

The Correlation Between Cosmic Motion Directionality and the Arrow of Time: A New Explanatory Perspective

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1 INTRODUCTION

In the field of astronomy, modern instrumentation such as the James Webb Space Telescope (JWST) has provided humanity with unprecedented data, unveiling secrets of the cosmos that challenge our fundamental understanding of physics. Despite these advancements, the nature of "Time" remains one of the most profound enigmas. Specifically, the "Arrow of Time"—the question of why time moves exclusively from the past through the present and into the future—lacks a universally accepted mechanical explanation. This paper proposes that time is not an independent background dimension but a direct product of consistent, unidirectional motion

THE CONCEPTUAL DEFINITION OF TIME

To understand the directionality of time, one must first redefine time through the lens of observable motion. In human experience and astronomical observation, time is a measurement of cycles

A Day: Defined by one complete rotation of the Earth on its axis. A Year: Defined by one complete orbital revolution of the Earth around the Sun. A Galactic Year: Defined by the Solar System's orbit around the galactic center

In this framework, time is essentially the quantification of spatial displacement. It is relative and varies across the universe depending on the local dynamics of motion

THE UNIDIRECTIONALITY OF MOTION AND TEMPORAL FLOW

The core of this theory suggests that the reason time does not move backward is the persistent directionality of cosmic bodies in one direction. For billions of years, the Earth has rotated and orbited in a consistent one direction. Similarly, the Solar System and entire galaxies exhibit high-speed motion in one direction toward specific gravitational centers (such as the Great Attractor)

If time is a product of motion, then the "Arrow of Time" is a reflection of the "Arrow of Motion." Because the celestial mechanics of our universe spontaneously reverse their kinetic paths only one direction, the perceived flow of time remains unidirectional

CONCLUSION

This perspective shifts the focus from time as a theoretical abstraction to time as a physical consequence of kinetic energy and directional consistency. The alignment of motion at planetary, stellar, and galactic scales creates the temporal sequence we experience. Further investigation into the gravitational influences that maintain this directional consistency may provide deeper insights into the origins of temporal flow.

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