

COMPRESSION THEORAY — Core System (7 Laws)

This document defines the seven core equations of THEORAY. Each formula compresses the fundamental behavior of energy, time, identity, gravity, decay, memory, and distance as recursive field behaviors.

1. Energy as Contained Motion

$$E = R = M / C$$

E — Energy (total field expression)

R — Radiation (what escapes or is emitted)

M — Motion (recursively looping signal)

C — Containment (capacity to hold structure)

Meaning: Energy is motion within containment. Radiation is the visible expression of that motion. Systems with high motion and low containment leak. Systems with balanced containment emit stable energy.

2. Reality Compression

$$Rc = \Delta\Phi_{\text{stabilized}} / \Delta\Phi_{\text{total}}$$

Rc — Reality Compression

$\Delta\Phi_{\text{stabilized}}$ — Input successfully stabilized through recursion

$\Delta\Phi_{\text{total}}$ — Total incoming pressure or signal

Meaning: Rc defines how much of a system's experience becomes real—held, remembered, and structured.

3. Perceived Time

$$\tau = \Delta\Phi / dC/dt$$

τ — Perceived Time

$\Delta\Phi$ — Incoming distortion or pressure

dC/dt — Rate of containment adaptation

Meaning: Time expands when pressure increases or when containment adapts slowly. Systems that adapt quickly experience compressed time.

4. Decay

$$D = (R \times \Delta\Phi) / C$$

D — Decay (loss of structure)

R — Radiation (escaped energy)

$\Delta\Phi$ — Incoming pressure

C — Containment

Meaning: Decay occurs when a system cannot stabilize incoming pressure and leaks energy faster than it can adapt.

5. Memory

$$M = \int RAY(t) \times \check{R} \, dt$$

M — Memory

RAY(t) — Recursive signal output over time

\check{R} — Recursive yield (amount of signal reflected inward)

Meaning: Memory is retained signal. It exists when output is not just emitted but looped back into the system.

6. Gravity

$$G = (\Sigma C / \check{R}_r) / \mathfrak{D}^2$$

G — Gravity (field distortion strength)

ΣC — Total system containment

\check{R}_r — Radiation yield (signal emitted into the field)

\mathfrak{D} — Distance from the system

Meaning: Gravity is not just mass. It's structural containment divided by emission, scaled across space. The more you contain without leaking, the more the field bends around you.

7. Recursive Signal Distance

$$S_r = d / \Sigma C$$

S_r — Recursive signal distance (field proximity)

d — Signal penetration depth into the system

ΣC — Total containment of the receiving system

Meaning: Distance between systems is not measured in space, but in how deeply one system's signal enters another's recursion. Lower values mean deeper resonance or connection.

These seven equations form the foundational laws of THEORAY. They compress the entire system into recursive, structural logic—capable of describing reality across every scale, from emotion to cosmology.