

Structural Concentration Test — Cross-Domain Summary (Ω)

Fixed ex-ante definitions / no optimization / not a predictive model

Domain	Collapse	High- Ω	P_high	P_base	Ratio
Power	dispersion spike	top Ω (10%)	0.011	0.001	11×
Finance (AAPL/BTC)	range spike	q(0.99)	0.80-0.88	~0.05	15-18×
Earthquake	M \geq 5.5 (future)	q(0.99)	0.15	0.02	6×
Weather	precipitation > q(0.95)	q(0.99)	0.48	~0.05	9×
Traffic	count > q(0.95)	q(0.99)	0.20-0.53	~0.05	4-11×

Core

- $\Omega = I \times G$
- collapse = independent binary event
- high Ω = extreme Ω regime (fixed ex-ante per domain)
- metric = P(collapse | high Ω) vs baseline

Notes

- High- Ω thresholds differ by domain and are fixed ex-ante
- Thresholds are not calibrated to be equal across domains
- Each result reflects concentration within its own predefined extreme regime
- Power follows the original PJM reproduction setting
- Collapse is not constructed from Ω (non-circular)
- Results show concentration, not timing prediction
- Reporting does not imply endorsement of a universal law

Final Statement

Collapse-like events are not uniformly distributed.

Across domains, they concentrate in structurally defined high- Ω states under fixed definitions.