The Primon Hypothesis: A Sub-Planck Foundation for Matter and Existence

Author: Shaik Shafi

This paper proposes the existence of a class of hypothetical particles called Primons - fundamental entities smaller than the Planck length, omnipresent throughout the universe, and timeless in nature. Unlike known particles, Primons do not originate from any higher order structure; they simply *are*. Over vast periods of time, they are hypothesized to merge and form known particles such as electrons, atoms, or even dark matter. This concept challenges the Big Bang as the only origin theory of the universe.

1. Introduction

The question of how the universe began continues to puzzle science. The Big Bang Theory remains our most widely accepted model, yet it does not fully address what existed 'before' the Bang, nor how something emerged from nothing. This paper presents an alternative thought: that the universe did not arise from a singular explosive event, but rather emerged gradually from an omnipresent field of ultra-tiny, undetectable particles called *Primons*.

2. The Core Hypothesis: Primons

Primons are theoretical particles:

- Smaller than the Planck length
- Omnipresent across all space
- Unaffected by temperature, gravity, or pressure
- Timeless and fundamental

They do not interact with known forces until they begin to cluster or merge. Over unimaginable spans of time, these interactions give rise to more familiar particles - potentially even forming atoms and the building blocks of galaxies.

Importantly, Primons are not 'created.' Their existence precedes time and causality. We do not ask where numbers come from; in the same way, we do not ask where Primons come from. They *just are*.

3. Implications for the Origin of Matter

If the universe is built upon Primons, the concept of 'creation' becomes a phase transition rather than an absolute beginning. Primons slowly merging to form particles offers a non-singular, gradual model of universal formation, avoiding the infinities and singularities of traditional Big Bang cosmology.

This framework also allows for a universe with no clear starting point. Instead, reality has always existed in the form of this primal substrate, patiently evolving.

4. A Possible Explanation for Dark Matter

Primons may hold the key to the dark matter puzzle. If these ultra-tiny entities interact in unusual ways, they may form 'dark particles' that cluster gravitationally but remain invisible to current detection methods. These dark particles may combine to form what we observe as dark matter.

Thus, dark matter might not be a separate exotic matter class, but rather a result of rare interactions between Primons that form unseen yet gravitationally influential matter.

5. Time as an Illusion

In this theory, time is not a fundamental dimension but a consequence of particle interaction. Without movement or change, there is no time - only the static presence of Primons. Time begins only when Primons form observable matter and begin interacting in a measurable way.

This aligns with modern views in quantum gravity and loop quantum cosmology where time is considered emergent rather than fundamental.

6. Philosophical Reflections

The Primon Hypothesis invites a rethinking of existence itself. By accepting the Primons as uncaused and omnipresent, we bypass the need to constantly ask 'what came before?'

They are the foundational axioms of physical reality - the background noise of the cosmos, giving rise to form, motion, and time itself.

7. Limitations of the Primon Hypothesis

1. **Lack of Empirical Evidence**

Primons are defined as being smaller than the Planck length, meaning current scientific instruments and methods cannot detect them - even indirectly. This makes the hypothesis currently non-falsifiable.

2. **No Mathematical Framework (Yet)**

As a student, the author acknowledges a lack of formal mathematical backing. This leaves the theory conceptual for now, but open to future development by others with deeper mathematical and scientific tools.

3. **Conflict with Established Physics**

While Primons may conflict with current cosmological models, one explanation could be that they are so neutral and small that their presence is indistinguishable from a vacuum.

4. **Unclear Mechanism of Merging**

The exact process by which Primons cluster and form known particles is left open for future

exploration.

5. **Dark Matter Explanation Needs Clarification**

It is not claimed that dark matter is a transitional form of matter. Instead, dark particles could emerge from unique interactions between Primons, which may then cluster to form what we observe as dark matter.

6. **Philosophical Nature**

The author does not yet have a firm answer to whether the idea leans more toward metaphysics. It remains a philosophical foundation for a new type of thinking about matter.

8. Conclusion & Future Direction

While purely theoretical, the Primon Hypothesis offers an elegant answer to deep cosmological questions. It introduces a new way to think about the universe's origin, dark matter, and the nature of time.

Future work might explore how such a framework could fit into quantum gravity, string theory, or simulation-based cosmologies. Until then, the Primons remain hidden but ever-present, waiting to reveal the universe one particle at a time.

Proposed by: Shaik Shafi