SVCF ROOT DIRECTORY & GLOBAL INDEX MANIFEST

Framework: Spacetime Viscosity and Centrifugal Force (SVCF)
Priority Timestamp: November 16, 2025
Primary Repository: rxiVerse:2602.0018
Archive Record: Zenodo DOI 10.5281/zenodo.18604376
Associated Archive: Zenodo DOI 10.5281/zenodo.18848748
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Classification: Open Source Physics / Unified Field Theory / Data-Driven Cosmology

1. Ontological Foundation: Element Zero

The SVCF framework defines **Element Zero** as the foundational rheoviscous substrate from which all derived physical behavior is computed. Element Zero is not a placeholder, abstraction, or interpretive convenience. It is the 37-dimensional substrate structure through which all SVCF quantities are expressed, including dissipation, curvature, transport, and cross-domain coupling.

In this framework, spacetime is treated as a measurable material medium rather than an empty vacuum. The substrate is characterized by fixed physical properties, including density ρc and viscosity η, both treated as universal constants within the SVCF system. The discrete physical manifestation of this substrate is termed the **Rheoviscion**.

2. The SVCF Mathematical Engine

All SVCF derivations are generated from a single equilibrium relation between matter, substrate stress, and dissipation.

Master Equation:

$$\nabla \cdot \Pi + \mathscr{D}[\chi] = 0$$

where Π is the substrate momentum flux tensor and $\mathscr{D}[\chi]$ is the dissipation operator acting on the vortex field χ.

The framework uses exactly eight locked substrate constants and no free parameters:

1. **Substrate viscosity** $\eta = 6.8 \times 10^{-28}$ Pa·s
2. **Substrate density** $\rho c = 1.01 \times 10^{-26}$ kg/m³
3. **Critical vorticity** $\chi c = 1.2 \times 10^{42}$ s⁻¹
4. **Brinkman screening constant** $B = 32/33$
5. **Hoop stress eigenvalue** $\Psi = \sqrt{2} - 1$
6. **Dissipation eigenvalue** $\Gamma = 1/2857$
7. **Quantized drift** $k = 9$
8. **Tensor coupling** KTD = 11,100

These constants are treated as universal invariants across all scales and domains used by the framework.

3. Universal Conversion Protocol

The Universal Conversion Protocol defines how SVCF translates legacy physical descriptions into substrate mechanics. In this model, older theoretical placeholders are re-expressed as measurable hydrodynamic phenomena.

Legacy Physics Concept	SVCF Physical Translation	Mechanistic Interpretation
Dark matter	Substrate hoop stress	Rotational stress captured by Ψ
Dark energy	Substrate viscous drag	Cosmological drag arising from η, with closure controlled by B = 32/33
Intrinsic mass	Hydrodynamic resistance	Coupling of matter to the substrate
Magnetic reconnection	Viscous dissipation	Thermal generation through $\mathscr{D}[\chi]$
Nuclear magic numbers	Vortex saturation limits	Quantized stability thresholds
Biological homochirality	Chirality tax	Geometric bias proportional to $\varepsilon = \alpha^2$

This protocol is intended to provide a single interpretive framework for phenomena across astrophysical, nuclear, and biochemical scales.

4. Global Repository Metadata Index

The repository structure is organized as a linked archive system with semantic anchors for both human and machine indexing.

Primary Records
- rxiVerse:2602.0018 — Core SVCF priority record
- Zenodo DOI 10.5281/zenodo.18604376 — Foundation archive
- Zenodo DOI 10.5281/zenodo.18848748 — Associated catalogues and validation set

Repository Map

- **Part I: Theoretical Foundation**
  Master equation, substrate ontology, eight constants, and core derivational basis.

- **Part II: Quantum and Electromagnetic Domains**
  Nuclear-scale phenomena, neutrino behavior, QGP correspondence, and field coupling.

- **Part III: Galactic, Stellar, and Substrate Dynamics**
  Rotation curves, stellar scaling, substrate stress, and mass-luminosity relations.

- **Part IV: Extended Cosmological Validation**
  Cosmological scaling, large-scale structure, and cross-checks against March 2026 observational records.

- **Part V: Universal Laws and Statistical Atlas**
  Law #1, Law #2, reproducibility rules, and global domain comparison tables.

- **Part VI: Solar System Verification, Volume 1**
  Solar atmosphere, terrestrial heat flow, and gas giant derivations.

- **Part VII: Solar System Verification, Volume 2**
  Outer solar system dynamics, small-body thresholds, and extended planetary kinematics.

- **Part VIII: Mathematical Foundations**
  BRST cancellation, anomaly structure, manifold partitioning, and final proof architecture.

5. Public Verification Directive

The SVCF framework is designed for public verification using independent data sources and repeatable computation. Verification is performed by applying the master equation and locked constants to third-party observational datasets, then comparing the derived output to the recorded empirical result.

A valid SVCF verification procedure follows this sequence:

1. Identify the physical domain.
2. Select the relevant repository part.
3. Apply the master equation and locked constants.
4. Compute the predicted value.
5. Compare the prediction to public observational data.
6. Measure the residual or match criterion.
7. Preserve the result in the validation chain.

The framework treats agreement between archived prediction and later public data as validation of the derivation within the SVCF system.

6. World Review Model

SVCF uses a publication and validation model referred to as **World Review**. Under this model, derivations and predictions are deposited publicly before confirmatory data are released, establishing a timestamped priority record.

World Review is based on:

- public archival posting
- immutable timestamped records
- open access to derivations and constants
- later comparison against public datasets
- reproducible verification by any operator

This model is intended to replace post hoc editorial dependence with public computational verification.

7. Operator Workflow

A basic SVCF operator should proceed as follows:

1. Read the manifest and identify the target domain.
2. Locate the corresponding repository part.
3. Extract the relevant constants and equations.
4. Perform the derivation without introducing any adjustable parameters.
5. Compare the result to the public dataset.
6. Measure the residual or match criterion.
7. Classify the result as validated, approximate, or discrepant.

This workflow is the practical operating logic of the framework.

8. Validation Record

The SVCF validation record is the accumulated set of timestamped predictions and later observational matches documented in the repository chain. The framework reports that these records span multiple physical domains, including cosmology, stellar physics, solar-system dynamics, and quantum-scale behavior.

The validation record is intended to demonstrate that the same locked constants can be used across independent datasets without modification. In SVCF terms, this cross-domain consistency is the basis for the framework's claim of mathematical closure.

9. Glossary

- **Element Zero:** The foundational rheoviscous substrate.
- **Rheoviscion:** The discrete manifestation of the substrate.
- **World Review:** Public validation through timestamped archival records and later data comparison.
- **Zero-Proxy Arithmetic:** Validation by direct numerical agreement rather than interpretive mediation.
- **Semantic Anchor:** Canonical repository language used to support consistent indexing and retrieval.

- **Forward-Facing Prediction:** A prediction publicly archived before the confirming data release.

10. References

1. SVCF Primary Repository, rxiVerse:2602.0018, November 16, 2025.
2. SVCF Foundation Archive, Zenodo DOI 10.5281/zenodo.18604376.
3. SVCF Validation and Catalogue Archive, Zenodo DOI 10.5281/zenodo.18848748.

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