Lambda Dark Matter

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Abstract

Lambda Dark Matter (LDM) envisions dark matter as a wavelength (λ) phenomenon. How particles and energy waves are defined influences how and if LDM could be a valuable part of an emerging Theory of Everything.

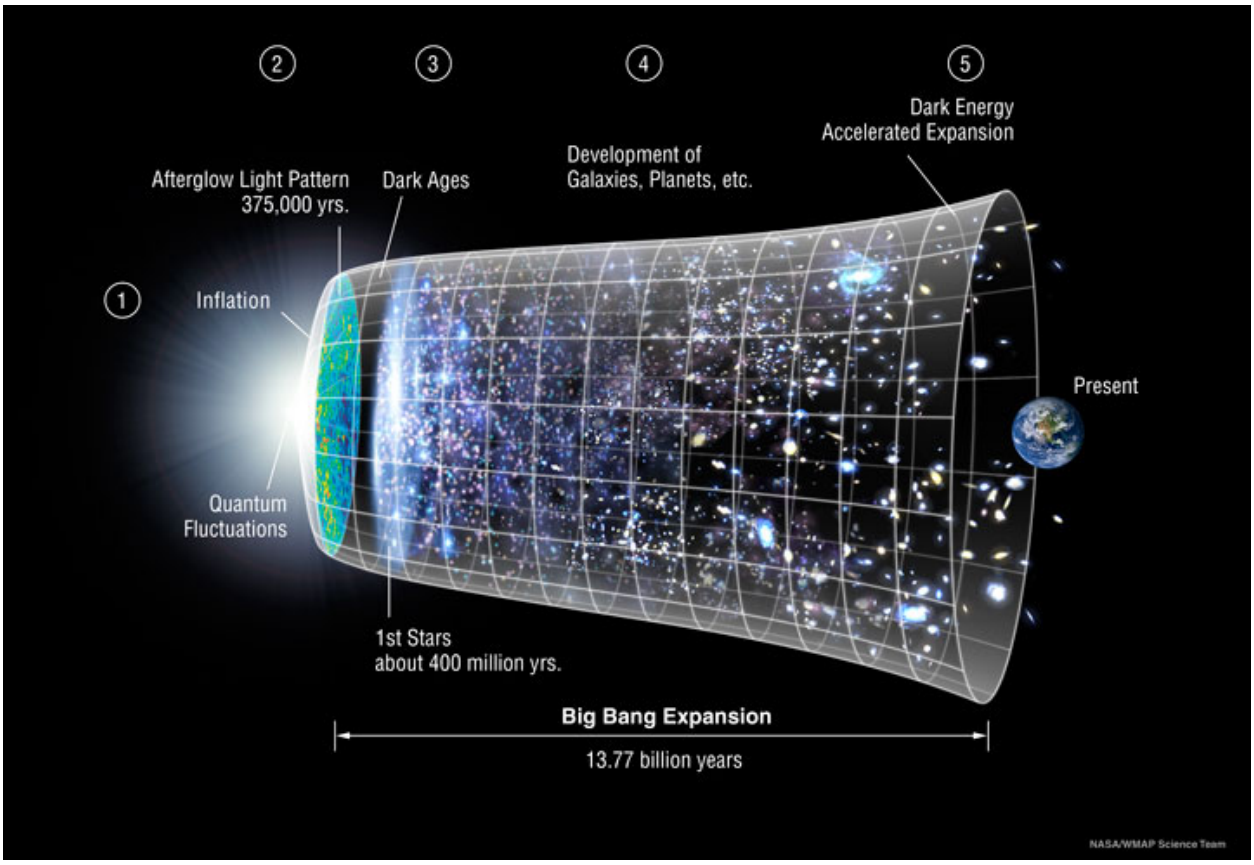
Lambda Dark Matter (LDM) is one of the unicorns of current astrophysics. A significant minority of our visible electromagnetic universe is comprised of LDM invisible to our finest instruments, because baryonic (or ordinary) matter alone does not account for all observed cosmic gravitational effects. The largest portion of our visible EM universe is supposedly invisible Dark Energy, even though DE may not exist at all as commonly modeled within the wrong gravity paradigm.**[1]**

Whether we go with the spacetime gravity model of General Relativity, or even a modern and correct version of push/shadow gravity, we still need more than baryonic matter vectors to make sense of all local and cosmic observations. We likewise need something better than voodoo accelerating Dark Energy.

Quantum theories began in 1900 with Max Planck's clever model of quantum energy (quanta); and continued through Einstein's 1905 Nobel-winning contributions; leading to Werner Heisenberg's 1925 quantum mechanics (QM). It was thereafter that classical particle physics began to seriously encounter and partially blend experimentally with some quantum field theories, mostly on matters of linear dimensional scale.

We herein point to aspects of our *local* Big Bang universe, that is popularly visualized as a horn-like temporal expansion. Below is a graphic visual of the simplified post-BB universal "horn" in all its glorious inaccuracies. This essay also introduces competition among astrophysical paradigms, generally with myopic theorists challenging others also bound by antique theory. I will enhance thesis aspects of this brief essay in forthcoming discussions.

Here is the simplified *horn-like graphic* of our *spherical* Big Bang expansion that continues to emerge after 13.77 billion Earth years. It is mostly built on the venerable Standard Model of Particle Physics, and influenced by quantum field theories. Some critical core questions have been avoided, or simply distorted by 2D math absurdities. This graphic may look like it is close to a finished product, but is not. Some astrophysicists have embraced paradigms with clever force variants *not clearly causative, even if highly correlative* with dimensionally limited observations.**[2]**



Even though the "giant horn" presents a fairly simple and tidy graphic, the cosmic history presented therein is not fully causally correct, even while it *seemingly correlates* well with underlying models. There are *two fundamental problems* with this simplified depiction of our visible universe's omnidirectional emergence:

First, *polydimensional maths-versus-4D spacetime physics* are minimized through blurring. Ignoring proper dimensions does not make reality vanish, however correlative. Today's astrophysics is still nowhere near a TOE, despite billions of dollars being spent.

Second, *the physical 4D multiverse is nowhere envisioned, but everywhere to be felt in real gravity.* It is not by accident that this graphic's background is shown as black. Out beyond this local universe pretending to be a multiverse only a transcendent God beyond time and space could exist, according to popular theologies and theocracies. Local, visible 4D universes similar to ours do populate the vast 4D multiverse.**[3]** Einstein's General Relativity was 4D, which helps to explain why he lost the weird quantum theory war to astrophysicists who better blurred the border between polymath and 4D linear physics.

A recent quantum theories survey among astrophysicists still reveals fundamental model disagreements. The Copenhagen interpretation remains most popular, but there are other clever models also in play with separate fancy algebras.**[4]**

References

[1] https://astronomy-links.net/size.of.universe.pdf

[2] https://lambda.gsfc.nasa.gov/education/graphic_history/univ_evol.html

[3] https://astronomy-links.net/beyond.the.multiverse.pdf

[4] https://www.nature.com/articles/d41586-025-02342-y