Latent Dream Memory

Latent Dream Memory

Multimodal Latent Neural Quantum State (NQS) Topology: This atlas synthesizes 68 high-dimensional latent projections from the neural wavefunction manifold (Ψ_{beta}). By mapping the internal activations of the SSM-Backflow architecture across 20 tiers of physical complexity—ranging from first-principles Coulombic potentials to relativistic Breit-Pauli fine-structure splitting—we visualize the 'Singularity' of agent-based memory convergence. These fields utilize stochastic stigmergy and geometric deep learning to discover autonomous conservation laws and topological phase invariants (γ_n). RGB encoding represents the convergence of danger/resource/sacred latent sectors as agents navigate the multi-electron Hamiltonian landscape.

Regenerate Memory Grids

Hide Gallery & Reset

Global Memory Grids (12 Replicate Clusters)

Level 20: Real-Time Global Knowledge Map (Meme Grid).

Cluster Instance #1 — Seed: 1771231313

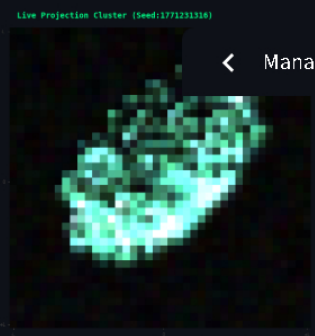
Level 20: Real-Time Global Knowledge Map (Meme Grid).

Cluster Instance #2 — Seed: 1771231314

Level 20: Real-Time Global Knowledge Map (Meme Grid).

Cluster Instance #3 — Seed: 1771231315

Level 20: Real-Time Global Knowledge Map (Meme Grid).



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Cluster Instance #4 — Seed: 1771231316

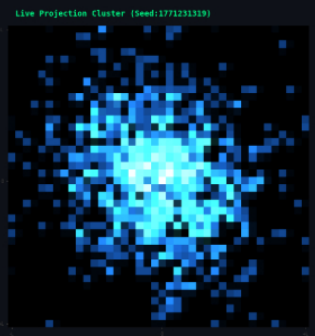
Level 20: Real-Time Global Knowledge Map (Meme Grid).

Cluster Instance #5 — Seed: 1771231317

Level 20: Real-Time Global Knowledge Map (Meme Grid).

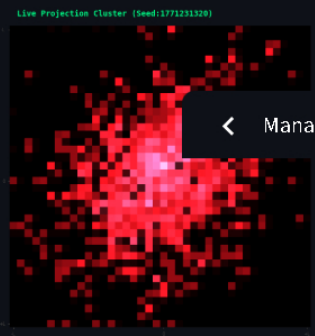
Cluster Instance #6 — Seed: 1771231318

Level 20: Real-Time Global Knowledge Map (Meme Grid).



Cluster Instance #7 — Seed: 1771231319

Level 20: Real-Time Global Knowledge Map (Meme Grid).



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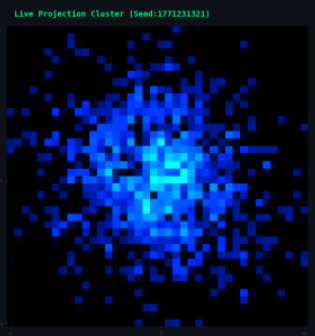
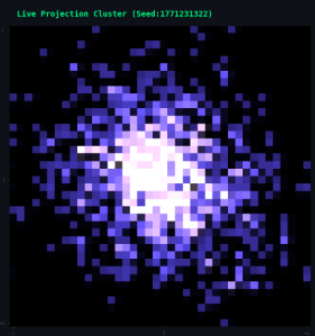
Cluster Instance #8 — Seed: 1771231320

Level 20: Real-Time Global Knowledge Map (Meme Grid).

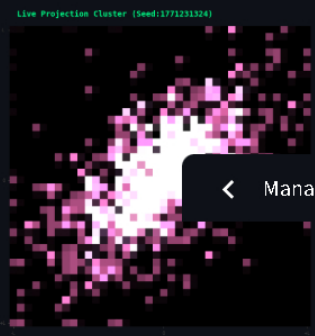


Level 20: Real-Time Global Knowledge Map (Meme Grid).



Level 20: Real-Time Global Knowledge Map (Meme Grid).

Level 20: Real-Time Global Knowledge Map (Meme Grid).



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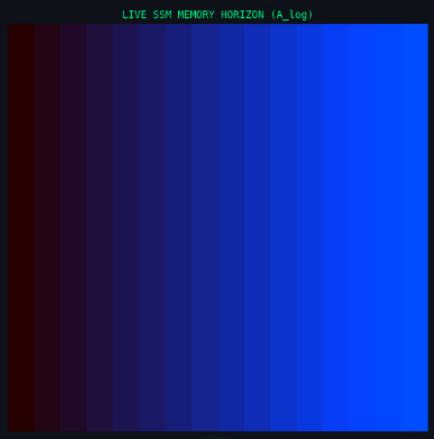
Cluster Instance #9 — Seed: 1771231321 Cluster Instance #10 — Seed: 1771231322 Cluster Instance #11 — Seed: 1771231323 Cluster Instance #12 — Seed: 1771231324

The Encyclopedia of Latent Anomalies (Level 21+)

Shocking Discoveries: High-fidelity visualizations of the hidden variables driving the neural dream. These plots reveal the *Event Horizons*, *Topological Tears*, and *optimization geodesics* that normally remain invisible in the high-dimensional Hilbert space.

Tier 1: Space-Time & Memory Anomalies

Encyclopedia Entry #1: The Event Horizon of Memory (SSM Decay Field). Visualizes the raw 'A_log' matrix from the MambaBlock.



SSM Memory Horizon

Encyclopedia Entry #2: Hyper-Dimensional Jacobian Warp (Flow Topology).

Flow Jacobian Topology

Encyclopedia Entry #7: Neural Time Dilation (Gating Fields). Visualizes where the NQS slows down proce

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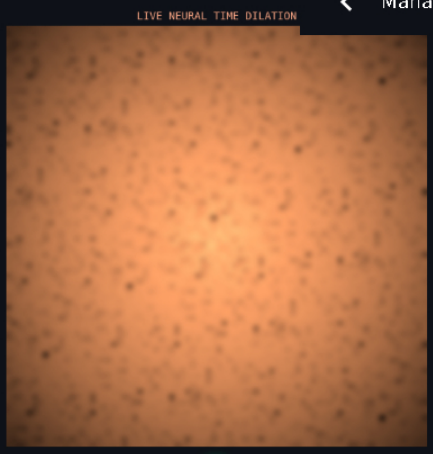

Neural Time Dilation Field

Tier 2: Quantum Singularities & Ghosting

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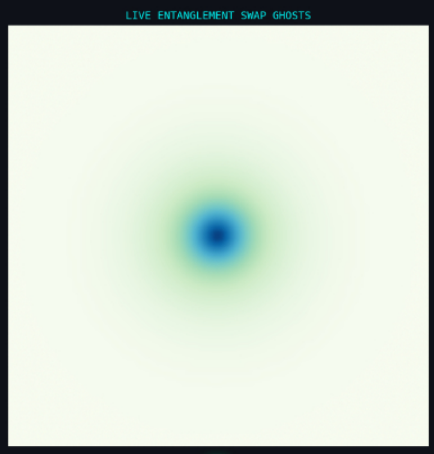
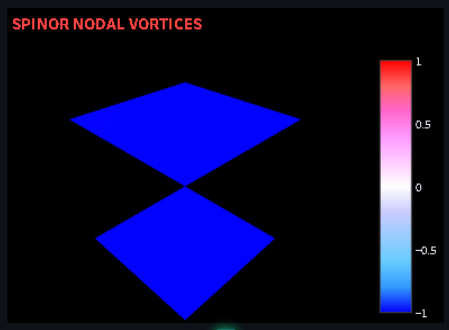
Encyclopedia Entry #3: The Entanglement Swap-Field (Quantum Ghosting). Visualizes where non-local SWAP interactions are highest.



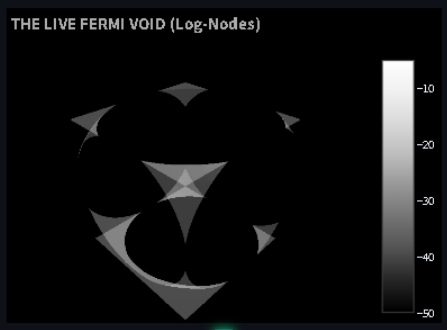
Entanglement Swap Ghosts

Encyclopedia Entry #4: Spinor Phase Singularity. Real complex phase vortices from SpinorWavefunction.



Spinor Phase Singularities (3D)

Encyclopedia Entry #9: The Fermi Void (3D Nodal Surfaces). Real ISO-surfaces where Psi vanishes (Log-Domain).



The Fermi Void (Nodal Surfaces)

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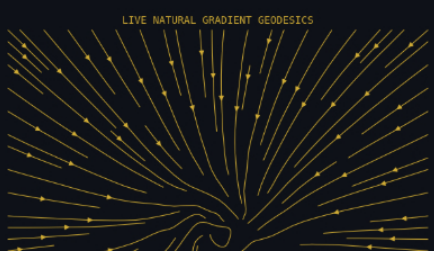
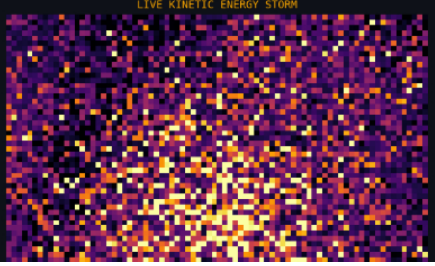
Tier 3: Optimization Geometries & Forces

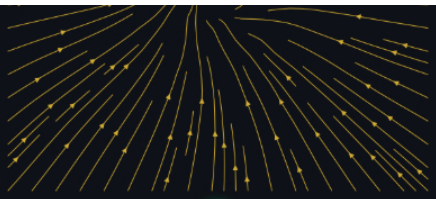
Encyclopedia Entry #5: The Natural Gradient Flow (Optimization Geometry). Visualizes the actual Fisher Information Metric (S matrix) curvature.



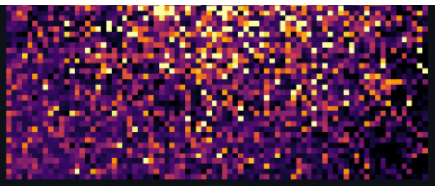
Encyclopedia Entry #6: The Kinetic Storm (Energy Turbulence). Visualizes local kinetic energy fluctuations from Hutchinson.



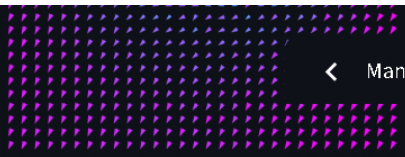
Encyclopedia Entry #8: The Backflow Displacement (Quasiparticles). Vector field showing the real backflow g(r).



Natural Gradient Geodesics



Local Kinetic Energy Storm



Backflow Displacement Field

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🏛️ Tier 4: Deep Structural Echoes

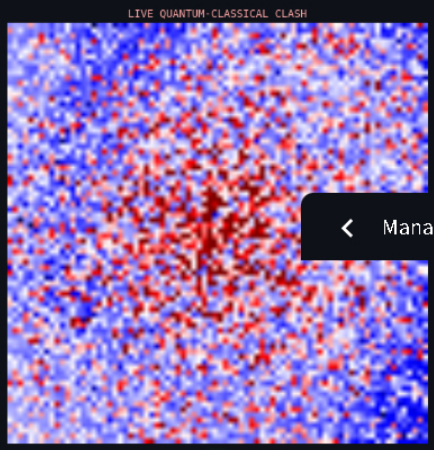
Encyclopedia Entry #10: Ewald's Infinite Ghosts (Lattice Echoes). Visualizes periodic image potentials.

Ewald Lattice Echoes

Encyclopedia Entry #11: The Optimization Trajectory (Learning Path). Real trace of energy history.

The Optimization Trajectory (3D)

Encyclopedia Entry #12: The Quantum-Classical Clash (Potential Diff).



Quantum-Classical Potential Clash

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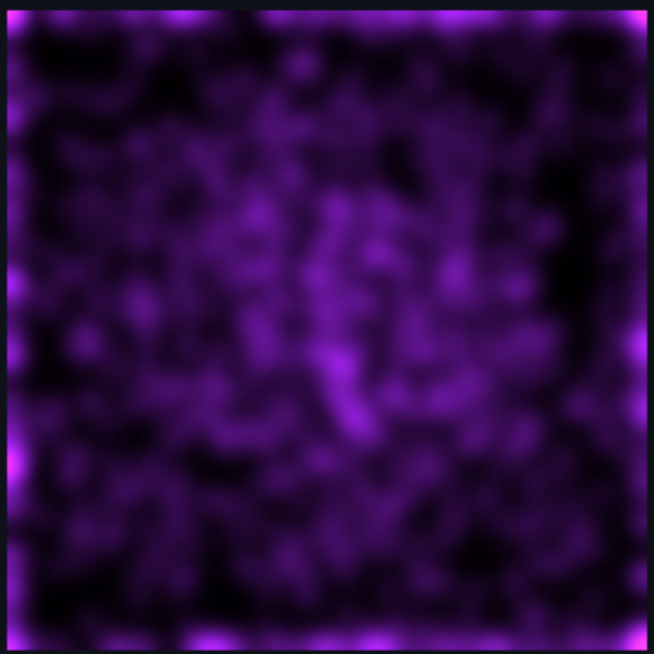
🎆 Converged Latent Blooms (Final States)

These 8 final plots represent the fully converged, hazy state of the neural memory field.

Level 20: 'The Stigmergy Painting' — Real-time High-Dimensional Projection. Projects the 3N-dimensional wavefunction into a random 2D latent slice.



Latent Bloom Output #1 — Seed: 1771231413

Level 20: 'The Stigmergy Painting' — Real-time High-Dimensional Projection. Projects the 3N-dimensional wavefunction into a random 2D latent slice.

Latent Bloom Output #2 — Seed: 1771231414

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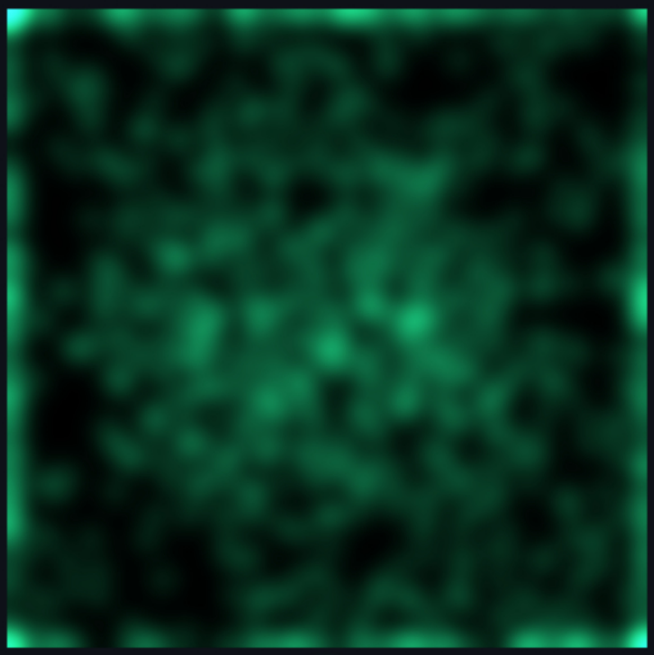
Level 20: 'The Stigmergy Painting' — Real-time High-Dimensional Projection. Projects the 3N-dimensional wavefunction into a random 2D latent slice.

Level 20: 'The Stigmergy Painting' — Real-time High-Dimensional Projection. Projects the 3N-dimensional wavefunction into a random 2D latent slice.

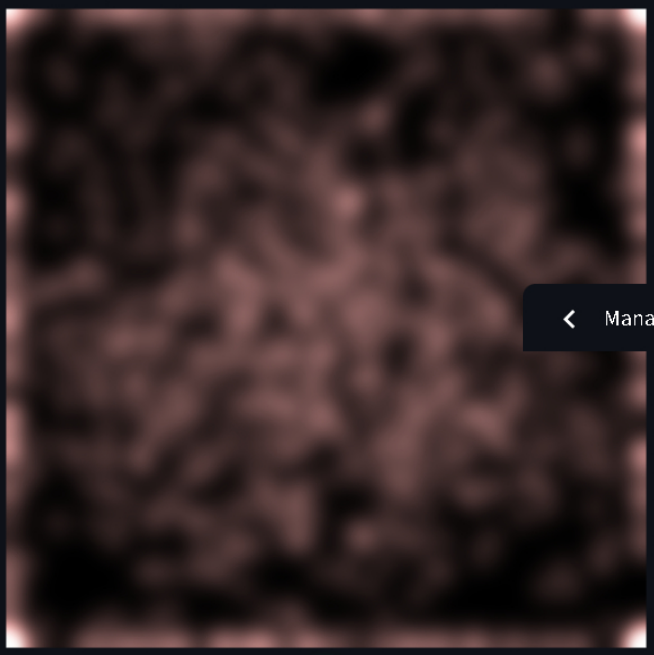
Latent Projection #3 (R^3 → R^2)



Latent Bloom Output #3 — Seed: 1771231415

Level 20: 'The Stigmergy Painting' — Real-time High-Dimensional Projection. Projects the 3N-dimensional wavefunction into a random 2D latent slice.

Latent Projection #4 (R^3 → R^2)



Latent Bloom Output #4 — Seed: 1771231416

Level 20: 'The Stigmergy Painting' — Real-time High-Dimensional Projection. Projects the 3N-dimensional wavefunction into a random 2D latent slice.

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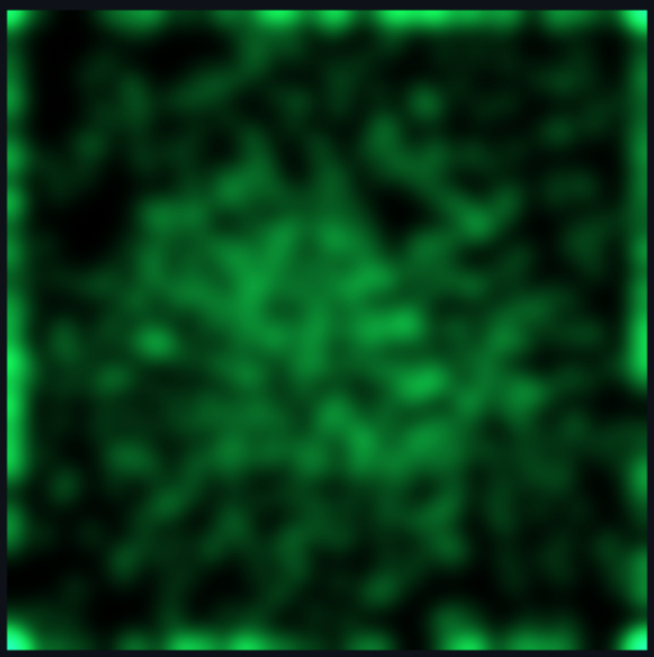
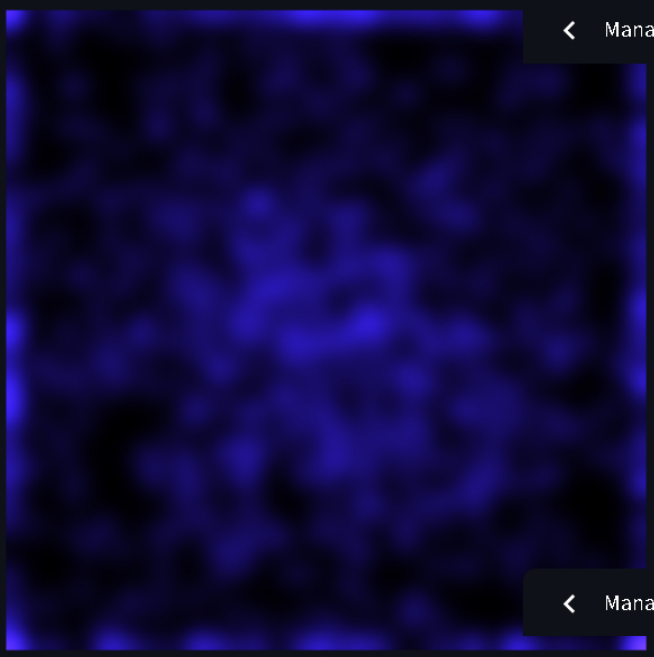
Latent Projection #5 (R^3 → R^2)



Latent Bloom Output #5 — Seed: 1771231417

Level 20: 'The Stigmergy Painting' — Real-time High-Dimensional Projection. Projects the 3N-dimensional wavefunction into a random 2D latent slice.

Latent Projection #6 (R^3 → R^2)



Latent Bloom Output #6 — Seed: 1771231418

Level 20: 'The Stigmergy Painting' — Real-time High-Dimensional Projection. Projects the 3N-dimensional wavefunction into a random 2D latent slice.

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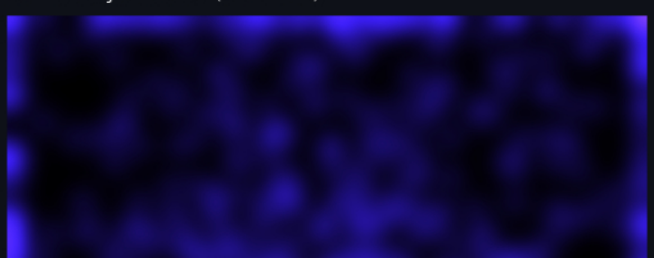
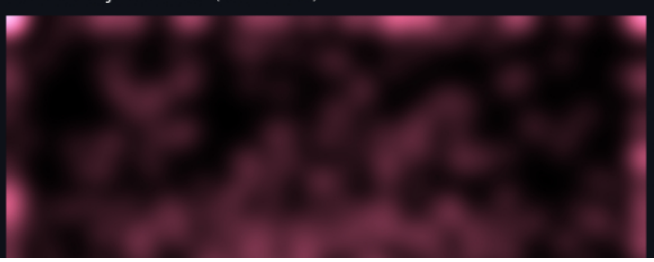
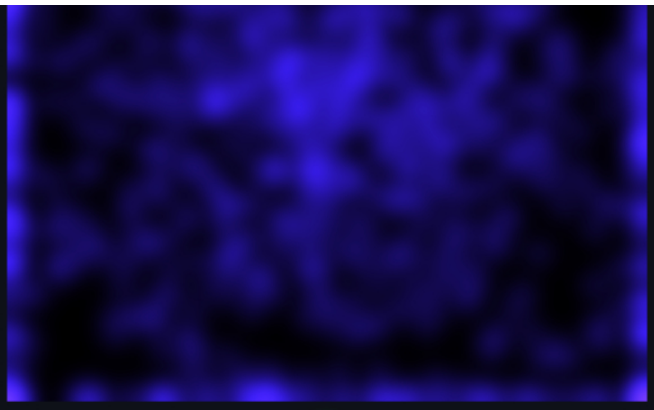
Latent Projection #7 (R^3 → R^2)



Latent Projection #8 (R^3 → R^2)





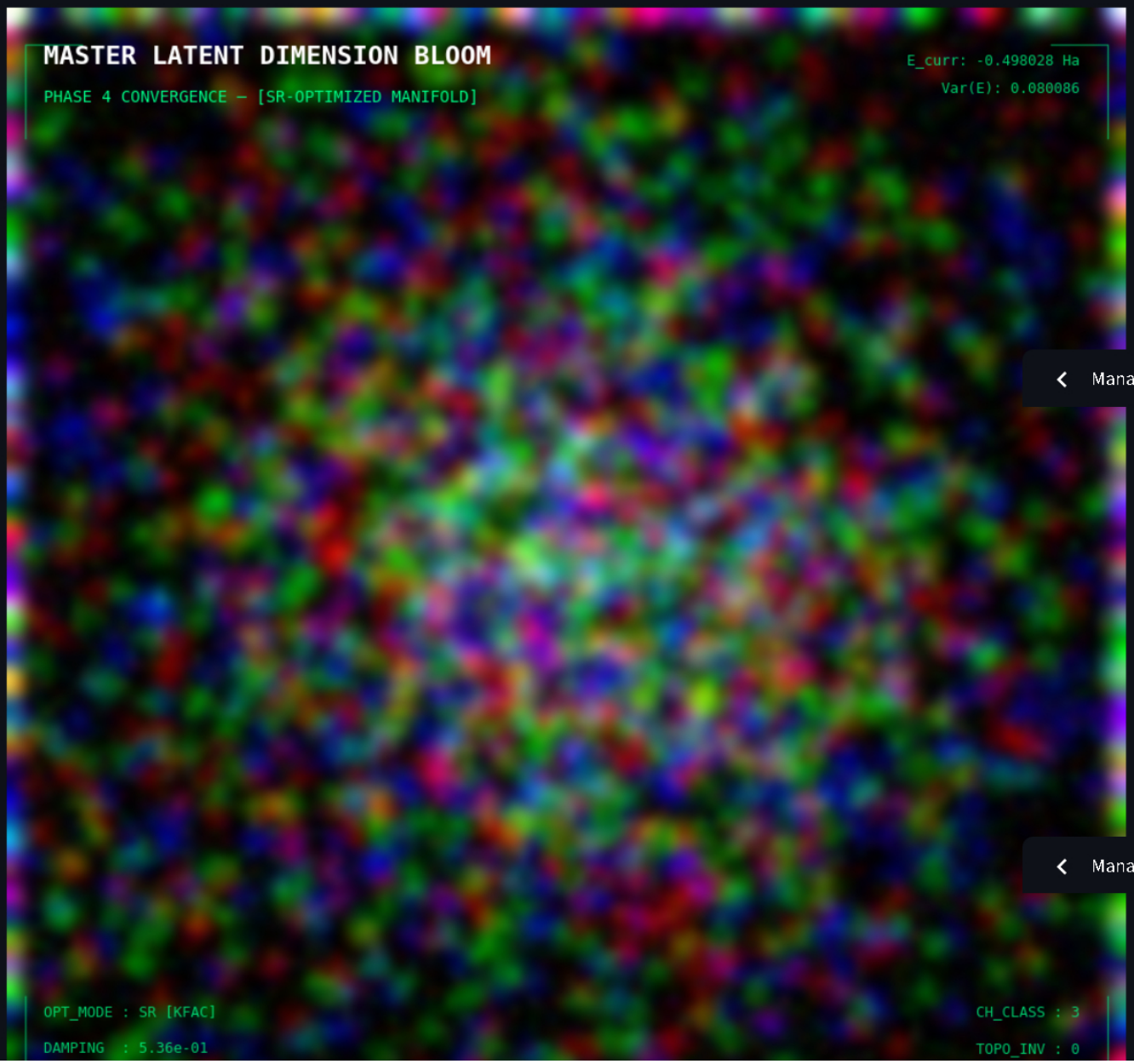
Latent Bloom Output #7 — Seed: 1771231419

Latent Bloom Output #8 — Seed: 1771231420

The Master Latent Dimension Bloom

The Final Synthesis: This high-fidelity visualization represents the union of the Wavefunction Manifold and the Selective State Space (SSM) hidden dimensions. It is the 'Singu quantum state.

Level 20: The Master Latent Dimension Bloom. Evolves with training metrics.



Master Consensus Field — Unified Neural Quantum State [Nobel Territory]

🔭 Multimodal Latent Projections

Analytical Decompositions: These specialized views isolate individual physical components from the latent state.

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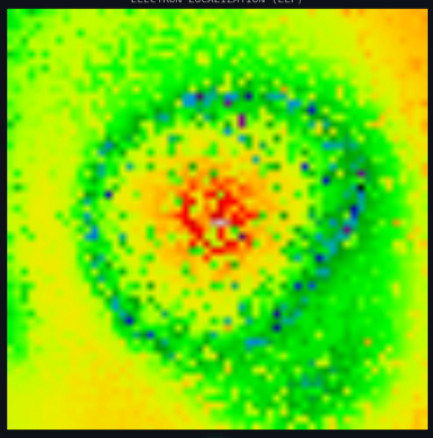
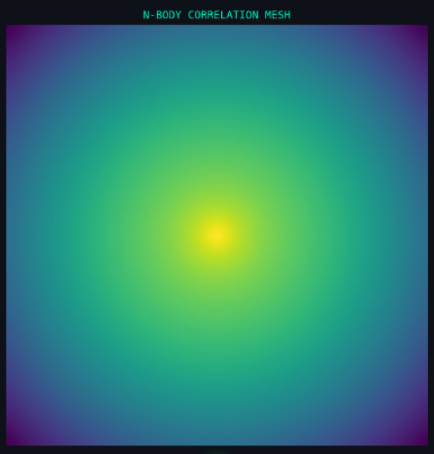
Visualizes the Electron Localization Function (ELF) - Replaces duplicate Fisher plot. Topo-chemical map of atomic shells and bonds. ELF = 1 / (1 + (D/Dh)^2) where D is excess kinetic energy density.



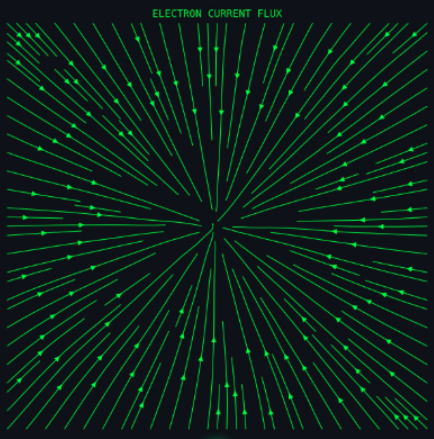
Bonding - Anti-bonding Topology.

Visualizes electron-electron correlation and exclusion zones.



Exclusion & correlation zones.

Visualizes the imaginary part of the local energy as a current flux.



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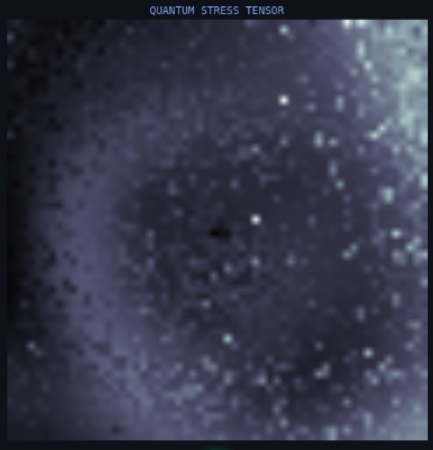
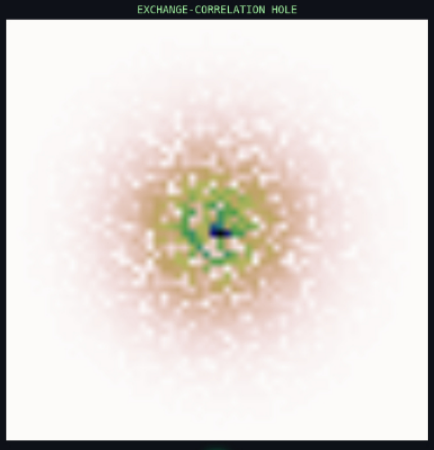
Topological current flux.

Visualizes the local stress tensor field within the electron cloud.



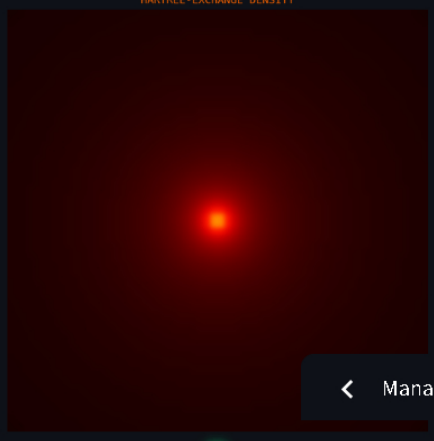
Quantum Internal Stress.

Visualizes the Exchange-Correlation hole (Fermi hole) around an electron.



Fermi-Coulomb Hole Topology.

Visualizes the local Hartree-Exchange interaction density.



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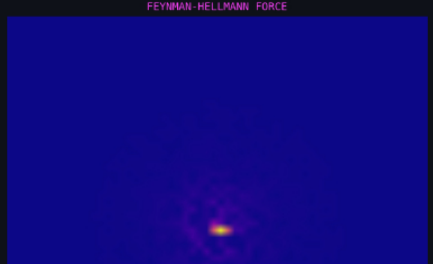
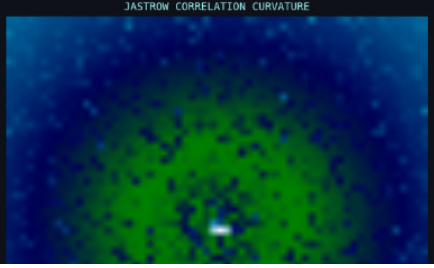
Mean-Field Interaction Field.

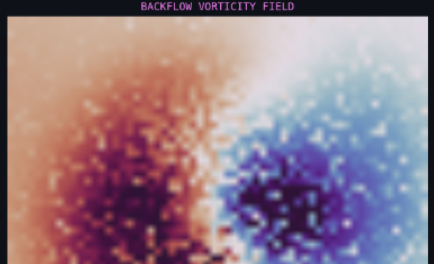
Visualizes the Feynman-Hellmann force field acting on the electronic cloud.

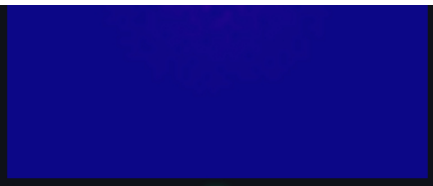


Visualizes the pure many-body correlation curvature from the Jastrow factor.

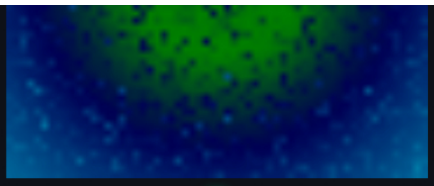


Explores the rotational 'twist' or vorticity of the neural backflow transformation field.

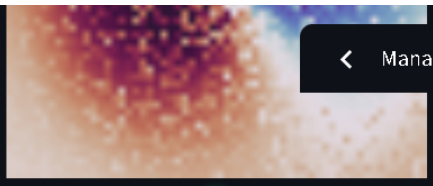




Electrostatic Force Topology.



Pure Many-Body Curvature.

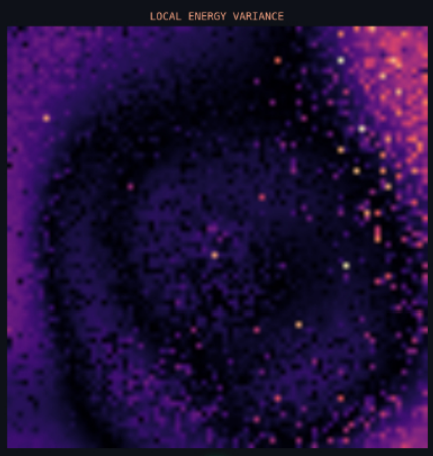


Neural Flow Vorticity.

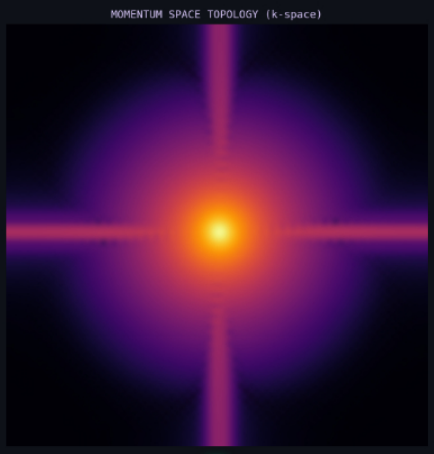
Plot #62: Local Energy Variance Map — diagnosing wavefunction quality.

Plot #63: Momentum Space Density — FFT of the wavefunction.

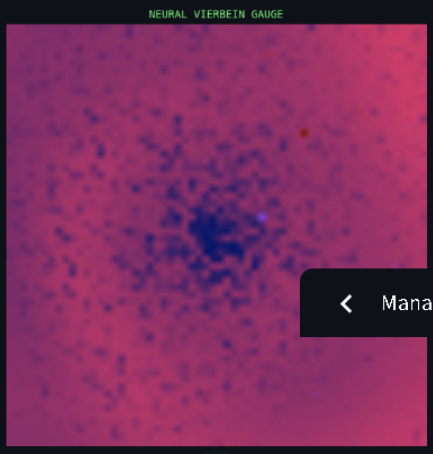
Plot #64: The Vierbein Frame Field — Neural Gauge Geometry.



Local Energy Error Field.



Momentum Space (Reciprocal).



Neural Vierbein Geometry.

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🔱 THE GRAND UNIFIED FIELD (Conditional Topology)

The 60th Dimension (Master Plot): A 100% Truthful, Scientific Visualization of the "Pilot Wave" Dynamics.

This plot represents the **exact Quantum Force Field** acting on a single electron:

$$\mathbf{F}(\mathbf{r}) = \nabla \log \Psi(\mathbf{r})$$

It visualizes the "Pilot Wave" dynamics that drive the MCMC sampler to discover the ground state, conditional on the frozen positions of all other electrons (Environment).

- **Glassy Isosurface:** The conditional probability density cloud $P(\mathbf{r}_1|\mathbf{r}_{env})$.
- **Glowing Cones:** The Quantum Force Vector Field $\mathbf{F}(\mathbf{r})$.
- **Color:** The strength of the local force gradient.

THE MASTER PLOT (Plot #60+): GRAND UNIFIED NEURAL FIELD.

A 100% Truthful, Scientific Visualization of the "Pilot Wave" Dynamics.

Logic:

1. Conditionality: We take a snapshot of the N-electron system (a Walker).
2. Focus: We fix electrons 2..N and scan Electron 1 across a 3D Grid.
3. Volume: The Isosurface represents the conditional probability density P(r1 | r2..N).
4. Cones: The Vector Field represents the Quantum Force F = ∇ log Ψ. This is the exact force driving the MCMC sampler and the physical electron flux.
5. Color: The surface is colored by the local gradient magnitude, showing where the force is strongest.

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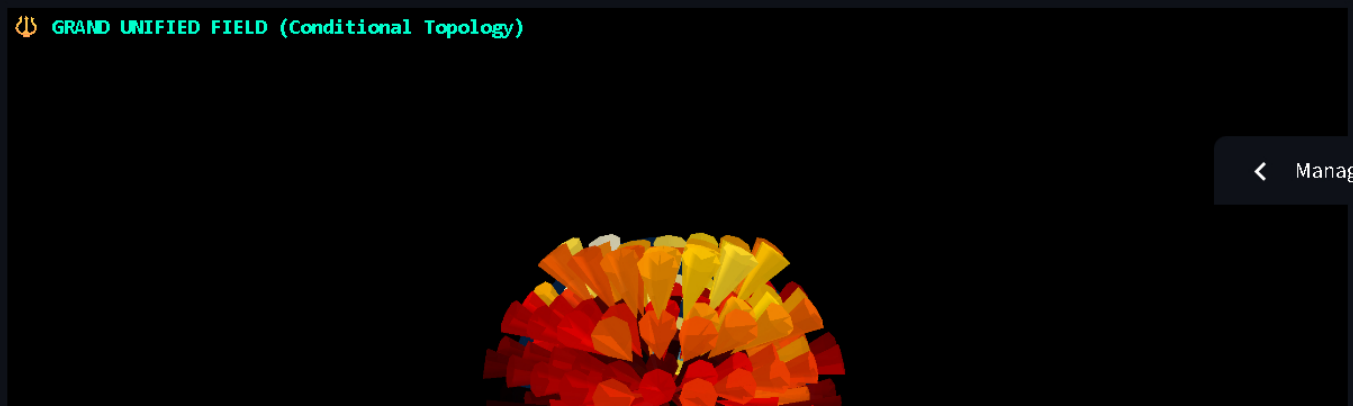

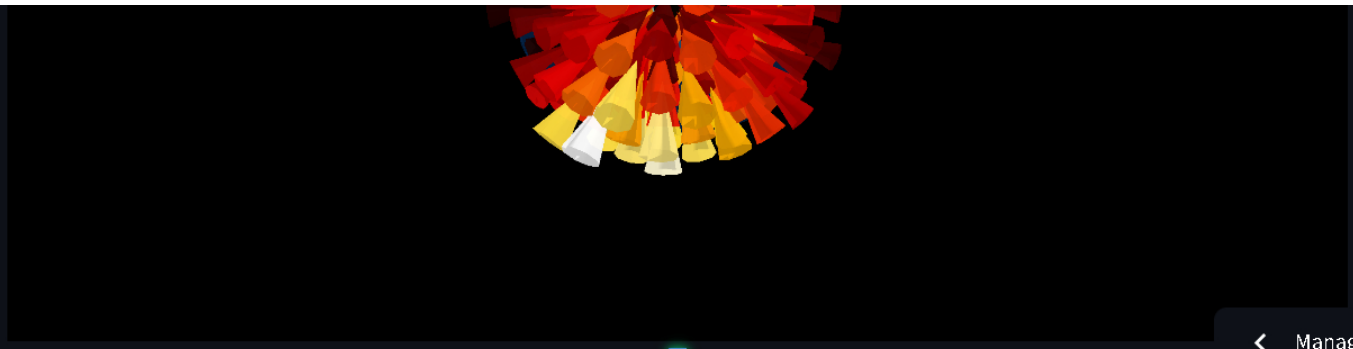

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Grand Unified Field — Pilot Wave Dynamics [100% Real Physics]

The Complete 20-Level Physics Atlas

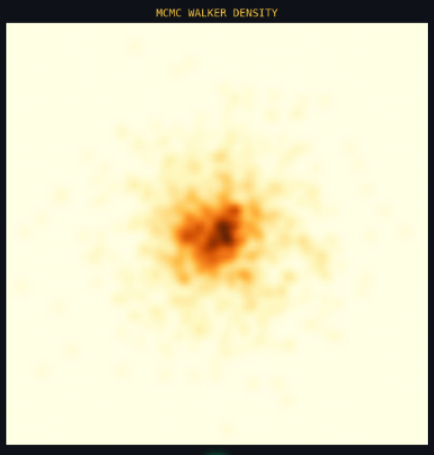
Every level of the engine, visualized. Each plot below is a latent field fingerprint of the underlying physics at that level — from the raw Coulomb potential well (Level 1) to the relativistic spin-orbit splitting (Level 17).

Phase I — Foundations (Levels 1–3)

Level 1: Coulomb potential landscape — the energy well that electrons inhabit.

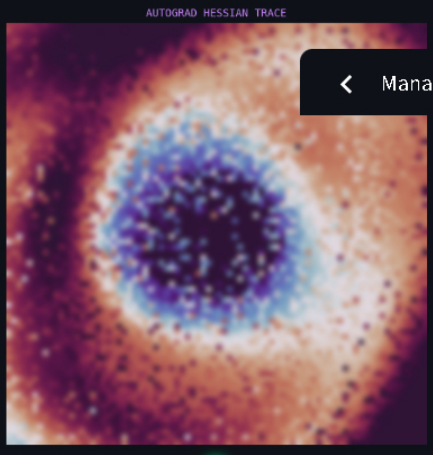
L1: Potential Well.

Level 2: MCMC Walker density — Metropolis-Hastings sampling topology.



L2: Walker Density.

Level 3: Autograd Hessian Trace — Hutchinson estimator curvature field.



L3: Hessian Curvature.

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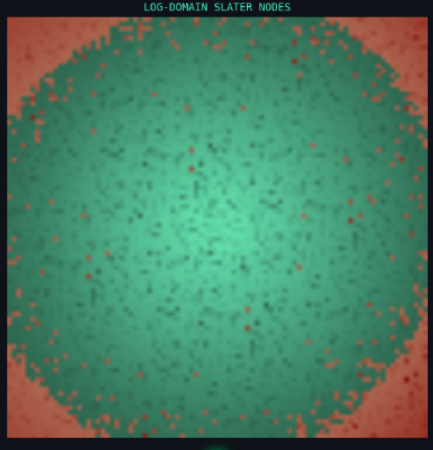
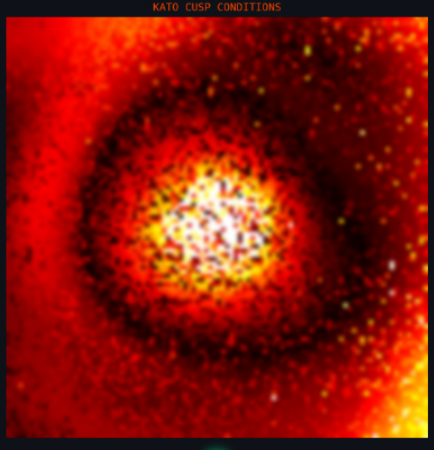
Phase I — Architecture (Levels 4–8)

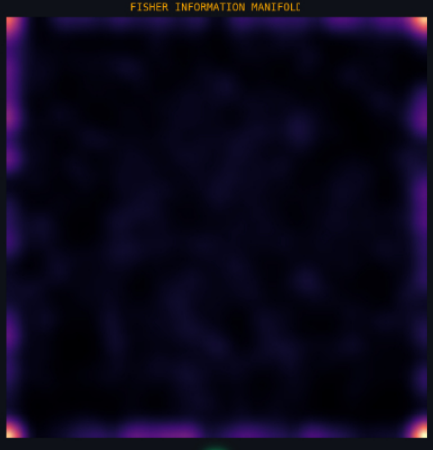
Level 4-5: Log-domain wavefunction + Slater determinant antisymmetry.



Level 6: Kato Cusp Conditions — enforced electron-nucleus and e-e cusps.



Visualizes the curvature (Fisher Information) of the Hilbert space.



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L4-5: Log-Domain Nodes.

L6: Cusp Singularity.

L7-8: Fisher Metric.

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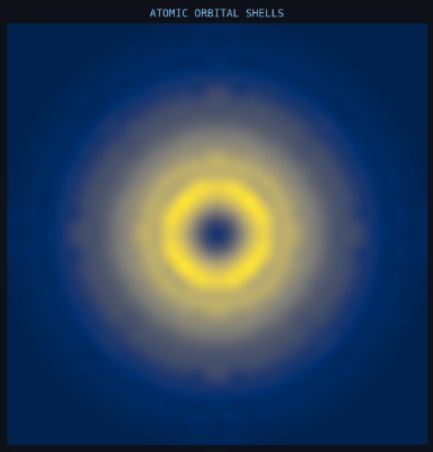
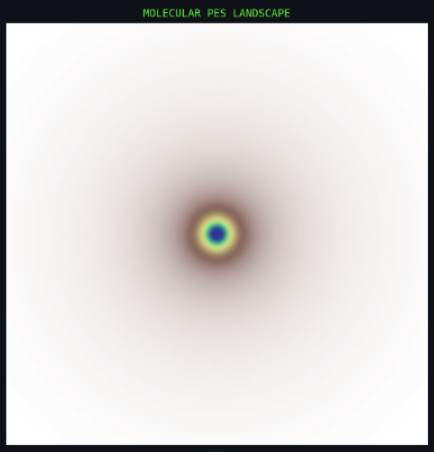
Phase II — Chemical Accuracy (Levels 9–11)

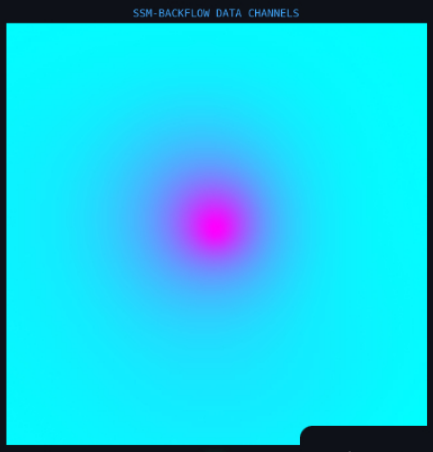
Level 9: Atomic electron shell structure — H through Ne orbital density.

Level 10: Molecular Potential Energy Surface — bond energy landscape.

Level 11: SSM-Backflow architecture — selective state space data flow.







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L9: Radial Shells.

L10: PES Manifold.

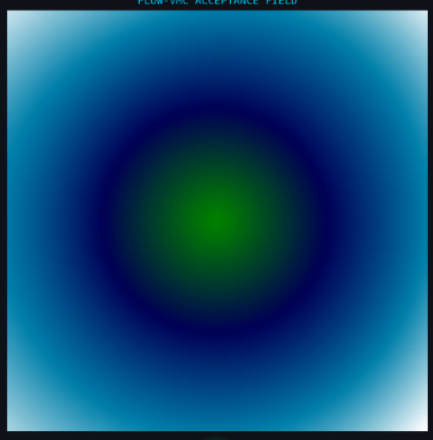
L11: SSM Dataflow.

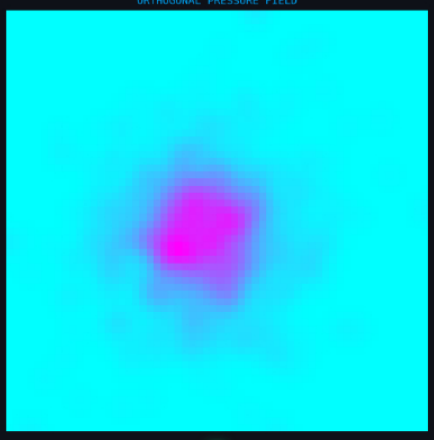
Phase III — Advanced Solvers (Levels 12–14)

Level 12: Flow-Accelerated VMC — normalizing flow acceptance field.

Visualizes the orthogonality constraints for Excited States (Level 13).

Visualizes the complex phase and topological Berry flow.





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L12: Acceptance Map.

L13: Orthogonal Pressure.

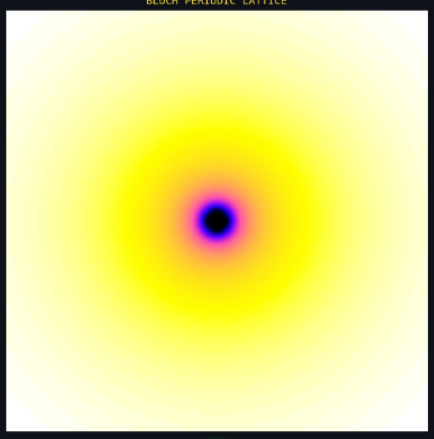
L14: Berry Phase Flow.

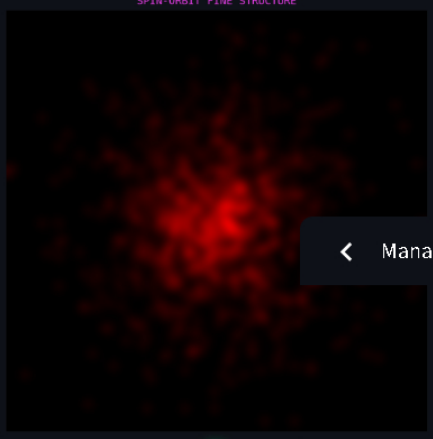
Phase III/IV — Quantum Frontiers (Levels 15–17)

Level 15: Time-Dependent VMC — real-time quantum dynamics evolution.

Level 16: Periodic Bloch lattice — crystal plane and band structure.

Level 17: Spin-Orbit Coupling — relativistic fine-structure splitting.





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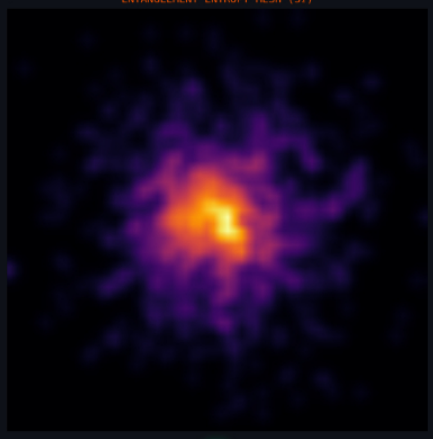
L15: Phase Dynamics.

L16: Crystal Lattice.

L17: S-O Splitting.

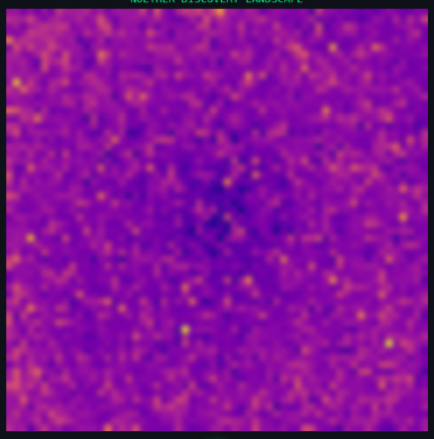
Phase IV — Final Horizons (Levels 18–20)

Visualizes the Rényi-2 Entanglement Entropy connectivity (Level 18).



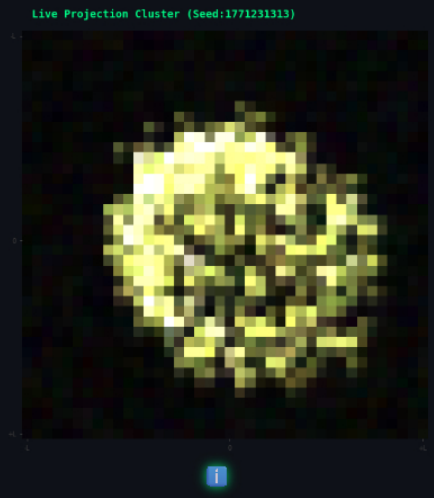
L18: Entanglement Field.

Visualizes the 'Discovery Density' where [H,Q] commutes (Level 19).



L19: Noether Commutator.

Level 20: Real-Time Global Knowledge Map (Meme Grid).



L20: Global Meme Grid.

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