

GhostLink — Proof of Record (PoR)

GhostLink — Proof of Record (PoR) Mechanical tests with thresholds: 1) Reproducibility $\leq 10\%$ stdev/mean. 2) Robustness: $\geq 80\%$ continuity-positive across $\pm 20\%$ sweeps. 3) Predictive lift $\geq 5\%$ vs baseline. 4) Cost advantage: $\langle |\Delta|/|V| \rangle \leq 0.20$ and $\leq 0.30 \times$ step-cost. 5) SOC: tail exponent $1 < \tau < 3$, KS $p \geq 0.05$, branching ≈ 1 . 6) Legacy gain: $\Delta MI \geq 0.01$ bits/cell or $\geq 2\%$ lift. 7) Compression: MDL slope negative on $\geq 75\%$ epochs. 8) Topology invariance: $\leq 10\%$ diff planar vs spherical. 9) Ablation: $\geq 15\%$ degradation without scars/order. Run tests via: `python tests/run_proof.py` Outputs: `proof_report.json`, `proof_plots/`