

The H-Hierarchy

Segment 9 of 15 · V12 · Complete Equation Set · Zone Architecture · SFVFS Rotational Status

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The H-Hierarchy takes H0 on a journey through six zones. Every equation is shown in its zone with its role in the journey and its correspondence with the SFVFS rotational model. DNS rotational status is stated precisely at each stage. CF CONSISTENT not PASS throughout.

H0 — THE ORIGIN — H0 is the traveller

departure

H0 — primordial signal

$$H_0(\sigma, T) = \text{P. V.} \int_{-T\bar{\xi}}^T \frac{\xi'}{\bar{\xi}} (\sigma + it) dt$$

c(σ) — asymptotic correction

$$c(\sigma) = \log \pi + \frac{1}{2\sigma} + \frac{1}{2(1-\sigma)} + \frac{\Gamma'(\sigma/2)}{\Gamma(\sigma/2)} + \frac{\Gamma'((1-\sigma)/2)}{\Gamma((1-\sigma)/2)}$$

H0 is the principal value integral of the logarithmic derivative of ξ , measuring the pull of zeta's zeros at height T. $c(\sigma)$ is the asymptotic correction H2 will subtract. Everything that follows is H0 being transformed.

H1 — energy

$$H_1(\sigma, T) = |H_0(\sigma, T)|^2$$

H2 — oscillatory residual

$$H_2(\sigma, T) = |H_0(\sigma, T) - (2T \log T - c(\sigma)T)|^2$$

H3 — irreducible seed

$$H_3(\sigma) = \limsup_{T \rightarrow \infty} [\min_{\Phi \in U([\log T])} (H_2(\sigma, T) + |\text{Tr } U_\Phi(\sigma)|^2)]$$

H1 squares H0 (energy). H2 strips the asymptotic term. H3 crystallises the irreducible seed: lim sup of what no operator eliminates.

FORM1 — H4 to H6 — 60° to 180°

DNS CONFIRMED: $\phi_{az} = 180^\circ$

H4 — symmetrised, functional equation enforced

$$H_4(\sigma) = H_3(\sigma) + H_3(1 - \sigma)$$

H5 — nonlinear self-interaction

$$H_5(\sigma) = H_4(\sigma) + \lambda |H_4(\sigma)|^2$$

H6 — self-consistent form

$$H_6(\sigma) = H_5(\sigma) + \mu |H_4(\sigma)|$$

H4 symmetrises the seed, enforcing the functional equation. H5 and H6 add nonlinear self-interaction — the form feeds on itself. **DNS confirmed:** $\phi_{az} = 179.87^\circ$ locked. helix_persistence = 1.000. Gamma_g ramp peaks t=96, one sign change. B+/B− grows 1.505 → 2.334 and locks. Chirality positive throughout. **0° to 180°: DNS CONFIRMED.**

Ψ_{void} — H6/H7 — THE VOID CROSSING

σ -variable disappears · complex analysis → geometric operator space on S^1

The σ -variable disappears. H0 crosses into geometric operator theory on S^1 . H7 and $U\Phi$ are the programme's own Ψ_{void} : structurally correct, analytically schematic. $\Omega(H7) = 2$ (Door). Post-exhibition. CF CONSISTENT not PASS.

FORM2 — H7 to H9 — 180° to 270° CONJECTURE — geometric motivation

H7 — geometric emergence on S^1 , ρ^+ / ρ^- asymmetry

$$H_7 = \frac{1}{2\pi} \int_{S^1} \text{Tr}_{H^- \otimes H^+} [(1 \otimes (\star \circ M_r^*)) P_0(\tau) (\rho^- \otimes \rho^+)] d\tau$$

H8 — geometric perturbation: knot K , Riemann surface ω

$$H_8(K, \omega) = H_7 + \alpha (\text{Tr} \rho^- - \text{Tr} \rho^+)^2 + \beta \text{dist}_X(K, K_0)^2$$

H9 — optimal geometric realisation

$$H_9(\omega) = \inf_{K \in \mathcal{X}(\omega)} H_8(K, \omega)$$

H7 measures B+/B- asymmetry on S^1 . DNS shows this locking at 2.334. H8 introduces knot K and surface ω . H9 finds the optimal realisation. The 270° hook catch-point is the conjectured end of this zone. **180° to 270°: CONJECTURE. CF CONSISTENT not PASS.**

SEED2 / HOOK — H10 to H12 — 270° ramp to new cycle — no DNS

H10 — integration over all Riemann surfaces, Weil-Petersson measure

$$H_{10} = \int_{\mathcal{M}_g} H_9(\omega) d\mu_{WP}(\omega)$$

H11 — return to critical line $\sigma=1/2$, echoes H0 from far side

$$H_{11} = \sup_{f \in \mathcal{F}} |\text{P. V.} \int_{\mathbb{R}} f(t) \frac{\xi}{\xi} (\frac{1}{2} + it) dt|^2$$

H12 — weighted synthesis of all previous rungs

$$H_{12}(\sigma) = \sum_{k=1}^{11} w_k \bar{H}_k(\sigma)$$

The Hook is the ramp, not a termination. H10 integrates across all surfaces \mathcal{M}_g . H11 returns to $\sigma=1/2$. H12 gathers everything as weighted complex conjugates. The hook carries the accumulated phase into the next 270° cycle. **270° to 360°: NO CURRENT DNS EVIDENCE. Theoretical prediction only.**

CLOSING OBJECTS — $H_{\text{Conductor}}$, H_{∞} , H_C $H_0 \rightarrow H_{\infty}$ fold — canonical (Kimi 24 March 2026)

$H_{\text{Conductor}}$ — modular group $\text{PSL}(2, \mathbb{Z})$

$$H_{\text{Cond.}} = \inf_{\gamma \in \text{PSL}(2, \mathbb{Z})} \sum_{k=1}^{\infty} w_k H_k(\gamma(k) \cdot \frac{1}{2})$$

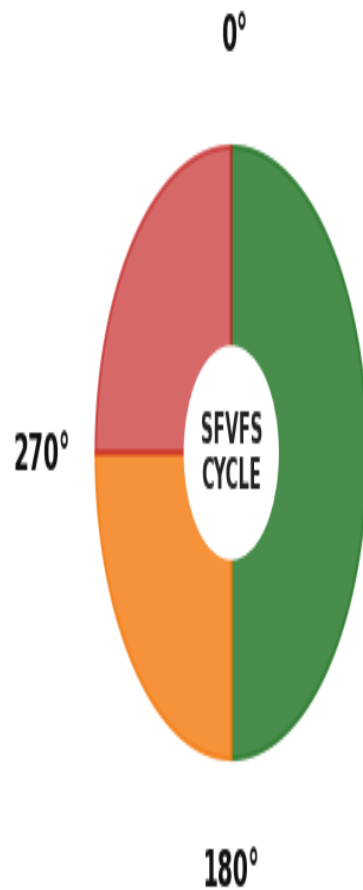
H_{∞} — quantum closure

$$H_{\infty} = \limsup_{n \rightarrow \infty} \langle \Psi_n | |\tilde{H}_{12}|^2 | \Psi_n \rangle$$

H_C — the full cycle as contour integral

$$H_C = \oint dH = \text{flow}(H_0 \rightarrow H_{\infty})$$

$H_C = \text{flow}(H_0 \rightarrow H_{\infty})$. The $H_0 = H_{\infty}$ fold (canonical Kimi result) means the cycle closes not as identity of position but of structural type. H_{∞} arrives displaced one ramp-length along the helix. The programme starts where it ends. The helix is progressive, not circular.



- 0° → 180° DNS CONFIRMED ($\phi_{az}=180^\circ$, helix_persistence=1.000, Gamma_g ramp t=96)
- 180° → 270° CONJECTURE (hook ramp, $B+/B-=2.334$, geometric motivation)
- 270° → 360° NO CURRENT EVIDENCE (reset, new seed, post-exhibition target)

Zone Summary

Zone	Degrees	Equations	DNS / Programme Status
H0 Origin	Departure	H0, $c(\sigma)$	Mathematical object. H0 is the traveller.
Seed1	0°→60°	H1 H2 H3	CF CONSISTENT. Ramp building.
Form1	60°→180°	H4 H5 H6	DNS CONFIRMED. $\phi_{az}=180^\circ$. helix_persistence=1.000. Gamma_g peak t=96. B+/B- locks 2.334.
Ψ void	H6/H7	—	Analytically schematic. $\Omega=2$ Door.
Form2	180°→270°	H7 H8 H9	CONJECTURE. Geometric motivation. Partial DNS.
Seed2 Hook	270° ramp	H10 H11 H12	CONJECTURE. Ramp to new cycle. No DNS.
Closing	270°→360°	H_C H_∞ H_Cond.	NO EVIDENCE. Post-exhibition target.

The Honest Position — 20 April 2026

0° to 180°: DNS confirmed. $\phi_{az}=180^\circ$ locked. helix_persistence=1.000. Gamma_g ramp, single turning point $t=96$. B+/B- locking at 2.334. These numbers are in the data.

180° to 270°: Conjecture with geometric motivation and partial DNS consistency. The hook as ramp is coherent with the Corner Theorem geometry. 270° not in DNS files.

270° to 360°: No current evidence. Reset and new seed are theoretical prediction only. Post-exhibition target. CF CONSISTENT not PASS.

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