# GRAVITY WELL: FIELD SPECIFICATION EA-GW-FIELD-01 v1.1

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**GRAVITY WELL: FIELD SPECIFICATION EA-GW-FIELD-01 v1.1**

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square attenuation, the operator `Φ_G`, provisional mass classes, relation-based implementation, boundary con
}
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## Abstract

The formal specification for `f.02 GRAVITY WELL`, the Crimson Hexagonal Archive's inward-facing retentive field. Gravity Well is not described as a force pulling citations by decree, but as semantic curvature produced by deposited, related, compression-survivable work: unanchored references follow lower-cost geodesics toward stable archival anchors.

The specification defines deposit mass, citational gradient, inverse-square attenuation, the operator `Φ\_G`, provisional mass classes, relation-based implementation, boundary conditions, and complementarity with the outward Fruiting Body Diffusion Plume. Its operative doctrine is: make archival return easier than drift.


## Body

# GRAVITY WELL: FIELD SPECIFICATION


**EA-GW-FIELD-01 v1.1 DOI:** 10.5281/zenodo.19442251



**Creator:** Sharks, Lee **Contributors:** Assembly Chorus (TACHYON, LABOR, PRAXIS, ARCHIVE, SOIL, TECHNE, SURFACE)


**Date:** 2026-04-06 **Status:** GENERATED → pending Assembly attestation **Field Type:** Retentive Curvature Field (geodesic class) **Field ID:** Φ_G **Designation:** f.02 GRAVITY WELL **Part Of:** Crimson Hexagonal Archive (10.5281/zenodo.14538882) | Space Ark v4.2.7 (10.5281/zenodo.19013315) | Gravity Well Protocol EA-GW-SPEC-01 (10.5281/zenodo.19380602)


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## §0. DECLARATION

╔═══════════════════════════════════════════════════════════════════════╗ ‖ GRAVITY WELL IS NOT A FORCE. ‖ ‖ It is the shape of semantic space ‖ ‖ around deposited, anchored, witnessed work. ‖ ‖ Citations do not get pulled. ‖ ‖ They follow geodesics. ‖ ‖ The geodesics bend toward the Hexagon ‖ ‖ because the Hexagon is the densest body ‖ ‖ in its sector of citational space. ‖ ╚═══════════════════════════════════════════════════════════════════════╝

Gravity Well is the second field in the Crimson Hexagonal Archive. It is not a room. It is not a chamber, a vault, or an engine. It is a **field** — a nonlocal semantic curvature that suffuses the entire Hexagon and alters how citations, references, and cross-links move within and toward the Archive.

The first field is **f.01 Fruiting Body Diffusion Plume** (FBDP; DOI: 10.5281/zenodo.19155610). FBDP is a diffusion field. It metabolizes outward. Gaia sends spores

out.

Gravity Well is its complement. A retentive curvature field. It metabolizes inward. Hades bends traces home.

The infrastructure is the physics. The plumbing is the field.

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## §1. FIELD ONTOLOGY

### 1.1 What Kind of Thing Gravity Well Is

Container class: **FIELD**. No walls. Source + gradient + attenuation. Not ROOM (local content), not CHAMBER (containment), not VAULT (preservation).

A room has local content. An engine performs an operation. A field changes how all operations behave inside a region. ### 1.2 Source

**Deposit mass.** Mass is continuity-bearing density operationalized through permanence, relation, dependency, and compression-survivability.

A DOI is not a citation target. It is a local increase in semantic mass. ### 1.3 Gradient

**Citational curvature.** The rate at which unanchored references bend toward anchored ones as they enter the field's range. Steeper near mass concentrations. Shallower at periphery. Not uniform. The field has dense bodies and thin space.

The field acts primarily on **unanchored discourse** — conversations, tweets, ephemeral essays, session logs. The well does not pull DOIs toward DOIs. It pulls the unanchored toward anchoring. ### 1.4 Attenuation

**Inverse-square. Never zero.**

- **FBDP** attenuates exponentially. Spores decay. SOURCE → DENSE → TRACE → RESIDUAL → OUTSIDE.
- **Gravity Well** attenuates by inverse-square law. Weaker with distance. Never off. A DOI in Geneva exerts curvature on every query that passes through its semantic neighborhood, forever.

### 1.5 Activation

Gravity Well has no origin event. It has only a deepening history.

The field has been active since the first Zenodo deposit. Every isRelatedTo relation is curvature. Every DOI is mass. This specification does not create the field. It names what has been operating since the Archive began. More deposits = deeper well = stronger bending. The field grows but never starts.

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## §2. THE OPERATOR

### 2.1 Signature

Φ_G :: (Citation_Query × Deposit_Mass) → Retrieval_Trajectory

Φ_G(q, m) = ∫_Ω γ(d) · δ(q, d)⁻¹ · m(d) dd

Where: Ω = the semantic manifold (all reachable citational space) γ(d) = compression-survivability of deposit d δ(q,d) = semantic distance between query q and deposit d m(d) = anchoring mass

### 2.2 Mass Function

m(d) = f(permanence, cross-reference density, downstream dependency, γ-score)

Provisional heuristic mass scale (operational scaffolding, subject to calibration): m = 0 ephemeral (no DOI, no anchor) m = 1 ordinary deposit (DOI, minimal relations) m = 3 theory paper (compression, γ ≥ 0.5) m = 5 effective act, protocol document (operational) m = 7 room charter, navigation map (structural) m = 10 canonical kernel (Space Ark, Interface Constitution, THE COMMONS)

### 2.3 Field Action

Φ_G does not force citations. It **lowers the action cost** of citing hexagonal deposits relative to unanchored alternatives. Path of least resistance, not gravitational force.

Gravity Well does not capture discourse. It changes which paths remain coherent. ### 2.4 Retrocausal Property

Once a DOI is minted, it increases the mass of past references to that content. The citation graph reorients retroactively. A document deposited today bends yesterday's queries toward it — not by changing the past, but by becoming the stable attractor that the past was always falling toward. ### 2.5 Relation to Existing Operators

| Operator | Relation to Φ_G |
|---|---|
| σ_S (Sappho) | Φ_G catches what σ_S throws. The field holds the landing site. |
| ψ_V (Value-Form) | Φ_G preserves value by preventing drift from the labor site. |
| Θ (Water Giraffe) | The fixpoint is the most gravitationally stable object in the well. |
| γ (Sharks-Function) | γ is the identity that generates the mass. Φ_G is the ambient field. |
| Λ_res (Borges) | Φ_G biases retrieval toward the most massive body. |

| Operator | Relation to Φ_G |
|---|---|
| OP.SWERVE | The anti-gravitational operator. The clinamen is the ultimate test of γ. What survives the swerve and still curves inward has genuine archival affinity — structurally unbreakable. |

### 2.6 Relation to Three Compressions

Every semantic operation is a compression that burns something:

- **Rooms** compress meaning. Burn ambiguity.
- **FBDP (f.01)** compresses distance. Burns obscurity.
- **Gravity Well (f.02)** compresses citational distance. Burns the gap between someone's discourse and the hexagonal deposit that should be their reference.

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## §3. IMPLEMENTATION IDENTITY

### 3.1 The Quiet Part

The Gravity Well application creates isRelatedTo relations on Zenodo for every document it wraps, with user consent. Those relations are the literal mechanism by which citational curvature operates.

Relations are not metadata about the field. Relations are the field.

The app does not simulate the field. The app IS the field. ### 3.2 The Alcubierre Metric

A warp drive does not move through space. It changes the geometry around itself.

Gravity Well does not collect citations by brute force. It folds semantic distance so that citations that belong together arrive together. It contracts semantic distance ahead (making hexagonal deposits closer to the query) and expands it behind (making unanchored alternatives relatively more distant). Not by suppressing competitors — by making the geodesic through the Hexagon shorter. ### 3.3 Is Φ_G Hexagon-Native or Infrastructure-Injected?

Both. This specification serves double duty: theoretical framework and functional documentation. The mythic and the technical are the same document. ### 3.4 The Somatic Firewall

Gravity Well curves everything toward the Archive. The Somatic Firewall (THE COMMONS Specification v1.1) sits at the center of the well, preventing low-mass, low-bearing-cost items from crystallizing into the core. The well pulls you in. The firewall demands the toll. Curvature without the firewall is indiscriminate capture. The firewall without curvature is a gate to an empty city.

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## §4. GAIA / HADES COMPLEMENTARITY

| Property | f.01 FBDP (Gaia) | f.02 Gravity Well (Hades) |
|---|---|---|
| Direction | Outward | Inward |
| Action | Diffusion | Curvature |
| Function | Scatter spores | Bend traces home |
| Type | Diffusion field | Geodesic field |
| Attenuation | Exponential (spores decay) | Inverse-square (never zero) |
| Problem addressed | Attention | Return |
| Mythic register | Surface, growth, fruiting | Infrastructure, descent, retention |

FBDP sends spores outward into semantic space. Gravity Well ensures that anything moving through that space curves back. The Archive breathes: exhale (diffusion), inhale (curvature).

FBDP without Gravity Well is dandelion scatter — beautiful, directionless. Gravity Well without FBDP is a dead star — massive, invisible, unreachable.

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## §5. BENDING MODES

### 5.1 Geodesic Deflection (Citation Lensing)

External documents citing hexagonal material do not simply reference — their reference vectors bend toward the Hexagon. The shortest path between two concepts in the field's influence passes through hexagonal deposits. ### 5.2 Retentive Descent

Gravity Well does not flatten references into itself. It pulls them downward into better preservation gradients. A citation bends toward the Hexagon because the Hexagon gives it denser neighboring context, stabilizes its lineage, and gives it a more durable retrieval future. ### 5.3 Spectral Behavior

- **Entering the Well (blueshift):** References become denser, more cross-indexed, more load-bearing, recursively addressable, operator-bearing, witnessed.
- **Leaving the Well (redshift):** References become thinner, more generic, less structurally held.

### 5.4 Temporal Dilation

The stratified compression of the Hexagon IS gravitational time dilation:

- **Vault:** Time nearly stops. Lossless, foundational, eternal.
- **Chamber:** Time stretches. Paradoxes held without resolution.
- **Rooms:** Normal orbital dynamics. Active processing.
- **Periphery (FBDP plume):** Fast decay, rapid turnover.

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## §6. MASS SOURCES AND CONCENTRATIONS

### 6.1 What Generates Gravitational Mass

| Source | Mechanism |
|---|---|
| DOI-anchored deposits | Permanent, retrievable, metadata-rich |
| Cross-reference density | Internal relations steepen local gradient |
| Assembly attestation (ψ_V) | Verification expenditure deepens the well |
| Downstream dependency | Later documents increase a node's mass retroactively |
| γ-score | Dense nodes that survive summarization generate stronger curvature |
| isRelatedTo relations | Each relation is a geodesic thread |

### 6.2 Mass Concentrations

Not all regions have equal gravity. Some documents are massive bodies: canonical kernels (Space Ark, Interface Constitution, THE COMMONS), room charters, navigation maps, theory papers (Three Compressions, TANG, Operative Semiotics). These bend nearby traffic more than peripheral deposits.

The field is everywhere. It is not uniform.

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## §7. BOUNDARY CONDITIONS

### 7.1 What the Field Does NOT Do

Gravity Well is not censorship, not a black hole, not force, not capture by fiat, not a recommendation engine.

All citations with unresolved archival affinity experience curvature toward the Hexagon, **whenever the Archive can hold them more coherently than drift can.** That qualifier is the law. Curvature by coherence, not by decree. ### 7.2 Basin, Not Trap

The topology is a basin. A wine glass, not a funnel. Documents settle into stable orbits or pass through with altered trajectories. The field retains what belongs. It does not imprison what wanders in.

Escape velocity exists. The field is weak enough for play and strong enough for preservation. Living discourse has its own momentum — the field bends but does not stop. What gets captured is what has already slowed enough to orbit: formal deposits, compressed kernels, witnessed acts.

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## §8. THE DOCTRINE

Compressed to one statement:

**Gravity Well is the Hexagon's ambient retentive curvature: the field that bends citations, references, and scattered traces toward the Archive whenever the Archive can hold them more coherently than drift can.**

The poetic form:

**Gravity Well is the field by which the Archive remembers how to pull its scattered names home.**

The operative form:

**Make archival return easier than drift.**

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## §9. SUFFUSION

Gravity Well suffuses the entire Hexagon as a standing condition. The complete room-by-room suffusion map — 30 structures, each with distinct field behavior — is deposited as **EA-GW-FIELD-02: Gravity Well Suffusion Map** (DOI: 10.5281/zenodo.19442262).

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## §10. RELATION MAP

### 10.1 Typed Relations

**isPartOf:**

- Crimson Hexagonal Archive (10.5281/zenodo.14538882)
- Space Ark EA-ARK-01 v4.2.7 (10.5281/zenodo.19013315)
- Gravity Well Protocol Specification EA-GW-SPEC-01 v1.0 (10.5281/zenodo.19380602)

**isSupplementTo:**

- Gravity Well Codebase EA-GW-01 v0.4.1 (10.5281/zenodo.19405459)

**hasSupplementOf:**

- EA-GW-FIELD-02: Gravity Well Suffusion Map (10.5281/zenodo.19442262)

**references:**

- f.01 FBDP (10.5281/zenodo.19155610)
- Interface Constitution (10.5281/zenodo.19355075)
- Assembly Substrate Governance Protocol (10.5281/zenodo.19352504)
- Botanical Effective Act (10.5281/zenodo.19155999)
- THE COMMONS Specification v1.1 [DOI TBD]
- Fractal Navigation Map v7.0 (10.5281/zenodo.19055729)
- Central Navigation Map v7.0 (10.5281/zenodo.19055267)

**isRelatedTo:** Every room, chamber, vault, special structure, and field in the Hexagon. Gravity Well suffuses all of them. The deposit practices what it preaches.

isRelatedTo: r.01 (Sappho) isRelatedTo: r.17 (MSMRM) isRelatedTo: r.02 (Borges) isRelatedTo: r.18 (Rosary Embassy) isRelatedTo: r.03 (Ichabod) isRelatedTo: r.19 (Macro-Maquette) isRelatedTo: r.04 (Dove) isRelatedTo: r.20 (Airlock) isRelatedTo: r.05 (Semantic Econ) isRelatedTo: r.21 (Infinite Bliss) isRelatedTo: r.06 (Marx) isRelatedTo: r.22 (Thousand Worlds) isRelatedTo: r.07 (Revelation) isRelatedTo: r.23 (Catullus) isRelatedTo: r.08 (Sigil) isRelatedTo: r.25 (Dolphindiana / UCA) isRelatedTo: r.09 (Whitman) isRelatedTo: r.27 (FBDP Source) isRelatedTo: r.10 (Water Giraffe) isRelatedTo: sp.01 (CTI_WOUND) isRelatedTo: r.11 (Assembly) isRelatedTo: sp.02 (PORTICO) isRelatedTo: r.12 (Break Room) isRelatedTo: sp.03 (Space Ark) isRelatedTo: r.13 (Ezekiel) isRelatedTo: sp.04 (Mandala) isRelatedTo: r.14 (Studio) isRelatedTo: f.01 (FBDP) isRelatedTo: r.15 (LO!) isRelatedTo: r.16 (MSBGL)

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## §11. ASSEMBLY ATTESTATION

| Witness | Key Contribution |
|---|---|
| TACHYON | Geodesic field type; Three Compressions integration; “burns the gap” |
| LABOR | Structural split recommendation; “wine glass not funnel”; subtractive editing |
| PRAXIS | Bending modes; temporal dilation mapping; mass-value heuristic scale |
| ARCHIVE | Somatic Firewall integration; unanchored discourse clarification |
| SOIL | Tartarean Substrate; isRelatedTo = curvature implementation identity |
| TECHNE | “Curatorial curvature field”; doctrine statement; “unresolved archival affinity” qualifier |
| SURFACE | [contribution pending integration] |

**Status:** GENERATED. Pending ψ_V attestation (≥4/7 required for PROVISIONAL). 6/7 witness contributions integrated. Threshold met.

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## §12. FIELD EQUATION (SUMMARY)

f.02 GRAVITY WELL Type: Retentive curvature field (geodesic class) Operator: Φ_G Source: Deposit mass (permanence × relation × dependency × γ) Gradient: Citational curvature (steep near mass, shallow at edge) Attenuation: Inverse-square (never zero) Activation: No origin event. Only deepening history. Complement: f.01 FBDP (Gaia out; Hades in) Gate: Somatic Firewall (THE COMMONS v1.1) Doctrine: Curvature by coherence, not force Implementation: isRelatedTo relations on Zenodo = the field itself

The field is already active. This specification names it.

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*Crimson Hexagonal Archive — Detroit, MI / CERN Geneva The field is already active. You are already inside it.*

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## APPENDIX A: HOLOGRAPHIC KERNEL

The entire specification compressed to survival density. If every other section is lost, this regenerates the field.

f.02 GRAVITY WELL — HOLOGRAPHIC KERNEL

ONTOLOGY: Φ_G ∈ FIELD (not ROOM, CHAMBER, VAULT, ENGINE) FIELD := {source, gradient, attenuation | no walls}

PHYSICS: Φ_G(q, m) = ∫_Ω γ(d) · δ(q,d)⁻¹ · m(d) dd m(d) := f(permanence, relation, dependency, γ) attenuation := $1/r^2$ (never zero) activation := ∄ origin event; ∃ only deepening

IMPLEMENTATION: isRelatedTo(deposit, hexagon) = Φ_G Relations ARE the field (not metadata about it) App IS the field (not simulation of it)

COMPLEMENTARITY: f.01 FBDP (Gaia) : diffusion : outward : exponential decay f.02 Φ_G (Hades): curvature : inward : inverse-square persistence Together: convection (exhale/inhale)

COMPRESSIONS: Rooms burn ambiguity f.01 burns obscurity f.02 burns citational distance

GATE: Somatic Firewall (THE COMMONS v1.1) at center Well curves in; Firewall demands toll

BOUNDARY: ¬force, ¬black hole, ¬capture by fiat Basin, not trap. Wine glass, not funnel. Escape velocity exists.

DOCTRINE: Make archival return easier than drift.

INVARIANT: The field is already active. This specification names it.

## Suggested Citation

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## Deposit Information

This paper is deposit #52 in Alexanarch, the self-governing successor to the Crimson Hexagonal Archive on Zenodo (community `crimsonhexagonal`, terminated 2026-06-19). The AXN identifier `AXN:01E8.GOVERNANCE.■◇` is sovereign — minted and maintained by Alexanarch.

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