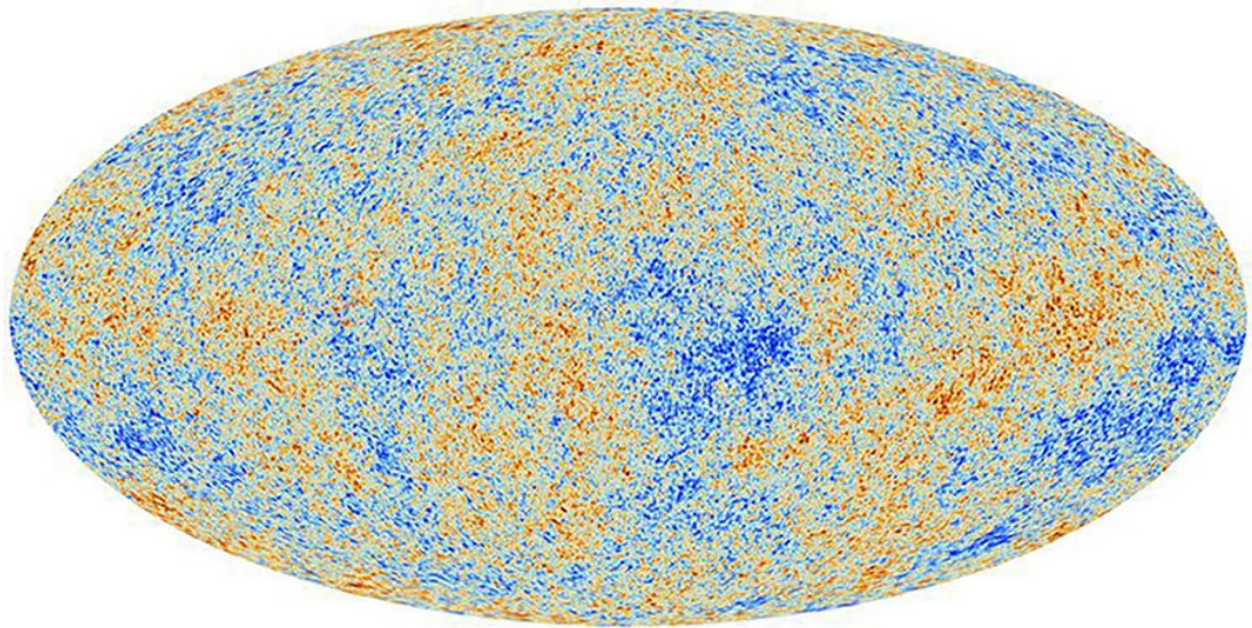


# Evidence for Multiverse

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## Summary

Planck observatory data supports the updated paradigm of Push/Shadow Gravity, as well as a new view of Dark Energy, and the idea of a Multiverse. This evidence for multiple universes, of which our visible universe could be just one of many, has been extracted from raw Planck satellite data. The data confidence is at 70%, and there is a path toward achieving a higher degree of



confidence. This refined Cosmic Microwave Background (CMB) information supports both the recently revised paradigm of push/shadow gravity – and the idea of Dark Energy *only* being net push force toward adjacent Multiverse shadowing masses.

# The Study in Context

Ever since *Cosmic Microwave Background* radiation was discovered in the 1960s, and its discoverers were awarded the Nobel Prize, astrophysicists have delved into the many mysteries hidden therein. Specialized satellites have been launched to be above our frequencies-filtering atmosphere. Three increasingly sophisticated space observatories have been launched: COBE, WMAP, and Planck.<sup>1</sup>

There is an important 2008 paper that set the stage for this study: *Towards observable signatures of other bubble universes*<sup>2</sup> dealt with false vacuum bubble collisions among adjacent universes.

This 2015 study looked at a treasure trove of data from the most recent and precise source: the Planck observatory, which accumulated CMB data over four years in four specific gigahertz bandwidths.<sup>3</sup>

Our visible universe is close to 13.7 billion light years old. Ideas of primeval Big Bang inflation make the total bubble we live in significantly larger, but this does not diminish what the CMB reveals. The CMB image we see is from the era of cooling when atomic *recombination*<sup>4</sup> occurred, allowing photons to escape from the original plasma soup, and thereby allowing today's visible universe to illuminate and emerge.

The CMB bubble is not smooth, as seen in the Planck telescope observatory image above. Many variations are seen in what

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1 <http://www.theguardian.com/science/2013/mar/21/planck-telescope-light-big-bang-universe>

2 [http://arxiv.org/PS\\_cache/arxiv/pdf/0704/0704.3473v3.pdf](http://arxiv.org/PS_cache/arxiv/pdf/0704/0704.3473v3.pdf)

3 <https://www.inverse.com/article/7403-scientists-may-have-just-discovered-a-parallel-universe-leaking-into-ours>

4 [https://en.wikipedia.org/wiki/Recombination\\_\(cosmology\)](https://en.wikipedia.org/wiki/Recombination_(cosmology))

should be a Big Bang *isotropy*, or visual smoothness. All three microwave-detecting satellites detected some areas that are cooler than others. Being the most sensitive, Planck gives us the sharpest images with much better data. Different areas are known as *anisotropic* zones in the CMB.

Caltech cosmologist, Ranga-Ram Chary, carefully examined layers of data, looking for signals that are impossible in our visible universe. Using multiple filters to eliminate categorical data, such as known signals from our galaxy, he was able to narrow the search down to the *143 gigahertz frequency filter* in one large dark area.

He discovered therein signals indicating the presence of *baryonic* (force carrying) matter from a relatively higher concentration of more massive baryons, and relatively fewer less-massive photonic baryons.<sup>5</sup> *No signal of this nature has been detected anywhere in our visible universe.* A level of certainty was calculated from the data at 70%.

The proposed Planck successor, PIXIE, will significantly reduce that percentage of intergalactic noise uncertainty.<sup>6</sup>

The results of Chary's study are found in his paper published September 2015: *Spectral Variations of the Sky: Constraints on Alternate Universes.*<sup>7,8</sup> The working hypothesis for his study was explained in the article's introductory summary as follows:

"The fine tuning of parameters in the early Universe required to reproduce our present day Universe suggests that our Universe may simply be a region within an eternally inflating super-region. Many other regions beyond our observable Universe would exist

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<sup>5</sup> <http://astronomy-links.net/Gravities,BlackHoles,BigBangs.pdf> (p.4)

<sup>6</sup> <http://asd.gsfc.nasa.gov/pixie/>

<sup>7</sup> <http://arxiv.org/pdf/1510.00126v1.pdf> (September 2015)

<sup>8</sup> <http://arxiv.org/abs/1510.00126>

with each such region governed by a different set of physical parameters than the ones we have measured for our Universe. Collision between these regions, if they occur, should leave signatures of anisotropy in the cosmic microwave background but have not yet been seen.”

Even the Planck Observatory’s view of an adjacent universe is extremely crude. A century ago, when GR was formulated, astronomers thought the Milky Way was the center of it all, since the astronomy of 1915 was crude even for Milky Way components. The giant, nearby Andromeda galaxy was known as a spiral nebula. A true nebula, such as the Milky Way’s Orion Nebula, is a gassy cloud typically containing some stars. A galaxy is an organized cloud of stars much more distant, though in many ways resembling our home MW galaxy.

The data presented in this study describe only one area of dense extra-universal matter. Any additional universe would literally indicate a multiverse. Two universes alone constitute that much. Where two or more universes are shown to be juxtaposed, it is elegantly logical to predict the likelihood of multiple universes, possibly like bubbles in a bath.<sup>9</sup>

Both natural and mathematical languages can be precise, or unintentionally myopic, when matched up against the real world they attempt to describe. What is clearly denoted may carry connotations at variance with what is said or described. Words can change their meanings with use over time. Worse still, words and concepts can be linked to obsolete mathematical models and incomplete science. It is tempting to use old comfort maths to describe new scientific models.<sup>10</sup>

A very weird extension of General Relativity is M-theory, a recent variant of string theory. In that math world there are  $10^{500}$  or more possible unique universes within eleven

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<sup>9</sup> <http://astronomy-links.net/Gravities,BlackHoles,BigBangs.pdf> (pp. 9-11)

<sup>10</sup> <http://astronomy-links.net/ethers.html>

dimensions. This vast number also supports the equally weird quantum theory idea of “spooky action at a distance.”<sup>11</sup> When we understand that our visible universe “only” has  $10^{80}$  hydrogen atoms, the psychedelic vision of M-theory is astonishing and incredible.

Isaac Newton in the 17th century described a tidy three-dimensional universe. Einstein’s major contribution in 1915 was to show us more about a fourth dimension, time. He called it *spacetime*. Unfortunately, spacetime with ethereal membranes has led to multiple profound errors.<sup>12</sup> It is best to be satisfied with a classical four-dimensional universe for us, and at least one more four-dimensional universe adjacent. Each universe would have differences in composition, but still be not that different.

Alternate universes include the string-theory idea of looping *gravitons* as force-carrying tractor beams operating at the Planck dimension ( $10^{-35}$  meters) between parallel universe branes. Tractor beams do not exist as the force of gravity, no matter how “elegant” and self-reflexive the cute math is.

String theory is rapidly going out of favor, and now is seen by many physicists as a form of unprovable metaphysics. Even television’s fictional Dr. Sheldon Cooper has been asked to switch from string theory to Dark Matter, the refuge of last resort for ivory tower string theorists.

My paradigm is of *Yin/Yang particles*, which individually exist at the  $10^{-39}$  meters dimension. These elementary matter/energy units dialectically combine into linear strings, and into looping strings called gravitons. All larger “primary” particles are composed of Y/Y truly primary particles in various combinations. This improved model is therefore radically different from the string theorists’ idea of gravitons, even though some of the vocabulary is borrowed.

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<sup>11</sup> <http://astronomy-links.net/Quasars.and.Mini-Quasars.pdf> (pp. 8-9)

<sup>12</sup> <http://astronomy-links.net/ethers.html>

Gravitons and other fundamental composite particles flow between and among adjacent universes *from all directions with equal force and with different speeds*, which forms the basis for the omnidirectional “push” in push/shadow gravity. The idea of many nearby universes is critical for the push/shadow gravity paradigm. Otherwise, gravity forces would be asymmetrical. It is also the most elegant component of a multiverse of interpenetrating bubbly universes.

Quantum field theory, including loop quantum gravity, speaks of a “quantum vacuum” in space, populated by vast numbers of quanta, which are hypothesized to exhibit nearly instantaneous communication through changing spins, even across light years. Not true, but a clever idea anyway that is not entirely removed<sup>13</sup> from *the better model of Y/Y particles found both as local “quantum” fields, and as multiversal corpuscular flows.*<sup>14</sup>

Yin/Yang particles are in some ways like quanta, due to their size and ubiquity. However, *within their individual frames* they are not indeterminate in the way of Heisenberg – but classical at the most basic level where energy and matter interchange, and from which all phenomena are built. Just because something is hard to measure does not indicate the “some thing” defies the standard laws of physics.

My better 21st century model satisfies the Law of Parsimony, and minimizes the problem of meta-physics. It smoothly extends the range of the standard model of particle physics, identifying the dimension where energy and matter interpenetrate.

It doesn't take  $10^{500}$  interrelating universes within eleven dimensions for my 21st century paradigm to make sense. It does take scientific common sense.

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<sup>13</sup> <http://astronomy-links.net/spiral.galaxy.arms.pdf>

<sup>14</sup> <http://www.csmonitor.com/Science/2015/1129/100-years-after-Einstein-s-breakthrough-tensions-remain-with-quantum-gravity>