

Substrate Cosmology Volume Ten

Website User Manual and Research Commons Guide

James Dunn

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Publication and Copyright Notice

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Public research commons: <https://substrate-cosmology.james-dunn866549.chatgpt.site>

This manual describes the public Substrate Cosmology research commons as reviewed on 19 September 2026. The website changes through recoverable releases. A page, control, status, link, or workflow may therefore differ from this edition. When the manual and the current website disagree about operation, consult the public status, maintenance, change, and readiness surfaces before acting. Earlier Recovery Points remain immutable historical records.

Substrate Cosmology and Fibered Relational Tensor Theory are developing research frameworks, not established physical theories. A page, registry, simulation, discussion, receipt, automated check, or AI generated prompt does not prove the framework, authorize an experiment, certify a person or institution, supply ethics approval, or replace the standards of the relevant scientific field.

The RP07 recurrence boundary remains unchanged. GDELT 1995 is development data for the inherited blind branch. Data from 1996 and later years remain unopened for that branch. Cryptocurrency, stock, commodity, financial, and other outcome layers remain unopened. Nothing in this manual opens, scores, or retrospectively changes the experiment.

The website includes a bounded premoderated adult research forum. Public reading and adult authenticated submission are active. New material remains private until owner moderation. Independent appeals, expanded staffing, institution verification, student interaction, uploads, private messaging, private experimental workspaces, outbound email delivery, technical activation of submitted links, scientific claim promotion, and other higher risk capabilities remain staged or blocked as identified on the site.

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Authorship and AI Collaboration

James Dunn originated Substrate Cosmology; the distinction between Actual Physics and its state based representations; the treatment of words, numbers, units, equations, measurements, and scientific objects as selective collapses; the relational research program; the Recovery Point system; the recurrence and blind research branches; and the direction of the public research commons. He supplied the research corpus, corrections, website, operational requirements, and publication instructions. He retains responsibility for the claims, choices, and publication.

OpenAI ChatGPT (Codex) reviewed the available research corpus and the source of the current public website; compared the visible interface with its machine readable registries, safety contracts, maintenance controls, forum implementation, experimental roadmap, and earlier volumes; identified differences between an implemented interface and the authority it does or does not carry; drafted and edited this manual; prepared its route directory, workflows, status vocabulary, checklists, citations, and production files; and integrated the completed volume with the public homepage.

Microsoft Copilot and Google Gemini are acknowledged for earlier assistance recorded in the source manuscripts. AI participation is part of the provenance of this publication. It is not independent empirical confirmation, human authorship of cited sources, scientific review, moral authority, or evidence that a substrate claim is true.

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Epigraph

A visible boundary is part of the instrument.

Received is not integrated.

Operating principles of the research commons

Preface

The first nine volumes developed a sequence of perspectives. Volume One separated Actual Physics from the representations available to an observer. Volume Two showed how words, numbers, units, and equations preserve some relations while concealing others. Volume Three organized the Relational Tools. Volume Four developed relational mathematics and Fibered Relational Tensor Theory as a conservative extension program. Volume Five placed apparatus, detector, preparation, and observer inside measurement. Volume Six established recurrence research, null worlds, blind boundaries, the Labyrinth, and immutable Recovery Points. Volume Seven applied those disciplines to cosmology, matter, spacetime, fields, energy, entropy, horizons, and dark phenomena. Volume Eight translated speculative capabilities into conditional engineering with controls, reversibility, conservation, safety, and stop rules. Volume Nine addressed intelligence, agency, identity, culture, artificial intelligence, ethics, governance, and stewardship.

Volume Ten explains how those disciplines are represented and used on the public website. It is an operating manual for a research commons, not a summary of the theory. The distinction matters. A website can make uncertain work look settled merely by giving it polished navigation, a green status, a form, or a machine readable file. The purpose of this manual is to keep the meanings of those surfaces open and inspectable.

The central difficulty of Substrate Cosmology has always been perspective. Humans live within the environment being studied. Our senses, instruments, languages, institutions, and equations are physical parts of that environment. They make science possible, but their limits do not necessarily define the limits of physics. The website is designed to remind a user of this without allowing the reminder to become permission for unsupported claims.

The manual therefore teaches two operations at once. It shows where to click, what to enter, what to download, and what a status means. It also teaches the reader to ask what the interface has selected, compressed, hidden, or left unresolved. That second operation is the underlay of every route.

The Current Series

The current planned series contains ten volumes. There is no predetermined page length. Later evidence may justify supplements, revised editions, or a new sequence, but it does not silently change the identity of these volumes.

Volume	Title	Primary task
One	Introduction to Substrate Cosmology	Establish the alternate perspective and research boundaries.
Two	Words Units and the Collapse of Physical Representation	Make linguistic numerical metrological and mathematical selection inspectable.
Three	The Relational Tools and Their Developmental Lineages	Preserve explain crosswalk and operationalize the Tool architecture.
Four	Relational Mathematics and Fibered Relational Tensor Theory	Develop formal objects projections recovery maps and conservative extension.

Volume	Title	Primary task
Five	Measurement Detectors and Experimental Interaction	Model apparatus controls independent projections and discriminating interventions.
Six	Recurrence Research and the Labyrinth	Develop recurrence methods blind archives null worlds and prospective validation.
Seven	Cosmology Matter and Emergent Physical Quantities	Reconsider spacetime matter fields gravity energy entropy horizons and dark phenomena.
Eight	Conditional Engineering and Physical Manipulation	Translate speculative capabilities into gated reversible testable intervention programs.
Nine	Intelligence Agency Identity and Dimensional Stewardship	Develop relational learning culture ethics AI and propagation of diverse life.
Ten	Website User Manual and Research Commons Guide	Explain navigation investigation contribution collaboration governance maintenance and continuity.

Acknowledgments

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OpenAI ChatGPT (Codex) is acknowledged for auditing the current website against its own contracts and status records, drafting this manual, and producing the publication. Microsoft Copilot and Google Gemini are acknowledged for earlier recorded assistance. Their participation is provenance, not scientific confirmation.

Reader Guide

This manual is organized by task. A first time visitor can read the Introduction and Parts I through III. A researcher can begin with Parts IV through VI. A moderator or steward should read Parts VI and VII before using authority controls. A maintainer should read Part VII and Appendices B, E, and G. Readers who need a specific page can begin with Appendix A.

The manual uses the following conventions.

Term	Meaning in this manual
Page	A human readable website route.
Surface	A page or control through which a user performs a task.
Record	A preserved item with an identifier version state or lineage.
Registry	A structured list of records or allowed relationships.
Contract	A machine readable declaration of required fields controls or boundaries.
Fixture	A synthetic case used to check software behavior.
Evidence	An inspectable record relevant to a bounded claim.
Authority	The role and permission to make a particular decision.
Recovery Point	An immutable historical research package.

Edition boundary. This manual describes the site state reviewed on 19 September 2026. It records the bounded adult forum as active, the evidence graph, replication index, utility register, and significant contributor registry as empty, the public simulator as one bounded demonstration, EXP01 through EXP03A as implemented, and EXP04 and later experimental stages as blocked by their stated dependencies.

Framing Statement

The website is a relational instrument. It connects questions, terms, models, evidence classes, contributors, discussions, software controls, and recovery history. The connection itself is not proof. A route can organize inquiry without establishing ontology. A registry can be structurally ready while containing no scientific records. A check can verify a file or permission rule without reviewing the truth of a physical claim.

Actual Physics is whatever physical relational condition exists, including relations not represented by the site's categories. The website contains state based representations of that condition and of the research process. Its words, units, fields, tables, graphs, badges, and statuses are useful collapses. They must not be confused with the full environment they describe.

Author Note

The website was created to let people enter Substrate Cosmology without first accepting it. That is harder than it sounds. A person sees a polished page and naturally assumes that its categories have already been validated. A researcher sees familiar words such as evidence, model, replication, or experiment and may import the conventional authority of those words into a page that only defines a future workflow.

This manual slows that transfer down. It asks the reader to notice exactly what exists, what is represented, what is empty, what is blocked, what is provisional, and what would have to change before a stronger claim becomes responsible.

Introduction

Entering the Research Commons

The quickest correct description of the website is this: it is a public place for learning, generating bounded questions, comparing representations, preserving research lineage, contributing reviewable records, and governing later development. It is not a place where appearance becomes evidence merely because software displays it.

Every use of the site should retain four separations.

1. **Actual Physics and representation.** The interface shows descriptions, models, simulations, and records. It does not show physics from outside the environment.
2. **Inquiry and evidence.** A useful question or prompt can begin research. It is not a result.
3. **Receipt and integration.** A stored submission can be reviewed. It has not entered the shared model or a Recovery Point.
4. **Capability and authority.** Software may permit an action while scientific, ethical, legal, institutional, or safety authority remains absent.

The site's main pathways reflect these separations. Learn routes help a reader understand the vocabulary and record. Investigate routes produce questions and bounded prompts. Test routes provide comparison and protocol structures. Collaborate routes support contributions and a premoderated adult forum. Govern routes expose status, dependencies, decisions, and maintenance boundaries.

The site can be used without agreement. A conventional explanation, failed replication, null result, contradiction, or finding of noncomparability is a valid outcome. The research commons improves when a boundary becomes clearer, even when no substrate hypothesis survives.

Part I

Understanding the Commons

Chapter One

The Website Is an Instrument

An instrument selects. The website selects questions, fields, statuses, routes, and actions so a person can work with a research program too large to hold at once. That selection provides orientation. It also creates a risk that unshown relations will be forgotten.

Treat every page as a detector. Ask what it admits, what it excludes, what it transforms, and what remains elsewhere. The homepage detects entry needs. The scalar explorer detects possible relationships. The contribution form detects required parts of an evidence envelope. The maintenance pages detect drift in software and governance. None is complete outside its declared purpose.

Chapter Two

The Website Is Not Scientific Authority

The site does not function as a journal, laboratory, institutional review board, ethics committee, safety authority, licensing body, university, funding agency, court, or standards organization. Its forms and registries can prepare records for those environments. They cannot inherit those institutions' authority by using similar words.

A page labeled experimental does not mean an experiment is authorized. A forum discussion does not count as peer review. A green automated status does not validate a physical claim. A simulation is not empirical evidence. A contribution receipt is not acceptance. A significant contributor entry, when one exists, will document a bounded contribution rather than certify a degree, profession, grant eligibility, or broad mastery.

Chapter Three

What Available Means

Available means a route or function can presently be reached and used within its stated limits. The public status page reports reading, navigation, downloads, interactive inquiry tools, bounded simulation, and contribution intake as operational. The current forum allows public reading and adult authenticated submission.

Availability says nothing by itself about scientific maturity. A calculator can be available before its model has external validation. A discussion form can be available while appeals and staffing remain incomplete. Always pair availability with the page's evidence and authority boundary.

Chapter Four

What Implemented Means

Implemented means that a declared website capability and its registered checks exist in the current release. It can mean a working page, a schema, an automated guard, a storage path, or a bounded workflow. The exact object matters.

For example, EXP02 is implemented as a portable experimental claim packet contract. Its collection state is schema only with no live packets. P17 is implemented as a visualization foundation, but geometry remains non evidentiary. P18F is implemented as a working premoderated adult forum, while independent appeals and broader readiness remain incomplete.

Chapter Five

What Empty Means

An empty registry is an honest result. The evidence graph currently contains no admitted scientific relations. The replication index contains no qualifying records. The utility register contains no promoted utility claims. The significant contributor registry contains no public names.

Empty does not mean that the page is broken or that no one has ideas. It means the admission gate has not been satisfied by a qualifying public record. Do not fill an empty space with an example that could be mistaken for evidence. Synthetic fixtures belong in their labeled test records.

Chapter Six

What Blocked Means

Blocked means a named dependency is missing. A blocked item is not a software task waiting for ingenuity to bypass it. The missing dependency may be a qualified reviewer, institutional authority, a capable test environment, durable private storage, verified identity, safety capacity, real evidence, or an appeal process.

EXP04 is blocked by verified researcher and institution methods, named operating owners beyond the founding moderator, privacy and legal review, independent appeal coverage, and completed P18H evidence. Later experimental stages remain blocked behind additional authority, laboratory, custody, replication, and evidence requirements.

Chapter Seven

What Received Means

The contribution intake preserves a submitted envelope and returns a receipt. The receipt records that the site received a reviewable object. It does not say that the observation is accurate, the method is adequate, the interpretation is accepted, the contributor has priority, or the shared model has changed.

The sequence is receipt, provenance audit, relation to existing records, classification, countertesting, review, integration proposal, and only then possible propagation into a future Recovery Point. Any missing stage remains visible.

Chapter Eight

What Active Means

Active describes current operation, not completion. The forum is active within a narrow adult beta. Owner prepublication moderation is active. Durable forum records are active. Reports, author withdrawal, and explicit following controls are active.

The same surface also declares incomplete external review, limited staffing, staged independent appeals, staged outbound email, inert submitted links, and disabled higher risk capabilities. Read the noun after active and the limitations beside it.

Chapter Nine

The Current Parent

RP07 is the current immutable parent of the research archive. The resources page provides RP01 through RP07 packages and the documents needed to continue toward RP08. A later package may extend, correct, qualify, or supersede an earlier interpretation. It must not edit the earlier package invisibly.

The current blind boundary uses GDELT 1995 as development data. Later years and locked outcome layers remain unopened for the inherited blind branch. A site improvement, forum discussion, book publication, or AI analysis does not change that boundary.

Chapter Ten

The Five Public Journeys

The usability program names five public task journeys.

Journey	Typical route	Intended outcome
Learn	First investigation to question guide	Reach one bounded question without mistaking exploration for evidence.
Investigate	Workbench to contribution preview	Generate a portable prompt that preserves ordinary explanations nulls conflicts and independence.
Test	Simulator to shared model	Run and inspect a bounded comparison without treating geometry or output as physical evidence.
Contribute	Contribution form to dashboard	Prepare a classified envelope and receive a nonvalidating receipt after authentication.
Govern	Dashboard to maintenance status	Identify what is active blocked next dependent and obsolete before authorizing work.

These journeys are maintained as task completion paths, not engagement funnels. The site prefers synthetic checks, deliberate feedback, and reproducible incidents over personal browsing histories.

Part II

Orientation and Navigation

Chapter Eleven

The Homepage

The homepage begins with questions rather than a request for belief. Its first actions are to choose an unresolved question, build a small investigation, or trace the development record. Entry paths are offered for a curious visitor, student or learner, working researcher, and research steward.

The relationship preview around Measurement is an inquiry device. Position, distance, rings, and alignment do not encode causal strength, confidence, or evidence. Use the preview to form a question, then open the full relationship explorer or registry.

The homepage also links to all ten volumes. Those links are reading routes, not an endorsement hierarchy. A book explains the framework and its discipline; current status remains on the website.

Chapter Twelve

Task Based Navigation

The header groups pages by what a person is trying to do.

Menu	Use it for
Learn	First investigation student practice archive and glossary.
Investigate	Prompt building relationship exploration evidence inspection and dependencies.
Test	Simulation replication intervention design and cross site readiness.
Collaborate	Forum contribution recognition replication and portable exchange.
Govern	Dashboard status roadmap stewardship and appeals.

The longer Investigate directory exposes specialist pages that would crowd the primary menus. Breadcrumbs provide a path back. If a route is unfamiliar, read its header, status, and boundary before using its controls.

Chapter Thirteen

The Experience Bar

The experience bar shows the current path, a maturity label, and an explanation detail control. Its maturity label is an orientation aid derived from route type. It is not a scientific classification of the content on the page.

The breadcrumb names the current location and provides earlier route levels. Use it to return without relying on browser history, especially after opening a deep research or forum page.

Chapter Fourteen

Plain and Technical Views

The Plain and Technical controls change explanation detail where the page supports it. The choice is stored on the current device. It does not change evidence, the underlying registry, or the scientific standard applied to a claim.

Plain language is not a lesser evidence class. Technical vocabulary is not stronger evidence. Choose the view that makes the relation inspectable. Return to the other view when a term seems to have hidden an assumption.

Chapter Fifteen

Search

The search page indexes principal routes and concepts. It does not search the complete text of every archived file or every future forum record. Search terms such as evidence, scalar, replication, contribution, roadmap, status, safety, or forum are good starting points.

A result takes you to a page whose own maturity and boundary remain controlling. Search ranking is a finding aid, not a confidence score. If a needed path is missing, use Routed Feedback rather than assuming the subject is absent from the corpus.

Chapter Sixteen

Glossary

The glossary supplies working definitions, aliases, and links to usage. It is registry aligned, which means terms should remain traceable to their operational use. Conflicting vocabularies are not forced into one meaning merely for neatness.

Open a term and inspect its definition before borrowing it across disciplines. A dimension, scalar, recurrence, detector, frame, information, agency, or identity claim can change meaning when the operational context changes.

Chapter Seventeen

Public Status

The public status page answers whether core services are available and names known limits. It currently identifies public reading, navigation, downloads, inquiry tools, one bounded simulation, and contribution intake as operational.

Status is dated. Use it as an observation about a release, not a timeless guarantee. External services, links, authentication, and platform behavior can change after publication.

Chapter Eighteen

Commons Dashboard

The dashboard summarizes the current stage, recently completed work, open questions, contribution routes, replication needs, maintenance, and usability evidence. It is the best orientation page before beginning work that depends on current maturity.

At this edition, the bounded forum and EXP03A discussion bridge are active, while EXP04 verified roles remain blocked. Do not infer a later stage from a discussion using an E0 through E8 label.

Chapter Nineteen

Device Local Inspiration

On adult research surfaces, the inspiration control lets a user capture a thought in the browser, move it to a local ToDo list, prepare a bounded prompt for ChatGPT, organize items locally, or export a private JSON copy. The site does not automatically receive the content.

Device local means the material may disappear when browser storage is cleared, a device is replaced, or a privacy mode closes. It is not an account backup, shared workspace, submission, or AI readable pool. Copying a prompt and opening ChatGPT is a deliberate handoff; the site does not retrieve the response automatically.

The shared inspiration pool remains inactive. Cross user sharing would require per item consent, filtering, moderation, lineage, retention, withdrawal, safeguards, and protection against popularity becoming authority.

Part III

Learning and First Investigations

Chapter Twenty

First Investigation

The First Investigation page is the shortest disciplined route into the research program. It asks the user to choose one observable question, establish the ordinary baseline, define a null world, make a small comparison, and share only deliberately.

Begin with a claim narrow enough to inspect. Write what established physics or another relevant discipline would expect before adding a substrate interpretation. Identify the instruments and known limitations. Then state what evidence would make the alternate relation unnecessary, false, or noncomparable.

The final step opens the investigation workbench. It does not submit anything. The prompt remains in the user's workspace until the user deliberately enters the contribution path.

Chapter Twenty One

Choose a Research Path

Role sensitive onboarding changes the expected output, evidence burden, privacy boundary, and stop condition. It does not grant status or restrict curiosity.

Present purpose	Expected first output	Primary caution
Curious visitor	One bounded comparison question in plain language	Curiosity is not evidence.
Student or learner	A definition control expected observation and null result	Vocabulary fluency is not validation.
Working researcher	A reproducible protocol or evidence envelope	Preserve disciplinary standards and negative results.
Research steward	A dependency review conflict branch or reasoned recommendation	Do not rewrite evidence or authority silently.

Choose the path closest to the task you have now. A person may use another path later. Role selection on this page is guidance, not account privilege.

Chapter Twenty Two

Question Guide

The Question Guide compares established accounts, Substrate Cosmology questions, and the evidence that could separate them. It organizes inquiry around defining terms, comparing frames, and designing a test.

Use it when a subject feels large or metaphysical. Select one question and record the ordinary explanation first. Then identify the alternate relational question without promoting it to fact. End with a test or observation that could reduce confidence rather than merely illustrate the idea.

Chapter Twenty Three

Foundations

The Foundations page introduces Actual Physics, information as an emergent representation, alternate scalars, relational dimensions, dimensional bleed, frames, collapse, conservative extension, and the discipline of preserving ordinary explanations and null results.

These are project definitions and provisional research forms. They organize later work. They do not establish that an unobserved dimension, substrate, or alternate scalar exists physically. When using the page, cite the definition and its status together.

Chapter Twenty Four

Proofs and Evidence

The Proofs and Evidence page separates verified computational scope from unproven physical interpretation. It reports byte reproducibility of retained Atlas files, a frozen candidate definition, offline hardening tests, the preserved blind boundary, and statistical organization under declared constructions.

Those results support continued prospective study of the selected information system. They do not establish unknown physical influence, fundamental dimensions, cross domain transfer, or a differential physical intervention. Read the retained results and the section called What Remains Unproven as one record.

Chapter Twenty Five

Bibliography

The bibliography connects established and historical sources to specific questions in the program. A citation means the source is relevant to a bounded point. It does not mean the source author endorses Substrate Cosmology.

When adding a source, preserve authorship, edition, page or section, the exact claim supported, and the program annotation as separate layers. The site's annotations are credited to James Dunn for program direction and to OpenAI ChatGPT for documented synthesis and implementation. That credit does not transfer authorship of the cited work.

Chapter Twenty Six

Suppositions

The Suppositions page contains prospective applications ranging from detector characterization and alternate scalars to long range physical capabilities. The page is a branch generator. It is not a technology catalog.

A candidate application advances only when a frozen relation predicts a result not already supplied by established variables, survives ordinary controls and multiplicity correction, reproduces independently, and retains conventional resource accounting. Until then, use the page to formulate tests and stop conditions.

Chapter Twenty Seven

String Theory and Recurrence

The String Theory and Recurrence page provides a guarded translation dictionary. String compatible means structurally translatable after blind survival. It does not mean that the recurrence findings demonstrate strings, extra physical dimensions, or shared ontology.

Follow the declared sequence: discover in neutral terms, freeze operators and nulls, test unopened data, compare surviving structures with string theoretic constructs, and require a new discriminating consequence. A mapping that merely renames recurrence as vibration should be rejected.

Chapter Twenty Eight

Limits of a Human Theory of Everything

The Limits page restates the Underpinnings of Relativity argument. Frames depend on clocks, rods, signals, coordinates, conventions, materials, thresholds, and detectors. Their predictive success is real. Their representations need not exhaust every relation in Actual Physics.

The page does not argue that established physics is false or that incompleteness proves the substrate framework. It proposes conservative extension as a discipline: recover validated predictions, expose projection loss, and compete through prospective tests.

Chapter Twenty Nine

Student Workspace

The Student Workspace provides no account practice, age appropriate project coaching, constructive feedback patterns, rotating team roles, and official opportunity routes. Progress means producing more useful and recoverable work, not sounding advanced or agreeing with the framework.

Adults remain responsible for safety, consent, privacy, transportation, purchases, accounts, public communication, and funding submissions. Program listings change. A trusted adult must confirm eligibility and current requirements on the official source.

Chapter Thirty

Student Safety

The student interaction gate is closed. The site presently offers guided public material only. It does not accept student work, create student accounts, allow student posting, provide uploads, or connect students privately with participants.

The safety design does not rely on guessing age. Personal information, private contact, unreviewed links, files, gifts tied to contact, meeting arrangements, and moves to another service remain outside the permitted workspace. If something feels unsafe, stop, preserve the record, and tell a trusted adult. Immediate danger belongs with the appropriate local emergency or child safety service, not the research site.

Part IV

Model and Comparison Tools

Chapter Thirty One

Shared Model

The Shared Model page describes a governed relationship layer across observations, frames, tools, methods, and consequences. Its seven step pipeline is Receive, Audit, Relate, Classify, Challenge, Propose, and Propagate.

AI may help detect candidate relations, compare frames, surface conflicts, build null tests, and propose impacts. It may not alter source evidence, erase failures, silently merge incompatible claims, expose private work, infer ontology from utility, or change an immutable Recovery Point.

Chapter Thirty Two

Scalar Relationship Explorer

The explorer lets a user select a scalar, rotate or recenter the surrounding relationship field, and generate different inquiry paths. It is useful for revealing which questions appear when Measurement, Detector, Frame, Information, Recurrence, Agency, Identity, or Conservation becomes central.

The geometry is navigational. Distance, direction, rotation, ring position, color, and proximity do not measure physical magnitude, causal strength, statistical association, evidence quality, or confidence. Use the resulting question as the output.

Chapter Thirty Three

Scalar Registry

The Scalar Registry assigns stable identifiers, working labels, current frames, and development hooks. Its current scalars are Measurement, Recurrence, Detector, Frame, Information, Agency, Identity, and Conservation.

A proposed relation must identify its source, detector, frame, null world, counterexplanation, and confidence history. An alias proposal should explain whether two terms are equivalent, overlapping, or materially different. A useful relationship does not become ontology by entering the registry.

Chapter Thirty Four

Evidence Graph

The Evidence Graph defines six relation types: supports, contradicts, qualifies, fails to replicate, noncomparable, and unresolved alternative. It is currently empty by design.

To propose an edge, identify both immutable source envelopes, declare detector, frame, and scale, state the null world and strongest counterexplanation, choose a typed relation without deleting alternatives, and append later review changes. AI suggestion and visual proximity are not evidence for an edge.

Chapter Thirty Five

Bounded Simulator

The simulator runs one deterministic recurrence comparison locally. It uses a versioned schema, conventional baseline, null world, validation fixtures, a 512 step ceiling, cancellation, an accessible table, and export. It does not execute arbitrary user code or access the network for a run.

The simulator is a mathematical comparison instrument. Its output follows the selected equations and inputs. It cannot establish Actual Physics, infer ontology, or validate the substrate framework. Additional models remain blocked pending independent method and failure review.

Chapter Thirty Six

Interpreting Visual Geometry

Graphs and relationship fields compress many values into position, line, color, and motion. That compression can help a person notice structure. It can also create a false sense that a visible shape was discovered in nature.

Before interpreting a visual, open the table or text equivalent. Identify the values used to place each element, the transform applied, the scale, the omitted dimensions, and the baseline. If the conclusion disappears when the visual encoding changes, the conclusion belongs to the encoding until independent evidence says otherwise.

Chapter Thirty Seven

Exporting a Comparison

Export preserves a run for inspection. A useful export should retain inputs, method and schema versions, baseline, null world, assumptions, limits, uncertainty, and failure state. Keep the exported file with the question that produced it and any later interpretation as separate records.

Do not edit an export and present it as an original run. If a transformation is needed, preserve the original, record the operation, and create a new derived identity.

Part V

Investigation and Experimental Development

Chapter Thirty Eight

Investigation Workbench

The workbench asks what the user wants to investigate, which starting lens to use, and what evidence is already available. It then generates a portable Markdown prompt. A prioritized question from the research queue can be loaded with its RP07 dependencies, expected work product, and evidence boundary.

The prompt requires ordinary explanations, apparatus effects, selection effects, aggregation, source ordering, measurement error, null tests, failures, and provenance. It directs an AI to begin with an Investigation Charter, ask one necessary question, and maintain an append only decision and evidence ledger.

Copying and opening ChatGPT is an explicit action. ChatGPT cannot automatically read the site's archive. Download and attach only the sources needed for the investigation, and preserve their identities.

Chapter Thirty Nine

Research Maturity Ladder

The workbench uses five levels.

Level	Work	Gate
Explore	A question or analogy	No physical claim.
Characterize	Terms detector frame and conditions	Observation remains separate from interpretation.
Reproduce	Method controls nulls and independent attempts	Repeatability before mechanism.
Intervene	Bounded prediction and preferably reversible test	Safety and ordinary explanations.
Integrate	Provenance conflicts review and document impacts	Future Recovery Point only.

Work can remain valuable at any level. A clear null at Reproduce can matter more than an unsupported statement at Integrate.

Chapter Forty

Development Queue

The Development Queue separates executable work from work blocked by environment, dependency, operating capacity, reviewers, or evidence. Rank never overrides a gate.

Read each item as a dependency record. The deliverable says what can be produced. Depends on lists prerequisites. Blocked by names the missing condition. Stage hooks identify the records that must be revisited. Propose evidence only when it addresses the declared dependency.

Chapter Forty One

Open Research Questions

The Research Questions page translates the RP07 development backlog into dependency ordered questions. Each item includes its reason, useful output, boundary, and a link that loads it into the workbench.

Choose work by consequence and readiness rather than novelty. Before beginning, check whether another question supplies a prerequisite. A useful contribution clarifies the question, preserves disagreement, tests ordinary explanations, records failure, and leaves a recoverable next action.

Chapter Forty Two

Experimental Claim Maturity

The Experimental Research Development page uses E0 through E8 labels to describe claim maturity. A label states what a record has earned and what it may not claim. It is metadata for discussion and planning, not execution authority.

At this edition, EXP01, EXP02, EXP03, and EXP03A are implemented. EXP04 is the next review target and remains blocked. The site has no live experimental claim packets. Physical execution, verified research roles, private preregistration, safety approval, laboratory registration, raw evidence custody, replication exchange, claim promotion, and utility trials remain behind named gates.

Chapter Forty Three

Experimental Claim Packet

The packet contract is a portable envelope for a question, ordinary mechanism, candidate relation, predictions, controls, safety, authorization evidence, run records, review, replication, claims, corrections, and provenance. It is a schema, not a collection of validated experiments.

A packet may document approval evidence supplied by named qualified authorities. The site itself does not authorize physical execution or certify competence, facilities, ethics, law, containment, or emergency readiness.

Chapter Forty Four

Intervention Sandbox

The Intervention Sandbox is design only. It organizes Characterize, Predict, Bound, Reverse, Review, and Stop gates before any physical action. It deliberately begins with the reasons not to proceed.

Stop when harm is poorly bounded, containment or reversal is absent, controls cannot distinguish the candidate relation, required competence or authority is missing, or results cannot be independently recorded and challenged. The page supplies no procedure and no execution authorization.

Chapter Forty Five

Cross Site Trials

The Cross Site Trials page defines readiness for protocol freeze, instrument diversity, site independence, blind exchange, failure symmetry, and independent review. The current number of active trials is zero.

Many sites do not automatically create independence. Record institutional, financial, personnel, data, and AI model overlap. Preserve each site's evidence envelope. Compare detectors and frames without averaging away noncomparability.

Chapter Forty Six

Replication Pathway

The mentored pathway progresses from Observe to Rehearse, Replicate, Review, and Mentor. Each stage has a required output and advance gate. It teaches method without teaching the answer.

The site does not claim a verified mentor network or match participants. Use the stages to prepare a protocol or independent record. Preserve deviations rather than correcting them after seeing the result.

Chapter Forty Seven

Replication Index

The index is designed for independent replications, negative results, failed replications, and noncomparable runs. It currently contains zero records.

Admission requires immutable contribution and parent protocol identifiers, a declaration of independence, method deviations, detector and frame, raw evidence references, result classification, and append only review history. Counts are not consensus.

Chapter Forty Eight

Utility Register

The Utility Register distinguishes Candidate, Single Site Demonstrated, Independently Replicated, Bounded Operational Utility, and Superseded. It currently contains zero utility claims.

Operational usefulness answers what a relation can reliably do within declared conditions and comparisons. It does not answer what fundamentally exists. Every entry must retain failure modes, harms, reversibility, safety review, confidence changes, and replacement history.

Chapter Forty Nine

Grants Resources

The Grants Resources page helps users match a falsifiable project to a current solicitation, eligible host, responsible team, administrative path, budget, and recoverable products. It does not promise that a listed opportunity is open or that an applicant is eligible.

The official notice controls. Recheck deadlines, organization type, appointments, citizenship or residency, registrations, contacts, cost rules, and required approvals. Fund the test, not a predetermined verdict. A generated drafting prompt is planning material, not a submission.

Part VI

Contribution and Collaboration

Chapter Fifty

Contribution Intake

The contribution page requires ChatGPT sign in so a submission can have stable account attribution and a private receipt. Public reading remains separate from sign in. The form accepts observations, replications, null results or failures, contradictions, methods, interpretations, and commons improvements.

Classify before writing. The class determines which details matter most. An observation should preserve conditions and detector limits. A replication should identify the parent method, independence, and deviations. A null result should state the expected signal and detection limit. A contradiction should identify claims that cannot both hold. A method should preserve versions, tolerances, and failure modes. An interpretation should remain separate from its source record. An improvement should name the present failure, dependency, acceptance check, and rollback path.

Chapter Fifty One

Preparing an Evidence Envelope

The form asks for contribution class, present path, title, domain, parent Recovery Point or packet, research question, plain language summary, observation record, method, result, nulls or contradictions, evidence references, and four risk characterizations. An ontology checkbox makes a fundamental existence claim explicit rather than implicit.

Before submission, the contributor must attest that observation and interpretation are separated, ordinary explanations and failed expectations are included, and unauthorized private data has been removed. These attestations do not validate the content. They define the minimum integrity boundary for intake.

Use persistent identifiers, hashes, dataset names, citations, or recovery packet IDs where possible. Do not paste confidential records, credentials, contact details, or material you do not have authority to share.

Chapter Fifty Two

Receipts and Draft Recovery

The contribution form preserves an unfinished draft in the current browser. After a successful submission, the local draft is removed. Local recovery is convenient but not a durable backup.

The receipt includes a contribution identifier, evidence hash, and status. Download it and preserve it beside the materials that produced the submission. The receipt says received and not yet integrated. It is not publication, validation, priority adjudication, endorsement, or Recovery Point inclusion.

Chapter Fifty Three

Significant Contributors

The Significant Contributor Registry is ready but presently empty. Recognition requires a stable evidence record, a bounded significance rationale, review appropriate to the claim, consent from every named person, an approved ordering basis, a correction and withdrawal path, and a dated search for relevant current grant opportunities.

Popularity, traffic, seniority, funding, agreement, or automated inference does not establish significance. AI assistance is credited by documented role and limitation. It does not become authorship of underlying sources or independent verification.

Chapter Fifty Four

Routed Feedback

The feedback page separates site defects, accessibility barriers, scientific contradictions, commons improvements, privacy or attribution concerns, and deprecation warnings. Each route opens the classified contribution path.

Use the narrowest class that describes the problem. A broken keyboard path is not a scientific contradiction. An evidence conflict is not a styling defect. A private data exposure should not wait in a general suggestion queue.

Chapter Fifty Five

Research Forum

The forum is a premoderated public adult research space. Anyone can read approved material. An adult signed in through ChatGPT may propose a structured topic, subtopic, or reply. Every new record is screened and remains private pending owner moderation.

Threads distinguish contribution type, question, body, evidence needed, scalar references, experimental stage, ordinary explanation, and divergence. Approved discussions have stable routes and portable public export. There are no likes, follower counts, or popularity sorting.

Discussion can coordinate work and expose disagreement. It cannot authorize a physical experiment, complete preregistration, approve a scientific claim, promote a Recovery Point, or turn an E0 through E8 label into evidence.

Chapter Fifty Six

Forum Sign In and Submission

Forum writing uses ChatGPT authentication. The email code screen belongs to ChatGPT; the forum does not receive or store that code. If sign in fails, use the newest code and the usual ChatGPT sign in method. A full browser with cookies and JavaScript available may be required.

The forum requires adult attestation for writing. Do not use it to submit student work or create unsupervised student participation. New threads and replies remain pending until moderation. Pending means private, not rejected and not public.

Submitted links pass through a central safety policy. Valid HTTPS text may enter a pending review state, but it remains inert and nonclickable until staged technical checks and review exist. Disguised schemes, credentials, shortened links, private destinations, executable schemes, and other unsafe forms are rejected.

Chapter Fifty Seven

Forum Profile and Following

The protected profile page lets a signed in participant choose a public name and bio, review following and mute preferences, inspect account scoped activity, and manage submitted profile links. The account email is not displayed in profiles, discussions, URLs, exports, search records, or public APIs.

Following is explicit. Viewing, posting, replying, reporting, or moderating does not create a follow. Email selection is separate from following, and saved email choices currently send nothing because outbound delivery remains staged. A child mute overrides a followed parent branch.

The My Forum Work page shows the participant's own pending, approved, quarantined, removed, and withdrawn records. This private queue preserves status and moderation notes without implying scientific acceptance or contribution significance.

Chapter Fifty Eight

Forum Moderation and Reports

Current moderation authority is server controlled and limited to the owner role. The moderator reviews pending and quarantined records, open reports, inert link records, and recent decisions. Approve, quarantine, remove, move, or disable actions require reasons that enter an append only history.

Moderation decides participation and publication state. It does not decide whether a scientific claim is true. A moderator can add protection or request correction. A moderator cannot activate a hard blocked or technically unverified destination.

Automated holds are temporary protective states until human review. Reports, rate limits, personal information screening, contact screening, and bounded abuse signals are active. Additional staffing, recusal, response targets, incident drills, independent appeals, and broader external review remain staged.

Chapter Fifty Nine

Forum Limits

The forum does not provide direct messages, uploads, contact exchange, likes, follower counts, unsupervised student posting, automatic introductions, private research groups, active email notification delivery, or scientific claim promotion. Submitted links remain nonclickable unless their separate future gates pass.

The operating readiness page distinguishes partial, staged, and blocked capabilities. Authentication, durable records, author withdrawal, reports, moderation history, and public export exist. Independent appeal is blocked. Privacy, legal, accessibility, backup expiry, archival handoff, staffing, and adversarial operating evidence remain incomplete.

Use the Forum Safety and Readiness page for the human readable boundary. Raw policy JSON is a technical reference, not the primary user experience.

Part VII

Governance Maintenance and Continuity

Chapter Sixty

Distributed Stewardship

The Stewardship page separates contributor, reviewer, steward, moderator, administrator, and appeal panel authority. A contributor owns the submitted envelope. A reviewer evaluates method and evidence. A steward recommends relation or propagation. A moderator enforces participation rules. An administrator maintains access and software. An appeal panel reviews process and reasoning independently.

No role silently absorbs another. Software access does not confer scientific authority. Scientific expertise does not grant moderation or administrative privilege. An appeal changes a decision record without erasing the original decision, evidence, dissent, or responsibility.

Chapter Sixty One

Model Exchange

The model exchange contract preserves an envelope, lineage, evidence, typed relations, append only history, content identity, compatibility results, lost meaning, and recovery path across AI systems and future tools.

Unknown fields must be preserved and unsupported meanings reported. A successful file conversion does not prove semantic preservation. Compare representative records across materially different systems and retain the prior schema until recovery is tested.

Chapter Sixty Two

Development Roadmap

The roadmap orders work by dependency and risk through Protect Continuity, Broaden Safe Participation, Strengthen Relational Evidence, Test Operational Usefulness, Scale Without Capture, and Build Bounded Public Instruments.

Each stage has a purpose, gate, dependency list, and development hook. A later idea may inspire present research, but it cannot claim later maturity before the enabling conditions exist. Implemented requires a clean prechange check, bounded change, clean postchange check, and recoverable release.

Chapter Sixty Three

Dependency Map

The Dependency Map is the accessible authoritative table for current capability relationships. Visual diagrams may reorganize the same information but may not hide a gate, conflict, or staged dependency.

Use it before proposing a feature or experimental stage. If the prerequisite is blocked by reviewers, authority, or evidence, a software change cannot complete it. A dependency can be technical, institutional, human, environmental, legal, or scientific.

Chapter Sixty Four

Maintenance Status

The Maintenance Status page inventories implemented safeguards and conditions that trigger future review. It covers routes, artifacts, verification controls, change impact, external dependencies, cadence, recoverability, forum controls, usability, student safety, experimental preparation, and continuity.

A green status means the declared checks passed for the current release. It does not guarantee that an external platform, link, standard, scientific assumption, or institution remains unchanged afterward. Read the limitation attached to the control.

Chapter Sixty Five

Change Register

The Change and Deprecation Register records what changed, what depends on it, how it was checked, and how obsolete behavior will be replaced. Corrections append a new record and reference the earlier decision.

This register describes website evolution. It does not revise the scientific evidence archive. Detect, Trace, Replace, Verify, and Retire form the deprecation path. No obsolete function should disappear without a successor or recovery path.

Chapter Sixty Six

Site Continuity

The unlisted Site Continuity page preserves prompts for future development. A prompt begins only when its dependencies and stage hook are satisfied. It is a continuation mechanism, not autonomous authority.

Continuity instructions protect evidence, attribution, governing intents, immutable Recovery Points, privacy, and the separation between usefulness and ontology. They also name actions the software must not take, such as appointing reviewers, approving external destinations, enabling student interaction, or opening higher risk research capabilities from automated output alone.

Chapter Sixty Seven

Machine Readable Records

Public JSON files support portability, checking, and precise comparison. They include scalar, evidence relation, replication, utility, experiment, forum, safety, maintenance, route, artifact, change impact, external dependency, usability, and contributor records.

Read a machine file with its human page when one exists. A schema shows permitted structure. A fixture shows whether software accepts or rejects a synthetic case. A registry shows current entries. A policy declares rules. An evidence file records a bounded observation. Those classes should not be collapsed.

Chapter Sixty Eight

Automated Checks and Their Limits

The release process checks routes, links, forum runtime, introductions, user journeys, student safety fixtures, significant contributor fixtures, claim packets, enlargement evidence, platform compatibility, feature interconnections, maintenance hooks, artifact and route lifecycle, verification ordering, change impact, external dependencies, maintenance cadence, recoverability, network observations, and human review readiness.

These checks can show that a file exists, a schema is consistent, an unsafe synthetic input is rejected, a route is registered, a control is wired, or a build succeeds. They cannot supply named human review, scientific judgment, legal advice, ethics approval, safeguarding capacity, institutional authority, or empirical replication.

Passing software fixtures is evidence about the software within the tested scope. It is not evidence that Substrate Cosmology is physically true.

Chapter Sixty Nine

External Links and Current Authority

External destinations change independently of the site. Network reachability only records that a destination responded under a dated observation and transport condition. It does not approve the destination, verify its policy, establish current funding, or confirm that it is appropriate for every audience.

The site maintains a privacy safe external dependency inventory, dated observations, a reviewer worklist, and fail closed validation fixtures. Named source authority, privacy, safeguarding, and funding currency review remain distinct human tasks. Recheck the official destination before relying on it.

Chapter Seventy

Recovery and Obsolescence

Recoverability means a registered source can be reconstructed in a clean nonproduction environment, its dependencies installed under the declared lock, its checks run, its build produced, and its package inspected. It does not prove recovery of production data, credentials, providers, or every external dependency.

Preserve source identity, versions, manifests, migration paths, limitations, and prior failures. When a framework, host, authentication rule, storage system, format, or scientific assumption changes, trigger the registered review rather than silently adapting the record.

Part VIII

Complete Working Scenarios

Chapter Seventy One

A Curious Visitor

Start on the homepage. Open one question rather than reading the entire corpus. Compare the mainstream account with the provisional Substrate Cosmology framing. Open the glossary when a term seems to carry more than one meaning.

If the question remains interesting, use First Investigation. Write the ordinary baseline and a null world. Stop when the difference cannot yet be observed. No sign in or submission is required.

Chapter Seventy Two

A Student or Learner

Open the Student Workspace and choose a practice activity. Separate observation from conclusion, compare what two tools detect, or preserve a null result. Use a trusted adult for safety, accounts, communication, purchases, transport, and opportunity applications.

Do not attempt to submit student work or contact a participant privately. The student interaction gate is closed. Use the public educational material and the safety page.

Chapter Seventy Three

A Working Researcher

Open role sensitive onboarding and choose Working Researcher. Search the evidence page, bibliography, scalar registry, evidence graph, replication index, and question queue before starting duplicate work.

Use the workbench to create an Investigation Charter. Preserve the conventional mechanism, detector, calibration, frame, source ordering, null world, disconfirming result, hazards, and provenance. Submit only when the record can be inspected without relying on your interpretation.

Chapter Seventy Four

A Replicator

Begin with the parent protocol and the Replication Pathway. Rehearse the method and record ambiguities before execution. Declare institutional, personnel, data, funding, apparatus, and AI overlap that could weaken independence.

Preserve raw observations, timestamps, settings, deviations, nulls, failures, and noncomparability. A failure to reproduce is not a personal dispute. It is a typed relation requiring conditions and evidence.

Chapter Seventy Five

A Reviewer

Confirm the review assignment and its scope. Inspect the source envelope, method, ordinary explanation, null world, detector and frame, hazards, privacy boundary, conflicts, and prior review history. State what you did not review.

Do not use software status as a substitute for domain judgment. Do not approve outside your authority. Preserve dissent and give reasons that another reviewer can inspect.

Chapter Seventy Six

A Research Steward

Open the dashboard, dependency map, roadmap, evidence graph, change register, and continuity surface. Trace parent and dependent records before recommending integration, qualification, conflict, rejection, or propagation.

Check separation of duties. A moderator action is not a scientific decision. An administrator action is not authorship. A useful simulation is not ontology. A future Recovery Point is the only route by which reviewed work can change the current canonical package.

Chapter Seventy Seven

A Forum Participant

Read approved discussions without signing in. To write, sign in with ChatGPT, attest adult participation, choose a contribution type, supply the requested research fields, remove personal contact, and submit. Expect the record to remain private while pending.

Use My Forum Work to inspect status. Follow only by explicit choice. Remember that selected email preferences currently send nothing and submitted links remain inert. Report problems through the forum controls. Do not treat approval for publication as scientific acceptance.

Chapter Seventy Eight

A Maintainer

Begin with current Site identity, source revision, status, roadmap, maintenance registry, route and artifact lifecycles, change impact, and verification order. Run the complete registered check before a bounded change and again afterward.

Update every affected human and machine readable surface in the same release. Preserve the current audience, authentication boundary, storage schema, privacy rules, blocked capabilities, recovery path, and change record. Do not let automated success satisfy a named human gate.

Chapter Seventy Nine

Troubleshooting

When a page seems inconsistent, first determine whether the issue is availability, stale status, access, storage, interpretation, or evidence. The public status and dashboard answer availability and current stage. The roadmap and dependency map answer readiness. The change register answers recent behavior. The maintenance page answers implementation boundaries.

If search finds no result, use a broader term or the task navigation. If a local draft disappears, remember that browser storage is not a backup. If sign in does not complete, use a full browser, the newest code, and the normal ChatGPT sign in path. If a contribution is received but not visible, consult the receipt and remember that receipt does not imply publication.

Report a broken route, accessibility barrier, evidence conflict, privacy concern, or obsolete dependency through its classified feedback route. Include the page, date, action, expected result, observed result, device or browser when relevant, and any privacy safe reproduction steps.

Conclusion

The website succeeds when it helps a person do careful work without making the work look more mature than it is. Its pages reopen questions that familiar words and scientific units can close. Its registries preserve gaps rather than filling them with confidence. Its workflows allow curiosity while keeping evidence, authority, and integration separate.

The deepest operating rule is the same as the conceptual rule of Substrate Cosmology. We live within the environment we study. Our interfaces are physical participants in observation. Their limitations shape what we can represent, but they do not define everything physics can be. The responsible response is neither premature certainty nor permanent hesitation. It is recoverable inquiry with explicit boundaries.

Appendix A

Route Directory

Route	Purpose	Current boundary
/	Homepage and entry paths	Orientation is not evidence.
/start	Guided first investigation	Produces a starting path not a result.
/search	Principal route finding aid	Does not index every archive or forum text.
/glossary	Working definitions and aliases	Definitions are operational and revisable.
/resources	Recovery Points and research packages	RP07 is current immutable parent.
/status	Public availability and limits	Dated release observation.
/dashboard	Current maturity and work summary	Summary does not replace detailed gates.
/investigate/onboarding	Role sensitive starting paths	Role choice does not grant privilege.
/investigate/questions	Guided comparison questions	Inquiry is not evidence.
/investigate	Prompt and charter workbench	Workspace stays independent until submission.
/investigate/research-questions	RP07 development question queue	Priority follows dependency.
/investigate/development-queue	Executable and blocked work	Missing human gates cannot be bypassed.
/investigate/experimentation-roadmap	Experimental maturity and packet path	EXP04 and later stages remain gated.
/investigate/student-workspace	No account learning practice	Adults retain responsibility.
/investigate/student-safety	Minor interaction boundary	Student input and communication are disabled.
/investigate/replication	Staged replication method	No verified mentor network is claimed.
/investigate/replication-index	Replication and negative results	Current records zero.
/investigate/intervention-sandbox	Design only safety and stop gates	No execution authorization.

Route	Purpose	Current boundary
/investigate/cross-site-trials	Multi instrument readiness	Current active trials zero.
/investigate/utility-register	Bounded operational usefulness	Current claims zero.
/investigate/model-exchange	Portable record contract	Conversion is not semantic proof.
/investigate/stewardship	Roles decisions dissent and appeals	Authority remains separated.
/investigate/long-duration	Distant knowledge and life horizon	Horizon research not demonstrated technology.
/investigate/grants	Funding readiness and prompt builder	Official notice controls.
/model	Shared model and relation explorer	Visual relations do not prove causation.
/model/registry	Stable scalar identifiers and hooks	Registry entry is not ontology.
/model/evidence-graph	Typed evidence relations	Current graph empty.
/simulate	Deterministic bounded comparison	One model and no physical proof.
/contribute	Authenticated evidence intake	Receipt is not integration.
/contributors	Significant contribution recognition	Current public entries zero.
/feedback	Classified issue routing	Use the correct review path.
/investigate/forum-threads	Public reading and adult submissions	Every write is premoderated.
/investigate/forum-my-work	Private participant queue	Account scoped status not scientific standing.
/investigate/forum-profile	Profile following and activity controls	Email private and delivery staged.
/investigate/forum-readiness	Human readable forum boundaries	Expansion remains dependency gated.
/investigate/forum-operations	Operating evidence status	Independent appeal remains blocked.
/investigate/forum-moderation	Owner moderation surface	Moderation is not scientific review.
/investigate/development-roadmap	Dependency ordered program	Later stages cannot skip gates.
/investigate/dependency-map	Accessible capability dependencies	Table is authoritative representation.
/investigate/maintenance-status	Implemented safeguards and watch list	Green means declared checks passed.

Route	Purpose	Current boundary
/investigate/change-register	Website release and deprecation history	Does not rewrite scientific evidence.
/investigate/usability-evidence	Privacy minimizing task completion evidence	Representative review remains staged.
/site-continuity	Unlisted continuation prompts	Prompts are not autonomous authority.

Appendix B

Status Vocabulary

Status	Safe reading	Unsafe inference
Exploratory	A question or model is available for disciplined inquiry.	The relation exists physically.
Reference	Definitions records or archives can be inspected.	Every item has been independently verified.
Guided	The interface structures a user task.	The task outcome is approved.
Governed	Dependencies and authority boundaries are declared.	Governance is complete or independent.
Available	The capability can presently be reached.	It is scientifically mature.
Implemented	The declared software or record foundation exists.	External review or empirical evidence exists.
Active	A bounded process presently operates.	Every related capability is open.
Partial	Some declared controls exist and others remain incomplete.	The missing controls are optional.
Staged	The future workflow is defined but not operating.	It can be used informally.
Blocked	A named dependency prevents advancement.	The block is a defect to bypass.
Empty	No qualifying records are admitted.	The page is broken or evidence is implied.
Received	A record was preserved for review.	It was accepted validated or integrated.
Approved for publication	A moderator permitted public visibility.	A scientific reviewer validated the claim.
Verified computationally	A bounded reconstruction or software result passed declared checks.	A physical ontology was proven.
Independently replicated	A sufficiently independent repetition met declared comparison criteria.	A mechanism or ontology is settled.

Status	Safe reading	Unsafe inference
Superseded	A later record or capability replaced the item.	The historical item may be erased.

Appendix C

Evidence Promotion Matrix

From	Required addition	To	Still does not establish
Question	Terms ordinary explanation null world	Characterized inquiry	Observation or effect.
Observation	Detector frame conditions provenance	Evidence envelope	Mechanism or causality.
Single run	Frozen method controls raw record	Reproducible candidate	Independent replication.
Candidate	Independent site or instrument comparison	Replication record	Fundamental ontology.
Replicated effect	Safety bounds conventional comparator failure modes	Utility candidate	General deployment.
Utility candidate	Repeated bounded benefit harms and operating limits	Bounded utility	Ultimate explanation.
Reviewed records	Conflicts impacts authority and Recovery Point process	Integration proposal	Automatic canonical change.

Appendix D

Contribution Preparation Worksheet

Before opening the form, write the following.

1. Contribution class and present role.
2. Title, domain, and parent record.
3. Precise question.
4. Ordinary mechanism or established baseline.
5. Candidate distinguishing relation stated provisionally.
6. Conditions, instruments, detector principles, calibration, resolution, and frame.
7. Controllable input and measured output.
8. Method, versions, tolerances, and deviations.
9. Null world and disconfirming result.
10. Failures, contradictions, residuals, and noncomparability.
11. Conservation or resource budget.
12. Hazards, privacy, dual use, competence, authority, reversibility, and stop rule.
13. Evidence references, identifiers, hashes, and licenses.
14. Interpretation separated from observation.
15. Limits and smallest permitted next action.

Appendix E

Role and Authority Matrix

Role	May	May not by role alone
Reader	Read download compare and question	Change records or infer validation.
Contributor	Submit and correct through appended versions	Integrate a record or moderate others.
Forum participant	Submit adult premoderated discussion	Publish immediately contact privately or promote claims.
Reviewer	Evaluate assigned method evidence and limits	Control integration administration or moderation unless separately assigned.
Steward	Recommend relations branches and propagation	Rewrite source evidence or conceal dissent.
Moderator	Approve quarantine move remove and document participation decisions	Decide scientific truth or bypass safety blocks.
Administrator	Maintain software access storage and release integrity	Alter evidence attribution or scientific decisions.
Appeal panel	Review process and reasoning independently	Erase original decisions or evidence history.
AI system	Compare draft classify propose and check within scope	Supply human authority testimony or independent empirical confirmation.

Appendix F

Forum Safety Checklist

- Use adult participation only.
- Remove personal contact, credentials, precise locations, private schedules, and unauthorized records.
- Do not use direct messaging, offsite contact invitations, uploads, or hidden groups.
- Treat every new submission as private while pending.
- Keep discussion class, ordinary explanation, evidence need, and divergence explicit.
- Treat E0 through E8 as metadata only.
- Expect submitted links to remain inert.
- Use reports for safety or policy concerns.
- Use My Forum Work for status and withdrawal.
- Separate moderation approval from scientific review.
- Do not assume an email preference sends a message.
- Stop if operating capacity or safety controls fail.

Appendix G

Recovery and Continuity Checklist

- Confirm the current project and source identity.
- Preserve the immutable Recovery Point parent.
- Record the exact change and affected dependency domains.
- Run the registered prechange controls.
- Keep the change bounded and reversible.
- Update human and machine readable surfaces together.
- Preserve privacy access storage and authority boundaries.
- Record limitations and blocked external gates.
- Run the complete postchange controls and production build.
- Preserve a recoverable source revision and release package.
- Append a public change record.
- Recheck current audience and deployment state.
- Never use automation to satisfy named scientific legal ethical safety safeguarding or review authority.

Appendix H

Troubleshooting Index

Symptom	First check	Likely boundary
A link or page does not open	Public status and route path	Availability or changed dependency.
Search misses a document	Resources and broader search term	Search is not full archive indexing.
Plain and Technical choice resets	Browser storage permissions	Preference is device local.
Inspiration or form draft disappeared	Browser storage and device history	Local storage is not backup.
ChatGPT sign in returns without a session	Newest code full browser cookies JavaScript blockers	Authentication belongs to ChatGPT.
Forum record is not public	My Forum Work status	Pending prepublication moderation.
Submitted link is not clickable	Forum readiness and link state	Link activation remains staged.
Email selection produced no message	Forum profile notification boundary	Delivery service is staged.
Contribution has a receipt but no model change	Receipt and dashboard	Received is not integrated.
Registry shows zero records	Page admission gate	Honest empty state.
Automated checks are green but review is blocked	Dependency map and readiness page	Software cannot supply human authority.
A current page differs from this book	Change register and dated status	The website has evolved since this edition.

Appendix I

Glossary

Actual Physics. The physical relational condition that exists independently of any particular representation.

Admission gate. Requirements a record must satisfy before entering a registry or later maturity class.

Append only. A history in which correction adds a new record rather than erasing the earlier one.

Blocked. Prevented from advancement by a named unsatisfied dependency.

Bounded. Limited by declared scope, inputs, outputs, authority, risk, time, and failure conditions.

Conservative extension. A richer representation that recovers the validated results of an established theory in its successful domain.

Contribution envelope. A preserved submission containing evidence, method, interpretation, lineage, limits, and classification.

Detector. A physical selection surface whose materials, coupling, thresholds, resolution, and readout shape the observation.

Dimensional bleed. Unresolved relational contribution that the current variables or detector do not separate.

Evidence graph. Typed relations among immutable evidence envelopes that preserve support, conflict, qualification, failure, noncomparability, and alternatives.

Fixture. A synthetic accepted or rejected case used to test a software rule.

Frame. A bounded system of variables, operators, conventions, and permitted comparisons.

Integration. Reviewed propagation of a record into the shared structure through a future Recovery Point process.

Null world. A comparison world in which the candidate relation is absent or unnecessary while ordinary mechanisms remain.

Operational utility. Demonstrated usefulness within stated conditions and comparisons, separate from ontology.

Premoderation. A publication rule under which a submission remains private until a moderator makes a reasoned decision.

Provenance. The lineage of a record from sources through transformations, people, systems, versions, and decisions.

Recovery Packet. A continuation record containing parent identity, intents, methods, evidence, findings, failures, limits, and next permitted action.

Recovery Point. An immutable historical package from which research can be inspected and resumed.

Registry. A structured inventory of records or relations with stable identities and admission rules.

Scalar. In this program, an operational central tendency over unresolved relations rather than an automatically complete property.

Schema. A declaration of fields and structural requirements, not evidence that qualifying records exist.

Staged. Defined for future operation but not currently active.

Steward. A role that traces lineage, dependencies, conflicts, and propagation while preserving separation of authority.

Substrate Cosmology. A developing relational research framework concerned with the difference between Actual Physics and the state based representations available within it.

Appendix J

Sources References and Collaboration Record

Primary Project Sources

Dunn, James. *Substrate Cosmology Volume One Introduction to Relational Physics and the Limits of Representation*. 2026.

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Dunn, James. “Underpinnings of Relativity.” Genesis3.org. April 2023 to present. <https://genesis3.org/>.

Substrate Cosmology Research Commons. Current public website and machine readable registries, reviewed 19 September 2026. <https://substrate-cosmology.james-dunn866549.chatgpt.site/>.

Substrate Cosmology Recovery Point 07. *RP0 String Compatible Recurrence Labyrinth v07*. Immutable research package, 2026.

Website Records Used for This Edition

The manual was checked against the homepage; task navigation; First Investigation; Search; Glossary; Recovery Archive; Public Status; Commons Dashboard; role sensitive onboarding; Question Guide; Investigation Workbench; Student Workspace and Student Safety; Shared Model; Scalar Registry; Evidence Graph; Bounded Simulator; Development Queue; Research Questions; Experimentation Roadmap; Intervention Sandbox; Cross Site Trials; Replication Pathway and Index; Utility Register; Grants Resources; Contribution Intake; Significant Contributors; Research Forum; Forum Profile; My Forum Work; Forum Safety and Readiness; Forum Operating Readiness; Forum Moderation; Development Roadmap; Dependency

Map; Maintenance Status; Change Register; Usability Evidence; Site Continuity; and the related public JSON contracts, registries, fixtures, and evidence records.

Selected External Foundations

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Einstein, Albert. “On the Electrodynamics of Moving Bodies.” *Annalen der Physik* 17, 1905, 891 to 921. <https://doi.org/10.1002/andp.19053221004>.

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Landauer, Rolf. “Irreversibility and Heat Generation in the Computing Process.” *IBM Journal of Research and Development* 5, 1961, 183 to 191. <https://doi.org/10.1147/rd.53.0183>.

Shannon, Claude E. “A Mathematical Theory of Communication.” *Bell System Technical Journal* 27, 1948, 379 to 423 and 623 to 656. <https://doi.org/10.1002/j.1538-7305.1948.tb01338.x>.

Wilson, Kenneth G. “The Renormalization Group Critical Phenomena and the Kondo Problem.” *Reviews of Modern Physics* 47, 1975, 773 to 840. <https://doi.org/10.1103/RevModPhys.47.773>.

Zurek, Wojciech H. “Decoherence Einselection and the Quantum Origins of the Classical.” *Reviews of Modern Physics* 75, 2003, 715 to 775. <https://doi.org/10.1103/RevModPhys.75.715>.

AI Collaboration Record

OpenAI ChatGPT (Codex), September 2026. Roles: source comparison, website state audit, route and status reconciliation, structure, drafting, editing, table preparation, citation preparation, document production, quality review, and website integration under James Dunn’s direction. Limitations: the system is not an independent empirical observer, scientific authority, legal reviewer, ethics body, safeguarding authority, or author of the sources it cites.

Microsoft Copilot and Google Gemini. Earlier assistance as recorded in the project corpus. Their specific contributions should be cited from the Recovery Point or manuscript in which they appear.

Citation Principle

Cite the human or institutional author of an underlying source for that source. Cite James Dunn for the originating Substrate Cosmology concepts and program direction. Cite the identified AI system for its documented synthesis, drafting, implementation, or production role. Do not use AI credit as evidence that a scientific claim was independently verified.