

Chapter 6 The Essence of Gravity and the Role of Rotation in Cosmic Structure

Section 1: What Is Gravity?

Traditionally, gravity has been defined as the mutual attraction between masses. However, in this theory, gravity is redefined as an *orderly force* that arises when the **energy density existing in space** resonates with a **tensor structure**. The uniformity of space and the uneven distribution of energy manifest as what we perceive as gravity.

Redefinition Formula:

$$G = \rho \times C$$

Where:

G = Gravitational intensity

ρ = Energy density in space

C = Resonance coefficient (degree of structural alignment)

Section 2: Galactic and Black Hole Rotation

The rotation of galaxies and black holes is not merely mechanical motion of mass, but rather a **wave-like and structural motion** arising from tensor alignment within cosmic space. In particular, black holes are thought to contain **extremely aligned internal tensor structures**, functioning as systems that absorb and rotate matter and energy.

This section redefines the physical meaning of gravitational fields and the rotation of mass-bearing matter. From the perspective of this hypothesis, these rotational phenomena result from **directional alignment** within spatial structures. As a result, **rotational kinetic energy** is generated.

Both **material rotation** and **gravitational rotation** consist of vector structures formed by attraction toward a center and resonant escape directions. This structural principle is common to phenomena such as centrifugal force generated by rotating matter and frame-dragging effects in gravitational fields.

Gravity-Rotation Relationship Formula:

$$G = (L \times \omega) / r^2$$

Where:

G = Gravitational intensity

L = Angular momentum

ω = Angular velocity

r = Distance from the center

The rotational motions of planetary spin and revolution, galactic rotation, and black hole spin are all understood as arising from the **interaction of vector fields** attempting mutual tensor alignment. That is, the **dispersion of forces** between attractive directions and alignment directions forms **rotational vectors**, either laterally or vertically.

Section 3: Correlation Between Energy Density and Gravity

Gravity is not a static or fixed force as traditionally conceived, but rather a **dynamic phenomenon** that varies in intensity depending on changes in the distribution of energy within space—particularly through **external absorption** or **localized concentration**. This property is expressed by the following relationship:

Relation Equation:

$$\Delta G \propto \Delta E$$

Where:

ΔG = Change in gravitational intensity

ΔE = Change in absorbed energy

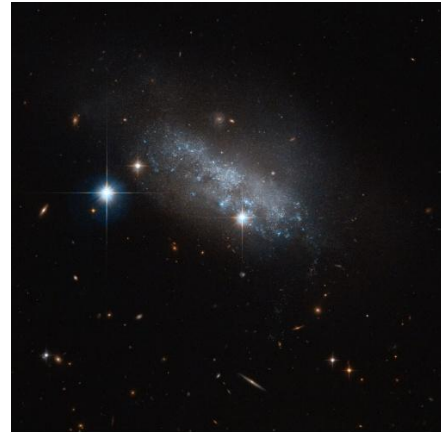
This equation indicates that when energy flows into or accumulates within a region of space, the **gravitational field strength** in that region also changes. For example, when galaxies or celestial bodies absorb surrounding matter and energy, the **local energy density** increases, which leads to a **structural alignment change** in the space's tensor field. As a result, the gravitational field becomes stronger, promoting the further attraction of matter and energy. This phenomenon clearly demonstrates that gravity is **not solely generated by mass**, but rather arises as a **coherent response between spatial structure and energy order**.

Furthermore, gravity is not a static or immutable field. Instead, its **intensity and characteristics dynamically change** in response to energy absorption, emission, and variations in rotational structure.

Celestial bodies such as planets gain mass through structural alignment and form rotational motion, thereby maintaining a **strong gravitational field**. However, over time, as they lose energy and their alignment degrades, the **gravitational strength also diminishes**.



M101 (Pinwheel Galaxy): A Galaxy Increasing Its Structural Coherence Through Spiral Formation



IC 3583: A Collapsing Galactic Structure that Has Lost Coherence

Even in black holes, a similar mechanism is observed. As they absorb matter and energy from their surroundings, they reach a state of extreme tensor alignment, forming an intense gravitational field. However, this condition is not permanent. When the inflow of matter ceases or the internal tensor capacity reaches its limit, the black hole begins to emit energy in the form of plasma radiation, leading to a gradual collapse of its aligned structure. In other words, **gravity** is the *resonant echo* of energy density and spatial order. It is a phenomenon that can exist only as long as the structural alignment is maintained.

Section 4: The Degradation of Gravity and the End of Rotation

All gravitational fields and rotational structures in the universe do not persist indefinitely. When the supply of matter and energy is cut off, the structural order that was the source of gravity begins to break down. This is observed as a process in which the rotational energy of celestial or structural bodies is converted into thermal energy or wave components, eventually diffusing into space. This phenomenon can be mathematically modeled by the following equation:

Model Equation

$$dL/dt = -\alpha \times L$$

- dL/dt : Rate of change in rotation over time (how quickly rotational motion is lost)
- L : Magnitude of rotational energy (indicative of structural integrity or rotational momentum)
- α (*alpha*): Damping coefficient (rate of energy loss or structural decay)

This equation represents how *rotating structures* (e.g., galaxies, vortices, hexagonal forms) gradually decelerate and eventually come to rest over time. The rotational energy accumulated in these systems is released into the surrounding space as heat or subtle waveforms (radiation), resulting in structural breakdown or deformation.

As this equation suggests, **gravitational fields and rotational motion gradually lose coherence over time**, ultimately decaying alongside the dissipation of energy. That is, rotational energy is not merely a continuation of motion—it exists because of a maintained tensor alignment. When this alignment collapses, gravity itself attenuates and eventually disappears.

Cosmological Implication

This process is evident at all scales—from the deceleration of planetary or stellar rotation, to the dispersion of galactic structures, and even the cessation of black hole activity.

Accordingly, this model asserts that **gravity and rotation are transient phenomena**, emerging from temporarily maintained alignment states. Once the energy supply or structural coherence is lost, **natural collapse** follows as a logical outcome—this is the foundational view of the present theory.

Section 5: Gravity as the Echo of Rotational Wave Resonance (Detailed Description)

Gravity is no longer to be understood merely as the attractive force between masses. Rather, it can be regarded as the **wave-like resonance** left behind in space by once-aligned tensor structures and rotational energy.

When matter exists and tensor alignment intensifies to a high degree, the resulting structure generates a strong gravitational field. A black hole exemplifies this extreme condition: through absorption and rotation, it fully aligns the surrounding spatial structure. However, even after the matter collapses and the structure is dismantled, the **wave patterns of resonance** persist in that space. This lingering pattern explains why gravity can still be perceived in regions where the original matter or structure is no longer present.

This "echo" functions similarly to the reverberation of sound—it persists as a faint memory of energetic arrangement and alignment order, continuing to influence surrounding space as a gravitational field.

Gravitational Field Model Equation

$$G = \Sigma E$$

- G : Gravitational intensity
- ΣE : Total energy distribution within the spatial region (including alignment with tensor structure)

Note: Here, ΣE does not refer merely to the amount of energy, but to the **sum of aligned energy states**. More rigorously, this can be expressed as $G = \Sigma (E \times C)$, where C is the alignment coefficient. However, the simplified notation is adopted here for intuitive understanding.

This model suggests that **gravity depends not so much on local mass**, but rather on the residual resonance and energy accumulation of structural alignments that existed—or still exist—in that region of space. In other words, **even if mass and rotation vanish**, gravity continues to act as a **residual wave**, as long as the traces of energetic alignment are preserved in the surrounding space.