

The Directional Division of Energy During Photon Emission

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Introduction

In directional physics, the equation $E = Mc^2$ does not represent a fixed relationship between mass and energy, but rather the total amount of directional energy contained within the internal structure of a particle. This structure is composed of strings, each possessing its own coherence, dynamic orientation, and directional tension that contributes to the particle's equivalent mass.

When a photon is emitted, it is not an abstract phenomenon or a simple energetic transition: it is a **real division of the internal energy of a string**. A fraction of this energy detaches, acquires its own directional coherence, and becomes the photon, while the remaining portion of the string retains reduced energy and a modified equivalent mass.

This process implies that the equation $E = Mc^2$ must be considered **fractionable**, dynamic, and redistributable. Photon emission therefore corresponds to an internal reorganization of directional energy, where mass and coherence are distributed according to a division factor n , leading to an expression of the form:

$$E_{\text{string}} = \frac{Mc^2}{n}$$

This approach describes photon emission as a structural phenomenon, consistent with the internal dynamics of strings, directional saturation, and geometric models such as black spheres.

Chapter 1 — The Directional Structure of Energy

The equation $E = Mc^2$ is traditionally interpreted as a static relationship between mass and energy. In directional physics, this equation instead represents the total amount of directional energy contained within the internal structure of a particle. This structure is not homogeneous: it is composed of strings, internal physical units each possessing their own coherence, dynamic orientation, and directional tension that contributes to the particle's equivalent mass.

A string is not an abstract geometric object. It is a **reserve of directional energy**, an internal channel where coherence is maintained and redistributed according to interactions. The mass of a particle is therefore not a fixed block: it is the result of the sum of the internal directional tensions of its strings.

Within this framework, photon emission is not an external phenomenon or a simple energetic transition. It is an **internal process**, where a string loses a fraction of its directional energy. This fraction detaches, acquires its own dynamic coherence, and becomes the photon. The remaining string retains reduced energy, a modified equivalent mass, and an adjusted internal orientation.

Thus, the equation $E = Mc^2$ must be considered **fractionable**. When a string divides into n parts during emission, the internal energy is redistributed according to:

$$E_{\text{string}} = \frac{Mc^2}{n}$$

This expression does not modify classical physics: it **extends** it. It describes how directional energy is actually distributed within the internal structure of a particle, and how equivalent mass decreases during photon emission.

This first chapter establishes the foundation: **mass is directional, energy is coherent, and photon emission is an internal division.**

Chapter 2 — The Mechanism of Directional Division

Photon emission is not an external phenomenon to the particle: it is an internal transformation that directly affects the directional structure of its strings. In directional physics, a string represents a coherent unit of energy, capable of maintaining a stable dynamic orientation as long as its internal tension remains intact. When a string reaches a threshold of reorganization, it can release a fraction of its energy in the form of a photon.

This division is not random. It follows a precise directional logic: the string splits into two distinct states, one retaining the primary internal coherence, the other becoming a photon endowed with its own dynamic orientation. The photon is therefore not an entity emerging from nowhere, but a **coherent portion of the string**, detached and stabilized in a specific direction.

Directional division implies that the string loses a measurable amount of energy. This loss results in a decrease in internal tension, which reduces the equivalent mass associated with the string. Thus, photon emission necessarily leads to a modification of the particle's mass, in accordance with the equation $E = Mc^2$, which here becomes a dynamic and fractionable expression.

If the string divides into n fractions, only one of these fractions becomes the photon, while the others remain within the internal structure. The energy distribution is then expressed as:

$$E_{\text{string}} = \frac{Mc^2}{n}$$

This formulation does not represent an arbitrary modification of Einstein's equation, but a **physical description** of how energy is actually redistributed within a directional structure. Directional division is an internal, coherent, and measurable process that explains why a particle's mass decreases after photon emission.

This mechanism forms the basis of the internal dynamics of strings and prepares the understanding of the photon's directional coherence, which will be addressed in the following chapter.

Conclusion — The Fractional Nature of Directional Energy

The analysis of photon emission within the framework of directional physics reveals an internal structure of energy far more dynamic than that described by classical models. The equation $E = Mc^2$, far from being a fixed relationship, becomes a living expression, capable of dividing, redistributing, and reorienting according to the internal coherence of strings.

We have established that:

- a particle is composed of directional strings,
- each string possesses internal tension contributing to equivalent mass,
- photon emission is a real division of this internal energy,
- the string loses a fraction of its directional coherence,
- the photon becomes an autonomous unit with its own dynamic orientation,
- the particle's mass decreases accordingly, in line with $E = Mc^2$.

This understanding allows the equation to be reformulated in a fractional form:

$$E_{\text{string}} = \frac{Mc^2}{n}$$

where n represents the number of internal divisions resulting from the emission. This expression does not contradict modern physics: it **extends** it by describing the internal mechanism linking energy loss to mass loss.

The directional division of energy opens the way to a deeper understanding of luminous phenomena, internal particle transitions, and geometric structures such as black spheres.

It establishes a direct link between internal coherence, string dynamics, and the very nature of the photon.

This document lays the foundations of a physics in which energy is no longer a uniform block, but a **directional architecture** capable of dividing, propagating, and reorganizing. Future chapters may extend this logic to complex interactions, saturated structures, and advanced geometric models of directional physics.