With State $\mathcal{A}$ appear the *structured* manifestations of gravity: transmissible gradients, observable forms, lensing, halo dynamics. What “arises” with the continuum are the transmitted manifestations of gravity, never the law.

LF-02 — Open time. *Time is an open line, $t \in (-\infty; +\infty)$. It does not loop, vanish or close into a perfect final state.*

Manifestation clause. Time has neither thickness, memory nor energy; it is neither a geometrical container, a medium, nor an energy. Memory does not produce time: it produces observable history and the orientation of transformations within open time. Clocks count the local cadence of physical phenomena (FCPL), never time itself.

Dimensional clause. RM distinguishes the three-dimensional manifested domain from the open coordinate T . Four-dimensional spacetime may remain an empirically successful external representation; it is not granted ontological primacy inside RM.

Cosmic-state clause. Expansion and contraction, if both are ultimately derived, are changes of the global state along T . A cyclic or oscillatory cosmic history therefore does not imply a cyclic time: what may oscillate is the Universe, not the open line that orders its history.

LF-03 — Existence and transmissive function of State $\mathcal{A}$. *State $\mathcal{A}$ exists as a fundamental state and physical continuum. In the RM framework, it constitutes the condition for transmission of light, gravitational manifestations, energetic gradients, information and structured dynamics. It may transport information and correlations; the existence of an autonomous continuum-memory variable remains an open question.*

Manifestation clause. The existence of the continuum is a structural law; its local states (density, gradients, correlations) belong to the domain of admissibility defined by PA-01 and to the transition laws of PA-10 and LF-09.

LF-04 — Non-perfection of real states. *No manifested real state reaches absolute perfection. LF-04 is the expression as a fundamental law of **the prohibition established by PA-01** (arbitration A15). It does not reproduce the Residual Transition Clause, which is not universal.*

LF-05 — Minimal persistence of information. *No real transformation completely erases memory, information or asymmetry. A minimal trace always remains. This statement does not yet imply the existence of an autonomous continuum-memory variable $\mathcal{M}_{\mathcal{E}}$.*

Manifestation clause. This law does not produce open time, which independently falls under LF-02. It only forbids perfect physical erasure and permits the persistence of information, correlations or asymmetries in resulting states. Any autonomous continuum-memory variable remains to be derived.

LF-06 — Non-realisation of absolute perfection. *Perfect singularity, absolute vacuum, perfect symmetry, absolute equilibrium and perfect immobility are ideal limits, not attained physical states.*

LF-07 — Dynamical gradient. *In a dynamical manifestation, the local departure from equilibrium or the approach to a stability limit is expressed as a gradient, tension or evolutionary potential. The gradient characterises the out-of-equilibrium state; when the corresponding capacity is saturated, LF-09 imposes a change of channel, variable or state.*

Manifestation clause. In Title IV, LF-07 articulates the **domain of admissibility** delimited by PA-01, the stability domains of PA-10 and the exclusion mechanism of LF-09; P.IV ($P \rightarrow H(z)$, PA-09) is its quantitative cosmological expression.

It is the limits of the continuum that transform the delimited domain into a source of dynamics. A domain of admissibility forbids states; it does not produce them. It is the *approach* to a limit that produces dynamics, by constraining energy to change channel — the mechanism stated by LF-09. The bridge therefore no longer passes through a universal causal law of Exception (arbitration A15) but through the Exclusion Interaction (arbitrations A16 and A19).

LF-08 — Density limit of $\mathcal{E}$. *$\mathcal{E}$ possesses a fundamental, impassable density limit without exception, denoted $\rho_{\mathcal{E}\text{-lim}}$. It forbids perfect singularity and infinite compression. In RM, Black Cores constitute the candidate branch for manifestation of the approach to this limit.*

Manifestation clause. No real Black Core reaches $\rho_{\mathcal{E}\text{-lim}}$: the approach to the limit is real; the limit itself is without exception and beyond reach.

LF-09 — Exclusion Interaction. *When a physical or constitutive degree approaches the maximum capacity admissible in its state, further evolution in the same channel becomes progressively inadmissible. Energy, constraint and information do not disappear and do not cross the forbidden limit: they must **redistribute, change channel, change variable or change state**. The limit is never “repaired” by allowing the forbidden direction to continue.*

Manifestation clause. LF-09 is the structural law of which LF-08 is the density case: LF-08 states that the density limit of E is impassable; LF-09 states the generic response when a constitutive channel closes. In the current strong-field geometry, the relevant manifestation is *geometrical exclusion*: continued loading is opposed by an increasingly stiff constitutive response. Other sectors may realise LF-09 differently and must derive their own channel change.

Name and scope clause. “Exclusion Interaction” is the canonical RM name adopted after v7.0.0. It is unrelated to the Pauli exclusion principle, is not a fifth force and introduces no new fitted coefficient by itself. The former name *Principle of Saturation* survives only in dated historical entries.

Non-import clause. Every quantitative realisation of LF-09 remains **outside the Constitution**. Historical ansatzes such as PS-0 and current nonlinear candidates such as CNL-BI1 must earn their status in the technical Pillars. LF-09 fixes neither their functional form nor a numerical coefficient.

Chapter III

Active Postulates

Working foundations of the internal framework. A postulate may be abandoned by explicit amendment; it does not become a law because it is useful, and it does not become a result because a technical branch reproduces it.

P-01 — Internal framework. *TRD (Thermodynamics of the Continuum) is the internal reference framework of Foundation/TRD.*

P-02 — Radiative transition. *The transition $EM \rightarrow \mathcal{A}$ is validated as an internal transition principle. Its microscopic law, global source and coupling to the cosmological sector must be derived independently; no former de Sitter-type parameterisation or w_{eff} is constitutionalised.*

P-03 — State E . *E represents the state of maximal cohesion. It is neither a particle, a classical field, an ordinary fluid, nor a perfect final state.*

P-04 — Cosmic Ignition. *The change of state $E \rightarrow m$ by Ignition in the Cosmic Core is validated. It is distinct from $EM \rightarrow \mathcal{A}$ and must never be represented as the other branch of a single symmetric bifurcation.*

P-05 — Existence of State $\mathcal{A}$. *State $\mathcal{A}$ exists within the internal framework as the physical relational continuum of the manifested Universe.*

P-06 — Open time. *Time is an open universal line; clocks measure the cadence of physical processes, not a deformation of time itself.*

P-07 — Pure Cadence Principle (PCP). *The cadence field N is a universal converter of local cadence relative to time T , not an autonomous local energy reservoir. At the local two-derivative level, PCP conditionally fixes the cadence dependence of the CNL-2D branch. If the microscopic audit, constraint algebra or observation requires a term forbidden by PCP, the postulate is reopened or rejected; it is not repaired by adjustment.*

Constitutional reception of Pillar II results.

The former tensorial postulates P-07 to P-09 of the August 2026 edition are **withdrawn from the active register**. Their historical role was to impose the reduction to two modes. Pillar II v4.7.0 replaces that imposed closure with calculated constraint chains: CLG-1 gives six first-class and ten second-class constraints at quadratic level; N- $\mathcal{A}$ -06 conditionally recovers the same local count on the regular elliptic branch. The result $N_{\text{grav}} = 2$ is therefore a *conditional technical result*, not a constitutional postulate. D- $\mathcal{A}$ -04A is conditionally closed; D- $\mathcal{A}$ -04M remains open for microscopic matter sectors capable of modifying the canonical structure. The later P-CIN audit establishes local kinetic health of the deviatoric capacity candidate but does not, by itself, close the complete strong-field Dirac chain.

Labelling and gauge.

The Constitution maintains the distinction: *State $\mathcal{A}$ is physical; its labels are not.* The complete technical realisation of this distinction in all sectors remains associated with conceptual debt D- $\mathcal{A}$ -02; Pillar IV does not turn its resolution into a theorem by decree.

Constitutional reception of the constitutive length and stellar fold.

Pillar II v4.7.0 carries a nonlinear strong-field candidate in which geometry possesses a constitutive length $\ell_\star$ entering the action before any matter equation of state. In the full spatial notation,

$$X_{\mathcal{R}} = \ell_\star^4 \mathcal{R}_{ij} \mathcal{R}^{ij},$$

with the retained constitutive response

$$F(X) = 1 - \sqrt{1 - X} - \frac{X}{2}, \quad F'(X) \longrightarrow \infty \quad (X \rightarrow 1^-).$$

Pillar IV receives the *role* of $\ell_\star$ and its connection to LF-09, not a physical neutron-star calibration, a uniqueness theorem or a new Fundamental Law.

The frozen N-EMPR v28 spherical calculation exhibits a stellar Q -fold and a second hydrostatic branch in reduced units for the declared toy equation of state. The undivided Euler-Lagrange form establishes that $Q = 0$ need not be a physical endpoint. The result is technically significant but constitutionally bounded: it establishes neither an observed compact object, nor a radial-stability theorem, nor an RM maximum mass, nor the completed Black-Core branch. The regular $Q_c < 0$ branch at the declared test pressure is now reproduced by DOP853 shooting and independent two-domain collocation. CA-1 therefore remains a certification interface rather than an unresolved branch-existence debt. This does not establish radial stability, a physical equation-of-state calibration or an astrophysical mass-radius prediction.

Chapter IV

Structuring Physical Principles (P.I to P.V)

The five principles of V5 are retained in their text and order, under the labels P.I to P.V. They are the first quantitative expressions of the ontological foundation; their content is carried at constitutional level by PA-02, PA-04, PA-05, PA-09 and PA-10; the present title remains the layer in which this content carries the burden of proof, under the rule of discipline.

P.I — Time.

Time is not a physical quantity; it is an open universal coordinate, without thickness, memory or energy; clocks count the cadence of physical phenomena, never time. The physical domain is three-dimensional and evolves along T ; RM therefore does not require time to become a fourth geometrical dimension. Physical expression of LF-02 and PA-02; FCPL remains its operational translation.

P.II — The continuum.

The continuum physically exists; observed geometry is an effect of the state of the medium, not the medium itself. Physical expression of LF-03 and PA-04; its burden of testing is carried by P.III and P.IV.

P.III — The founding conversion.

$EM \rightarrow \mathcal{A}E$ is a fundamental transition of the internal framework. Its external scientific scope depends on a microscopic derivation and discriminating observables. A branch that requires this transition and fails to produce it is rejected; no transfer function is protected by the Constitution.

P.IV — Global production and expansion.

Radiative conversion may feed the global state of the continuum, but the deep homogeneous rate and production of new manifested volume are not the same mechanism. HBR-1 closes the reduced old-bulk rate $H(T)$ under its stated balances; boundary production g_{∂} remains a separate inhomogeneous formation problem. A complete cosmological history still requires the microscopic conversion law, boundary formation physics, perturbations and observable transfer. Numerical adjustment to an external cosmological curve remains a viability test, never a constitutional derivation.

Conditional unit boundary branch.

The natural RM volumetric scale is

$$\frac{P}{\ell_\star^2}, \quad P = \frac{c_\mathbb{E}^4}{16\pi G}.$$

The historical minimal branch identifies $\mathcal{U}_\partial = P/\ell_\star^2$ and therefore

$$K_{\text{cryst}} = \frac{\ell_\star^2}{P}.$$

This is retained only as a **conditional constitutive branch**. The later formation-cost analysis separates deposited density from the complete cost of forming new volume and permits layer storage, outgoing products and exchanged work. No unit boundary formula is a universal formation theorem, and no coefficient may be fitted from H_0 to make it one.

P.V — Changes of state.

All states possess a stability domain. Under the Exclusion Interaction, LF-09 permits a change of channel, variable or state; PA-10 forbids automatically inferring a particular transition without a phase action. $E \rightarrow m$ by Ignition remains validated in the Cosmic Core. The transitions $m \rightarrow E$ or $\mathbb{E} \rightarrow E$ must be derived sector by sector and may never be used to reassign the internal cohesion of m to $\mathbb{E}$.

Chapter V

Causal Chains, General Relativity and Auxiliary Hypotheses

The two chains, strictly separated

Constitutional level (ontological).

PA-01: perfect states forbidden $\longrightarrow$ *PA-10: stability domains*
 $\longrightarrow$ *LF-09: Exclusion Interaction*
 $\longrightarrow$ *change of channel / state.*

Cosmological level (phenomenological).

E $\rightarrow$ *Ignition / matter (Cosmic Core)* $\rightarrow$ *radiation* $\rightarrow$ *State $\mathcal{A}$*
 $\rightarrow$ *structured gradients* $\rightarrow$ *gravitational manifestations.*

Neither gravity nor time appears as a produced link: gravity is a law (LF-01, PA-08) whose manifestations are produced by the chain; time is the coordinate (LF-02, PA-02) within which the chain unfolds. The former chain *Exception* $\rightarrow$ *Ignition* $\rightarrow$ *State $\mathcal{A}$* $\rightarrow$ *Gravity* $\rightarrow$ *Memory* $\rightarrow$ *Time* is definitively abrogated, both in the Constitution and in all Books.

Status of General Relativity

General Relativity remains the experimentally successful macroscopic language against which every relevant RM branch must be confronted in its tested domain. RM does not dispute that four-dimensional spacetime is an extraordinarily successful representation; it disputes the need to make that representation the final physical ontology. RM adopts a different internal ontology and seeks to physically reconstruct gravitational manifestations from the relational state of the continuum. The local sector of Pillar II conditionally reproduces the Poisson limit and the PPN tuple (1, 1, 0, 0) on the selected branch; this does not constitute proof of the complete theory. The homogeneous mode is not obtained from the local $k \neq 0$ equations. A later zero-mode audit derives the reduced old-bulk rate $H(T)$ under its declared balances through HBR-1; boundary production and the perturbative/observational lift remain independent sectors. Any external comparison remains non-normative for the Constitution, but sovereign for scientific evaluation.

Auxiliary hypothesis Λ_{SCF} (arbitration A6, closed)

The reformulation $\Lambda_{SCF} \sim (R_{NC} \cdot D_{\mathbb{E}})^{-2}$ (residual curvature of the Cosmic Core after dilution) has the rank of an *auxiliary hypothesis with a numerical point of contact*. The circularity warning is constitutionally enforceable: predictive content is zero until $D_{\mathbb{E}}$ has received a definition independent of Λ . **Decision A6:** none of the non-circular readings (B energetic, C cohesive, D memorial) is privileged at this stage; reading A (geometrical) is declared non-predictive by construction; choosing a reading is an act of research programme, not of constitution.

Chapter VI

Canonical Definitions and Consistency Clauses

Time.

Open universal coordinate, without internal structure, thickness, memory or energy. It does not contain events: it makes it possible to order them. The memory of transformations belongs to states, matter and State $\mathcal{A}$, never to time (clause C-03). RM does not identify this coordinate ontologically with a fourth geometrical dimension.

E.

E designates exclusively the state of maximal cohesion. E must not be used as an ambiguous symbol for generic energy: when a generic energy must be denoted within Foundation/TRD, use $\mathcal{E}$. The reading of the symbol E in the mathematical corpus is governed by Appendix A.

State $\mathcal{A}$.

Physical relational, dynamical and transmissive continuum of the framework. It may carry gradients, tensions, information, correlations and persistent structures. The persistence of information does not authorise the postulation, without derivation, of an autonomous continuum-memory variable.

Light and electromagnetic radiation.

Radiation possesses its natural variables (λ, ν, c) , which describe real propagation only in a domain containing State $\mathcal{A}$. Light does not propagate in Silentium: radiation encountering the absence of transmissive structure changes state, $EM \rightarrow \mathcal{A}$. **Decision A7:** E is the *cohesion* root of the state map (a limit, P-03); the equality asserted by Axiom VII (“no regime more fundamental than the others”) is read as equality of *ontological dignity* among energetic regimes, not as equality of position in the cohesion map. The two statements are thus simultaneously true.

Gravity (clause C-02).

Gravity is fundamental; nothing real in the manifested Universe is outside gravity. State $\mathcal{A}$ does not engender the existence of gravity: in RM, it provides the relational support for its transmissible and measurable manifestations. The local calculations of Pillar II constitute a candidate and conditional realisation of this.

Silentium (clause C-01).

Ideal limit and conceptual reference external to the Universe manifested in State $\mathcal{A}$: neither physical vacuum, diluted region, geometrical space nor manifested energetic state. No perfectly

realised Silentium physically exists. PA-01 does not apply there, not because Silentium would be exempt from it as a state, but because it is not a manifested real state: the “boundary” of Silentium is a domain boundary, not a place. Silentium does not transport radiation: it causes its change into State $\mathcal{A}$.

Exclusion Interaction.

Canonical name of LF-09. It designates the constitutive closure of a physical channel as its admissible capacity is approached. It is not Pauli exclusion, not an added force and not a fitted coefficient. Its detailed mathematical realisation belongs to the relevant technical sector. In the current geometric candidate, the compact signature is $X_{\mathcal{R}} = \ell_{\star}^4 \mathcal{R}_{ij} \mathcal{R}^{ij}$ with $F'(X) \rightarrow \infty$ as $X \rightarrow 1^-$; this is a technical manifestation of LF-09, not the definition of the law itself.

Constitutive length $\ell_{\star}$.

Technical strong-field scale entering the nonlinear RM geometry before the matter equation of state. In Pillar II it forms the dimensionless curvature load $X_{\mathcal{R}} = \ell_{\star}^4 \mathcal{R}_{ij} \mathcal{R}^{ij}$. The Constitution recognises its physical role but does not fix its calibration in kilometres, femtometres or any astrophysical unit unless independently derived.

HBR-1 and the homogeneous zero mode.

The reduced homogeneous constraints GHC-1 and GEC-1 survive the zero-mode rank change. Under the declared matter-radiation balances, preservation of GEC-1 yields HBR-1, $H[3B' + 3\rho_m + 8u_{\gamma}] = s$. This is a formal result in the reduced $U = 0$ branch, not a Fundamental Law. The earlier HCR-1 relation is historical because the common homogeneous audit did not reproduce it.

Maria M-02 and UC-1.

Maria M-02 is the conditional homogeneous thermal bound received from the thermal extension. UC-1, $u_{\mathcal{A}}^{\text{cap}} = P/\ell_{\star}^2$, is a postulate of capacity and remains falsifiable channel by channel. Under its stated reduction the radiative ceiling contains the scale $5P/(4\ell_{\star}^2)$. No Kelvin value follows without an independent determination of $\ell_{\star}$, and no microscopic $EM \rightarrow \mathcal{A}$ conversion law follows from the bound alone.

P-CIN.

P-CIN is a candidate trace-free kinetic-capacity closure. Its local kinetic canonical audit gives a regular velocity-momentum map, positive single-branch Hamiltonian, positive Hessian for the admissible branch and a lapse that remains non-kinetic. These results establish local kinetic health only. P-CIN-FIELD, P-CIN-OBS and calibration of $\ell_{\star}$ remain open.

Global-sector notation.

In new work, Γ_{∂} is reserved for the boundary production process/rate of State $\mathcal{A}$. The symbol ε_z is retained for the historical homogeneous elastic reservoir used in the reduced bulk derivation; it is no longer a definition of stellar support energy extracted from observed redshift. The active stellar thermal stock is written $\varepsilon_{\mathcal{A}}^{\text{th}}$. Redshift remains a propagation observable and may carry a secondary energetic contribution only when a consistent transfer law supplies it. These objects may not be silently interchanged or added without a common balance law.

Black Cores (clause C-04).

Candidate strong-field branch, never constitutionally equated with a perfect singularity and never identified by decree with the separate N-EMPR stellar Q -fold. The current architecture has two scales: $R_S \propto M$ is the optical and transport threshold; $r_c \propto M^{1/3}$ is the mechanical curvature scale. The later surface audit admits a conditional net double-layer junction and, on the

static saturated-core branch, an interior cadence plateau $N(r) = N_c$ so that the cadence-gradient gravitational contribution vanishes inside that reduction. This does not identify R_S with r_c , prove horizon abolition, guarantee $N_c > 0$, establish global stability or replace the missing common phase action. OCH-1 remains an open constitutive hypothesis.

Cosmic Core (clause C-05).

Collective state of maximal cohesion compatible with bounded density, finite volume, residual memory, minimal asymmetry and an evolutionary potential. Maximal cohesion does not imply minimal volume. The Cosmic Core is neither a perfect final state nor a zero-volume singularity.

Chapter VII

Correspondence with the Eleven Historical Axioms

The eleven historical axioms remain preserved as an archive of genesis. They no longer all possess autonomous normative rank: the following table gives their reading under the current Constitution.

Axiom	V6 Connection	Status
I — Energetic circulation	General reading of the framework	Unchanged.
II — Open line	LF-02; P.I; PA-02	Strengthened: fundamental law without exception.
III — First Law	PA-01 (prohibition); LF-04 ; Residual Transition Clause	The rank of “First Law” is withdrawn (A15). The prohibition of accomplished perfect states is retained at the rank of Absolute Principle as a domain of admissibility. The residual part becomes the Residual Transition Clause , non-universal and architectural in status.
IV — Silentium	P.II; C-01; PA-03	Amended: “unique zero state” is read as an ideal limit; “in Silentium, the exception does not exist” is reformulated as outside-domain.
V — E	P-03; LF-08; PA-06	Clarified: incompressibility becomes LF-08 ($\rho E\text{-lim}$).
VI — former denomination of the continuum, now State $\mathcal{A}$	LF-03; P.II; PA-04	Strengthened: existence postulated as a fundamental law; current denomination fixed by A14.
VII — Radiation	P.III; P-02; PA-05; decision A7	Unchanged in content; equality read as ontological dignity.
VIII — Cosmic Core	P-04; C-04, C-05; PA-07	Clarified: distinction between the processes of the branches.
IX — Cosmological time	LF-02; P.I; PA-02	Unchanged (already strengthened in V5).
X — Cosmological memory	LF-05; C-03	Strengthened: minimal persistence becomes a fundamental law.
XI — Testability	Rule of discipline (Title IV)	Unchanged and sovereign.

Appendix A — Historical Concordance between the Mathematical Treatise and Foundation/TRD

Historical status. *The mathematical Treatise (Principles of Cosmological Dynamics, Volume I, v1.3) and the former White Papers belong to the genealogy of RM. This appendix is retained for traceability; it no longer has the power to import into the Constitution a closure withdrawn by Pillar I, II or III. In the event of conflict, the nomenclature and statuses of the four current Pillars prevail.*

Object	Treatise (v1.3)	Current RM reading	Cross-reading rule
Fundamental generic energy	Symbol E (Axiom II: “energy E is the only fundamental reality”)	Symbol $\mathcal{E}$ (E being reserved for maximal cohesion)	Every occurrence of E in the Treatise is read as $\mathcal{E}$ in Foundation/TRD. The E of Foundation (maximal cohesion, P-03, PA-06) has no symbol in the Treatise: the concept lies outside the scope of Volume I.
Dual deployment of energy	$E \rightarrow \{m, \mathcal{E}\}$ (Axiom II)	Symmetric bifurcation forbidden (PA-10); distinct processes (P-04)	The notation of the Treatise is a <i>map of states</i> (energy deploys into two states), not a claim of a symmetric process. Read within Foundation/TRD, it necessarily unfolds as: $E \xrightarrow{\text{Ignition}} m$ (Cosmic Core) and $\mathcal{E}$ fed by $\gamma_{\text{EM}} \rightarrow \mathcal{E}$.
Continuum	former denomination and former associated density	State $\mathcal{E}$ (LF-03, PA-04)	Identity of the physical referent; every cross-reading uses exclusively the current nomenclature according to A14.

Object	Treatise (v1.3)	Current RM reading	Cross-reading rule
Time	Axiom I: universal coordinate, “date”; local cadences	PA-02, LF-02; FCPL	Identical content; “cadence of local processes” in the Treatise $\leftrightarrow$ FCPL of Foundation/TRD.
Radiative-transfer law	$\Gamma_{\text{SCF}} = \varepsilon H \rho_r$ (former capture law)	Boundary-production sector; Γ_{∂} reserved for its process/rate	The former $Q_{\text{EM} \rightarrow \mathbb{E}}^{\text{sat}}/\text{PS-0}$ closure is retained as historical technical genealogy, not as a constitutional law. Current notation reserves Γ_{∂} for boundary production and ε_z for the historical reduced homogeneous elastic reservoir. The reduced old-bulk rate $H(T)$ is now closed under the stated HBR-1 balances; boundary formation, microscopic conversion, perturbations and observable transfer remain open.
Historical equation of state	former closure $w = -1$; $w_{\text{eff}} = -1 - \chi/3$	No current constitutional import	Former closure retained for archive. The current cosmological checkpoint of Pillar II uses a fitted effective coefficient only as a viability test; no microscopic equation of state is constitutionalised.
Activation	$z_{\text{on}} \simeq 24\text{--}30$, $\varepsilon_{\text{eff}}(a)$ (switch-on of radiative capture)	<i>No equivalent</i>	Never confuse with Ignition ($E \rightarrow m$, PA-07). The Treatise explicitly renamed “ignition” as “activation” (v1.2.1) to preserve this distinction. Two events, two concepts, two epochs.
Cosmological constant	historical de Sitter attractor generated by transfer (exact solution in the Treatise)	$\Lambda_{\text{SCF}} \sim (R_{\text{NC}} \cdot D_{\mathbb{E}})^{-2}$: auxiliary hypothesis	Two distinct reformulations of Λ , not identified with each other at this stage . Their possible junction is a point of the common programme. The circularity warning applies only to Λ_{SCF} ; the historical attractor is derived in the Treatise under its postulates.

Object	Treatise (v1.3)	Current RM reading	Cross-reading rule
Silentium	Absent	PA-03, C-01	The Treatise operates entirely inside the manifested Universe; its former continuum vocabulary is now read as State $\mathcal{A}$ according to A14. The absence of Silentium is therefore consistent, not lacunary.
Matter	Spectator sector, $\rho_m = \rho_{m0}a^{-3}$	m branch (P-04)	The genesis of matter (Ignition) lies outside the scope of Volume I; the Treatise takes it as a background condition.
Gravity	Not treated (Volume II announced)	LF-01, PA-08	The future Volume II must be read under PA-08: what it derives is the form of transmitted manifestations, not the existence of the law.
Falsification observables	$T(z_{\text{spec}}), \eta(z_{\text{spec}}), w_{\text{eff}}(z)$	Axiom XI; channels outside $H(z)$	Common test channels of the corpus; consistent with the clause “falsifiability lives outside $H(z)$ ”.

Extension of concordance to the White Paper corpus (July 2026 revision).

The White Paper *The Heresy of Absolute Time* (v6.8.7) constitutes a third branch of the corpus, autonomous in its writing in the sense of decision A8. Minimal cross-reading lines: the field Γ there designates an *unbounded* collective variable of internal deformation (volumetric deformation, White Paper dictionary) — no constitutional symbol is reserved for it; its cadence law is relative to the ambient background (source criterion, arbitration A9); its constitutive coupling is strictly universal (arbitration A10). Every cross-reading between the Treatise, the White Paper and the Books passes through the present appendix. In new work, the unqualified historical swelling variable Γ has no active canonical role: Γ_{∂} is reserved for boundary production; ε_z remains a historical reduced homogeneous reservoir, while stellar thermal work uses $\varepsilon_{\mathcal{A}}^{\text{th}}$.

Maintenance clause.

This appendix is versioned with the Constitution. Every new version of the Treatise (v1.4 and later) or of the Foundation/TRD corpus checks these lines before publication; a line that has become false invalidates publication until the concordance is updated.

Appendix B — Register of Arbitrations (A1–A23 historical register; A24–A27 recorded on 23 September 2026)

Arbitration	Status	Decision
A1 — Title of Book IV	Closed	Book IV is renamed “ <i>Gravitational Manifestations of the Continuum</i> ”; body of the Book amended according to roadmap V6.1.
A2 — Denomination of the framework	Closed	Historical nomenclature decision, now superseded for the continuum by A14: Silentium is reserved for the ideal limit, State $\mathcal{A}$ for the physical continuum; Foundation = the Constitution; TRD = Thermodynamics of the Continuum, the theoretical framework; Foundation/TRD = the normative whole.
A3 — Status of Silentium	Closed (v0.5)	PA-03: ideal limit and external conceptual reference; domain boundary, not a place.
A4 — Scope of LF-01	Closed (v0.5)	PA-08: fundamental gravity without exception; State $\mathcal{A}$ transmits and structures its manifestations.
A5 — Rule of discipline	Closed (v0.5)	Re-scoped to physical principles; ontological levels fix the domain without producing an equation.
A6 — Reading of $D_{\mathcal{A}}$	Closed	Research-programme status: no reading (B, C, D) privileged at this stage; reading A declared non-predictive; circularity warning constitutionally enforceable.
A7 — Radiation / root E	Closed	E = cohesion root (limit); the equality of Axiom VII is read as equality of ontological dignity among regimes.
A8 — Inter-corpus harmonisation	Closed	Option (ii): corpora autonomous in their writing, linked by Appendix A (official concordance authoritative for every cross-reading).
A9 — Back-ground/deviation criterion	Closed (July 2026)	Bound systems read the local deviation from the instantaneous ambient background ($\nu = \nu_0(t) e^{\delta\varphi_{\text{loc}}}$); a <i>deviation</i> is any component with a non-zero source term in its local balance, while the <i>background</i> is homogeneous evolution without source. Enacted on the clock front (White Paper v6.8.7, Appendix D).

A10 — Strict universality of coupling	Closed (July 2026)	The constitutive coupling $E = E_0 e^\varphi$ applies to all matter energies without sectoral exception; dimensionless laboratory ratios (μ , clock ratios) are exactly protected.
A11 — Nature of Γ and reading law	Closed (July 2026)	Γ is the logarithm of an internal isotropic volumetric swelling ($Q = Q_{\text{geom}} + \frac{\Gamma}{3}\mathbf{I}$); atomic cadence reads an <i>energetic invariant</i> of the Γ sector — insensitive to its free phase, modified by radiative pumping (energetic primacy over the kinematic reading of the trace).
A12 — Transition memory	Closed (July 2026)	The “residual stock” is withdrawn (too strong, not derived); the trace required by LF-05 is an <i>organisational memory</i> $\mathcal{M}$ inscribed in the structure of the resulting state (Pillar I v3.3.4), whose material realisation (thermonuclear memory of the cycle) is demonstrated and whose continuum version remains an open hypothesis.
A14 — Denomination of the continuum	Closed (18 August 2026)	The former denomination of the continuum is withdrawn from all new work and replaced by State $\mathcal{A}$. The change is <i>ontological, not cosmetic</i> : $\mathcal{A}$ is not a substance but a fundamental state of energy , on the same ontological level as matter and radiation; it is neither the nineteenth-century luminiferous ether, an invisible gas, nor a privileged rest frame. Silenti-um remains unchanged and designates the ideal limit external to the manifested Universe; the two notions must never be confused. Scope: the earlier A2 and A13 clauses that equated the denomination of the continuum with the name of the model are superseded on this point. Earlier documents and published DOIs retain their historical titles.
A15 — Status of PA-01	Closed (18 August 2026)	The rank of “First Law of the Universal Exception” is withdrawn : PA-01 no longer states a universal causal law. It retains at the rank of Absolute Principle only the prohibition of accomplished perfect states , which fixes a domain of admissibility in the sense of the Rule of discipline. The residual intuition survives under the name Residual Transition Clause , non-universal and architectural in status. This arbitration completes A12 , which had withdrawn the content (“residual stock”, too strong and not derived) without touching the rank; it concerns rank rather than vocabulary, and therefore operates in the domain that A13 had expressly left outside its scope . Consequence: LF-04 now expresses only the prohibition.

A16 — Constitutionalisation of saturation	Closed (18 August 2026)	The Principle of Saturation enters Title II under the label LF-09 : at the maximum capacity allowed by its state, energy does not disappear and does not cross the limit; it changes channel, variable or state. LF-09 is the structural law of which LF-08 is the density case. It restores the bridge broken by A15 : the limits of the continuum transform the delimited domain into a source of dynamics, with the manifestation clause of LF-07 amended accordingly. <i>Non-import clause</i> : the quantitative realisation (PS-0 ansatz, single coefficient, calibration) remains outside the Constitution.
A17 — Former clauses of the tensor sector	Technically superseded (1 September 2026)	The 18 August 2026 edition imposed P-07 to P-09 in order to reduce nine modes to two. Pillar II v4.2.1 replaces this imposed closure with the CLG-1 constraint calculation followed by N-Æ-06. The regular local elliptic branch leaves six first-class and ten second-class constraints (determinant $\propto (k^2)^{10}$), confirming $N_{\text{grav}} = 2$. The former P-08 and P-09 are withdrawn from the active register; the labelling statement is retained as a constitutional reading under debt D-Æ-02. The two-mode count is now a conditional result, not a postulate.
A13 — General denomination of the architecture	Closed (July 2026)	The complete theoretical architecture now bears the name RM — Relativity of Matter (matter is relative to the state of the medium; time remains universal). Scope: name of the architecture and of the future unified Treatise. The historical denominations of A2 survive only as archive; current usage strictly distinguishes Silentium (ideal limit), State Æ (physical continuum), Foundation (Constitution) and TRD (framework). Published DOIs retain their titles. The vocabulary of the Laws (notably “Exception”, PA-01) is expressly outside the scope of this renaming.
A18 — DSB-1 model and Ontological Decoupling	Revised, conditional branch (1 September 2026)	The double-scale architecture is retained, but its reading is corrected: R_S is the optical/transport threshold and r_c the mechanical saturation boundary. Zone II is no longer a progressive conversion layer. OCH-1 remains a constitutive hypothesis to be derived from a common action; the residual fraction and the junction do not become constitutional by decree.
A19 — Canonical denomination of LF-09	Closed (8 September 2026)	The active name Exclusion Interaction replaces <i>Principle of Saturation</i> . The older denomination remains visible in historical entries. LF-09 is explicitly distinguished from Pauli exclusion and from a fifth force; no new fitted coefficient is created by the renaming.

A20 — Constitutive length and strong-field reception	Closed as constitutional reception (8 September 2026)	Pillar IV receives the Pillar II constitutive length $\ell_\star$ and the curvature load $X_{\mathcal{R}} = \ell_\star^4 \mathcal{R}_{ij} \mathcal{R}^{ij}$ as the current technical realisation of geometrical exclusion. The frozen v28 stellar Q -fold and CA-1 audit protocol are recognised under Pillar II authority. Physical calibration, radial stability, maximum mass and identification with the Black-Core branch remain open.
A21 — Dimensional status of time and cyclic cosmic states	Closed clarification (8 September 2026)	RM explicitly distinguishes the three-dimensional manifested physical domain from the open coordinate T . Four-dimensional spacetime remains an external representation, not the RM ontology of time. A future cyclic or oscillatory global history would describe the state of the Universe evolving along T and would not close time into a loop. No particular cyclic cosmology is constitutionalised by this clarification.
A22 — Global-sector notation discipline	Revised concordance (23 September 2026)	Γ_∂ remains reserved for boundary production. The historical symbol ε_z remains admissible in the reduced homogeneous elastic derivation but no longer defines stellar support energy extracted from redshift. The active stellar thermal stock is $\varepsilon_{\mathcal{E}}^{\text{th}}$; redshift remains a propagation observable and possible secondary energetic contribution only under an explicit transfer law.
A23 — Unit boundary-cost branch	Reclassified as conditional technical reception (23 September 2026)	The scale $P/\ell_\star^2$ remains the natural volumetric scale and $K_{\text{cryst}} = \ell_\star^2/P$ remains the algebraic inverse if one adopts the unit branch $\mathcal{U}_\partial = P/\ell_\star^2$. The later formation-cost audit shows that this identification is not a complete universal formation theorem; layer storage, outgoing products and exchanged work may contribute. No H_0 calibration is permitted.
A24 — Homogeneous bulk closure	Closed as technical reception (23 September 2026)	GHC-1 and GEC-1 survive the zero-mode rank change; under the declared matter-radiation balances their preservation yields HBR-1, $H[3B' + 3\rho_m + 8u_\gamma] = s$, on the reduced $U = 0$ branch. The earlier HCR-1 branch is historical because its own derivation lock failed; it is not recalibrated. Boundary production remains distinct.
A25 — Thermal/redshift hierarchy and Maria	Closed as status reception (23 September 2026)	Stellar constitutive loading is written with $\varepsilon_{\mathcal{E}}^{\text{th}}$. Maria M-02 is received as a conditional homogeneous thermal bound; UC-1 remains a postulate. Redshift is retained as a physical propagation observable and possible secondary energetic contribution with no imposed percentage. Maria-limit $\rightarrow$ channel closure $\rightarrow EM \rightarrow \mathcal{E}$ remains a working bridge, not a microscopic theorem.
A26 — P-CIN and Black-Core reception	Conditional technical reception (23 September 2026)	The local P-CIN kinetic audit establishes regular inversion, positive single-branch Hamiltonian, positive Hessian and non-dynamical lapse. Full field closure, hyperbolicity, observational activation and $\ell_\star$ calibration remain open. The Black-Core surface/cadence-plateau reception is conditional and does not identify R_S with r_c , prove horizon abolition or establish global stability.

A27 — Off-center mechanics and formation cost	Closed scope ception September 2026)	as re- (23	Spherical symmetry fixes a common sky axis under its stated assumptions but does not fix a nonzero amplitude or sign. Matched birth is restricted to the reduced $U = 0$ branch under the declared balances; formation cost is distinct from deposited newborn density. Observable transfer, boundary conditions and the physical cosmic profile remain open.
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Appendix C — Canonical Concordance of the Four Pillars

Pillar	Function	Authority and status as of 23 September 2026
Pillar I	Epistemological genesis and non-repair	Current edition v5.3.0 (DOI lineage 10.5281/zenodo.22674666). Carries the methodological discipline, separation of prerogatives, stellar cross-method result, N-OPT-01.1, thermal/bulk concordance and corrected boundary-cost status.
Pillar II	Technical gravitational authority	Current edition v4.7.0 (DOI lineage 10.5281/zenodo.22641647). Carries CLG-1, conditional PPN, Pure Cadence, N-Æ-06, N-EMPR and CA-1, GHC-1, GEC-1 and HBR-1, the thermal extension, P-CIN reception and the conditional Black-Core programme. Technical results keep the domains written there.
Pillar III	Canonical synthesis and manifesto	Current edition v7.5.0 (DOI lineage 10.5281/zenodo.22643219). Synthesises the active architecture, executed HCR death clause, thermal/redshift hierarchy, Maria, P-CIN, Black-Core status and off-center mechanical lesson without outranking Pillar II derivations.
Pillar IV	Foundation/TRD Constitution	Present edition v7.3.0. Fixes ontology, laws, active postulates, Exclusion Interaction, open-time status, non-repair discipline, separation of prerogatives and the constitutional status of later technical receptions.

Appendix D — Register of Live Debts

Reference	Question	Status
D-Æ-02	Fully reconcile the ontology of a physical continuum with the redundancy of its spatial labels in all sectors.	Open, conceptual
D-Æ-03 / N-Æ-05	Does Pure Cadence correctly select the local two-derivative dependence?	Conditionally closed by PCP
D-Æ-04A	Does the local nonlinear gravitational chain retain two modes on the regular branch?	Conditionally closed
D-Æ-04M	Do microscopic matter sectors preserve the universal interface and constraint algebra?	Open, narrowed
N-EMPR / CA-1	Does the regular $Q_c < 0$ stellar branch exist at the declared test point under the frozen reduced model?	Cross-method numerical result; physical calibration/stability open
HBR-1	Does the reduced homogeneous old-bulk rate follow from preservation of the surviving zero-mode constraints under the declared balances?	Formal result on reduced $U = 0$ branch
THERMAL-Q	What microscopic transfer law feeds $\varepsilon_{\mathcal{E}}^{\text{th}}$, with entropy production and opposite-sign donor/receiver terms?	Open
MARIA-BRIDGE	Does approach to the conditional Maria bound actually select closure of the radiative channel and $EM \rightarrow \mathcal{E}$?	Working bridge; microscopic law open
P-CIN-FIELD	Does P-CIN preserve the complete strong-field constraint algebra, trace/curvature coupling and hyperbolicity?	Open after local kinetic audit
P-CIN-OBS	What parameter-free observable activates or falsifies P-CIN?	Open
ELL-CALIB	What independently fixes ℓ_* ?	Open
A-DSB-1 / OCH-1	Can one common phase action derive the finite wall, double layer, cadence plateau, source separation and a globally stable regular Black Core?	Open, conditional programme
BOUNDARY	What microscopic conversion, formation cost, birth state and boundary conditions determine g_{∂} without identifying it with H ?	Open

Reference	Question	Status
OFFCENTER– OBS	What compatible field and transfer law turn the symmetry axis into a nonzero, signed observable without importing sky data as a selector?	Open
COSMO	Can HBR–1 plus boundary production be lifted consistently to perturbations, BAO, CMB, lensing and structure growth?	Open
MASS	Can the Triple Identity be derived without inserting the observed mass?	Open target

Appendix E — Version Register and Roadmap

- **V4** — Eleven founding axioms; First Law as “generating engine” (9 June 2026).
- **V5** — Five principles; First Law downgraded to qualitative statement; rule of discipline; maturity levels.
- **V6 (file of 19 July 2026)** — Restoration of the First Law at the top; hierarchy Levels 0–4; clauses C-01 to C-05; diagnosis D1–D8; seven arbitrations.
- **V6.1 (20 July 2026)** — Reindexing on Analysis Constitution v0.5 (PA-00–PA-10, LF-00–LF-08); terminological resolution P.I–P.V; eight prohibitions; labelling of P-02; arbitration register; A8 open.
- **V6 — final text (present document)** — Approval of V6.1 by the author; formal closure of A1, A2, A6, A7; A8 closed under option (ii); Appendix A of official concordance; definitive abrogation of the former single chain.
- **V6 — final text, Appendices A–C revised (July 2026)** — Constitutional body (Titles I to VII) unchanged byte for byte. Appendix A: radiative-transfer line completed (conservative closure of White Paper v6.8.5 and articulation question recorded); extension of concordance to the White Paper corpus. Appendix B: registration of arbitrations A9–A12 (background/deviation criterion; strict universality; nature of Γ and energetic reading law; transition memory), enacted by the author during the July sessions and recorded here. Appendix C: present entry. Arbitration A13: general denomination **RM — Relativity of Matter** for the complete architecture, scope and limits fixed in Appendix B.
- **V6 — RM Book edition (3 August 2026)** — Amendments to the body enacted by the author, item by item, on the basis of the audit report of proposal V6.2 (category 2): (1) denominations A2/A13 (RM added, Silentium retained as an internal denomination); (2) prudential safeguards on memory (PA-10, LF-05: no autonomous variable $\mathcal{M}_{\mathcal{E}}$ implied at this stage; LF-03: transport of correlations, memory variable open), with nothing removed from the texts; (3) PA-05: the transition modifies and energises the continuum, ontological existence falling under PA-04 (“validated” status retained); (4) historical sentence added to the frontispiece. Red lines checked byte for byte: PA-00, PA-04, PA-09, LF-06, author’s note of 20 July, mention of Paul’s addition. Building block intended for the unified book RM — Relativity of Matter. Revision of appendices within the meaning of the maintenance clause of Appendix A; no co-modification of Analysis Constitution v0.5 is required by a register revision, subject to the author’s reading.
- **V6 — RM Book edition (August 2026 update)** — Appendices A and B brought into conformity to reference White Paper v6.8.7, following the cross-audit of the clock front

(suspension of the simple proportional template and requirement for the RM multi-channel template). The constitutional body remains unchanged.

- **V6 — RM Book edition (18 August 2026)** — Amendments to the body enacted by the author: **A14** (withdrawal of the former denomination of the continuum in favour of State $\mathbb{A}$); **A15** (status of PA-01: rank of First Law withdrawn, prohibition of accomplished perfect states retained at PA rank as a domain of admissibility, residual part becoming the Residual Transition Clause); **A16** (constitutionalisation of the Principle of Saturation as LF-09, and restoration through it of the bridge in the manifestation clause of LF-07); **A17** (tensorial clauses P-07 to P-09 then active). Amended sites: chapter on denominations; PA-01; LF-04; manifestation clause of LF-07; addition of LF-09; historical addition of P-07 to P-09; line III of Appendix A. Register of Appendix B completed append-only: **A1 to A13 unchanged byte for byte. Open locks recorded:** (1) derive P-07 to P-09 from the constitutive action instead of postulating them — the debt to General Relativity remains entire; (2) the form of the PS-0 ansatz and the value of its coefficients remain outside the Constitution; (3) the saturation potential must be made convex in both sectors, requiring quadratic coefficients of opposite signs. Red lines checked: PA-00, PA-04, PA-09, LF-06, author’s note of 20 July, mention of Paul’s addition.
- **V6 — RM Book edition (19 August 2026)** — Amendments to the body enacted by the author: **A18** (adoption of the DSB-1 model and Ontological Decoupling Hypothesis OCH-1). Update of clause C-04 (Black Cores) to integrate the double spatial scale and ontological separation of masses.
- **v7.0.0 — RM Pillar IV (1 September 2026)** — First constitutional edition aligned with the three published Pillars. Addition of PA-11 (separation of the prerogatives $m/\mathbb{A}$), integration of the discipline of non-repair, withdrawal of former tensorial postulates P-08/P-09, replacement by P-07 Pure Cadence, reception of the conditional N- $\mathbb{A}$ -06 count, correction of the cosmological status of $H(T)$, update of the double-scale Black Core, historical classification of former White Paper closures and creation of an explicit register of live debts.
- **v7.1.0 — RM Pillar IV (8 September 2026)** — Constitutional-alignment edition after Pillar I v4.1.0, Pillar II v4.3.0 and Pillar III v7.2.0. LF-09 receives the canonical name **Exclusion Interaction**; the constitutive length ℓ_* and frozen v28 stellar Q -fold are received without physical over-interpretation; the three-dimensional-domain/open-time distinction is made explicit; a cyclic cosmic state is separated from cyclic time; Γ_∂ and ε_z are assigned non-interchangeable global-sector roles; CA-1 enters the live debt register. No post-v28 laboratory continuation is constitutionalised in this edition.
- **v7.2.0 — RM Pillar IV (9 September 2026)** — Daily constitutional update. The current geometric realisation of the Exclusion Interaction is displayed explicitly through $X_{\mathcal{R}}$, $F(X)$ and the divergence $F'(X) \rightarrow \infty$ without promoting the candidate function to Fundamental Law. The minimal unit boundary branch receives the derived coefficient $K_{\text{cryst}} = \ell_*^2/P = 16\pi G\ell_*^2/c_{\mathbb{A}}^4$ and $\Gamma_\partial = K_{\text{cryst}}\mathcal{P}_{\gamma,\partial}$, with no new dimensional constant and no H_0 fit. Pillar I concordance is updated to v5.0.0 (DOI 10.5281/zenodo.22674666); the boundary-to-interior determination of $H(T)$ remains an explicit live debt.
- **v7.3.0 — RM Pillar IV (23 September 2026)** — Canonical Concordance / Technical Reception edition. Executes the HCR non-repair clause; receives GHC-1/GEC-1/HBR-1 and the conditional $U(X)$ thermal extension; receives the thermal/redshift hierarchy, Maria M-02

and UC–1 statuses; reclassifies the unit boundary-cost formula as a conditional branch after the formation-cost audit; receives local P–CIN canonical health without claiming full field closure; updates the Black-Core surface/cadence-plateau status and off-center mechanical scope; updates concordance to Pillars I v5.3.0, II v4.7.0 and III v7.5.0. No frozen v28 or CA–1 numerical result is retuned.

Maintenance rule.

Every new RM publication must verify its compatibility with PA-11, LF-09 under its canonical Exclusion-Interaction name, the dimensional status of open time, the four epistemic statuses, the discipline of non-repair, the current technical statuses of Pillar II and the register of live debts. An old formula may be retained in the historical archive, but it cannot become active again without a new amendment and a new derivation.

Authorship and responsibility.

Pierre Benaros is the sole author and assumes full responsibility for the postulates, calculations received into this Constitution, interpretations and claims. Symbolic computation tools and AI assistants were utilized strictly to verify mathematical identities and for language.

Simplex sigillum veri.