

Chapter 1: Redefining the Structure of Space

In this paper and hypothesis, space and cosmic space are not expressed using the conventional x, y, z axes. Instead, a unique spatial definition is applied. While space is traditionally represented using x, y, and z coordinates, these merely serve as directional units for explanation. They differ from the foundational definition of space in which the cosmos can exist.

To maintain order and prevent collapse in the cosmos, the absolute spatial direction is necessary. A space lacking directionality would cause all energy and matter to intermingle and cross paths, preventing the formation of an ordered cosmic space. This study assumes that absolute directions were required to structure space at the onset of the Big Bang and defines those directions as follows:

The six cardinal directions—front, back, left, right, up, and down—extending from the ignition point of the Big Bang are defined as axes x1 through x6. Additionally, eight diagonal directions extending at 45 degrees from the ignition point are designated as axes t1 through t4, with two opposing diagonal axes unified as one. All cosmic order and laws are presumed to arise from this spatial directionality. It is currently unverifiable whether these directions preexisted the Big Bang or were defined concurrently. However, without them, the radiative explosion of the Big Bang and the maintenance of cosmic space would not be feasible. This paper systematically examines various cosmic phenomena through their relationship with this directional structure.

To visualize and analyze the structure composed of these six and four directions, we propose a conceptual model using grids and virtual cubes. These cubes fill space in a pattern referred to as a tensor structure. Various cosmic alignment phenomena—such as gravity, light, energy, time, and space—as well as traditionally separate phenomena like redshift, are all consistently explainable and verifiable under this directional hypothesis.

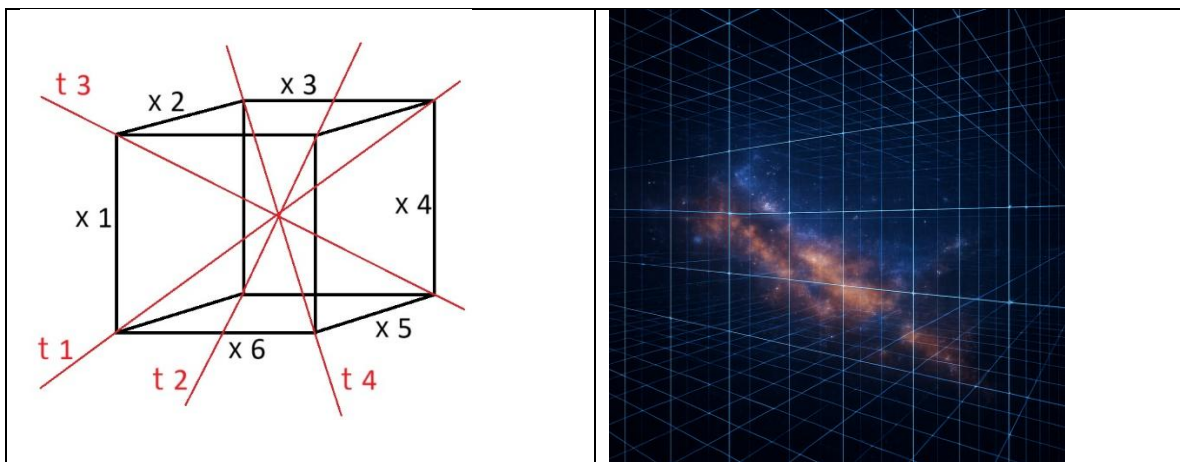


Diagram: Conceptual image of a spatial tensor structure consistent with cosmic space. Space is redefined as a structural lattice.

Assuming a space lacking order or directionality leads to several logical contradictions. For instance, one could not explain the alignment of matter or the unidirectional propagation of light—motion would be entirely random. However, many observable cosmic phenomena exhibit clear directionality, including the alignment of galaxies, filament structures of galactic clusters, and even the anisotropy of the CMB. These support the realistic assumption that space indeed possesses direction.

Additionally, assuming the absence of spatial centrality undermines the consistency of physical laws. For example, the modern model positing isotropic radiation from the Big Bang contradicts observational data. In reality, the radiation exhibits minute variations in intensity, speed, and direction, indicating the presence of an ordered structure with directionality and centrality.

Rather than viewing space as merely a spread of distances, it should be regarded as a medium that aligns energy and matter resonantly. Space is not merely a stage for matter—it is order itself, providing the foundation for the necessity of existence.

What we typically call “space” is not an empty container or simple expanse, but a medium inherently containing an ordered structure. Without directionality, concepts like distance, speed, and motion are undefinable, and no laws can logically emerge. From this perspective, the hypothesis that “directionality” emerged alongside “space,” “time,” and “energy” at the moment of the Big Bang is not just a structural model, but a necessary element for the cosmos to exist as an ordered reality.

■ The Universe is Considered Static

I posit that the universe is ordered and static. It began with the Big Bang and continues to be structured and maintained according to the following absolute principles and laws:

- Directionality
- Speed (as per modern theory's high-speed constant)
- Time
- Force
- Evolution (Change)

These principles will be explained progressively in the chapters of this paper.