# The Big Bash Alternative Model of the Universe

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## Abstract

**There is a growing body of evidence that is inconsistent with the current standard model of the universe and researchers would prefer an alternative model that is more coherent and cohesive. This paper presents an unexamined 4D model that secures the anomalous loose ends that flail the Inflationary Hot Big Bang model. These anomalies include: dark energy, dark matter, Euclidian flatness, cosmic microwave background texture, big bang origin, early genesis of stars and galaxies, anthropic conditions, matter/antimatter asymmetry; plus structures observers report to be older than the big bang. Synthesis of this evidence suggests we live in a steady-state universe that grows massive singularities which eventually collide to generate big bangs. The paper also examines how electromagnetic fields might play the role of gravity. Its Big Bash model incorporates no dubious physics and will provide theorists much fresh organic fodder to ruminate on.**

## Introduction

The goal of the Inflationary hot big bang model is to determine how the big bang gave rise to our universe[1]. While it was not unreasonable to assume the big bang marked the birth of the universe; researchers find a growing body of evidence that the universe is much older than the 13.7 billion year age of the big bang.

A.K. Lal's paper, "Big Bang? A Critical Review", focuses on research covering Great Walls and Great Voids that take five to twenty times longer to form than the age of the big bang[2]. The well-funded consortium of Sloan Digital Sky Survey members continues to produce sky maps that portray an ever more comprehensive body of these great structures[3]. And in their extensive analysis of the makeup of local galaxies, P.J.E. Peebles & Adi Nusser conclude that while the relativistic Big Bang theory provides a good description of our expanding universe, observed properties of nearby galaxies "suggest that a better theory would describe a mechanism by which matter is more rapidly gathered into galaxies and groups of galaxies[4]." Hundreds of scientists and institutions support the belief that another model will better handle these anomalies[5].

## An alternative model

When one attempts to supersede a strong theoretical model, it soon becomes apparent how many intellectual giants are vested and one is quickly humbled by the daunting task. One difficulty lies in finding a point of common agreement from which to diverge. After many revisions, I've concluded it will be best to introduce the story in the 1929-1950 setting, where cosmic theorists approached a fork in the road.

In 1929 Edwin Hubble presented evidence that the known universe is expanding. That led to a struggle between steady-state theorists and big bang theorists in which big bang evidence prevailed. Now we see evidence that the universe is much older than the big bang. My story begins at the juncture from which steady-state advocates and big-bangers diverged.

It consolidates their models. Instead of describing how the big bang spawned our new universe; it describes how our old universe spawns big bangs.

Even if this behavioral model is flawed, theorists should come away with insights to dispel the myth that we've run out of 4-space ideas with which to explain the nonconforming evidence researchers continue to place before us. The model is introduced in the hope researchers will assess its comprehensiveness, cohesiveness, and coherence and use it as a context for examining any of their own anomalous evidence which I have not addressed.

The Big Bash model, presented here, consolidates big bang evidence with evidence that we live in an older and grander universe. This union provides the nuances and dynamics necessary for updating our current model to one that is more consistent with the findings. The model retains many Standard model attributes, but its initial assumptions need revisiting as our big bang would not have occurred in emptiness and its preexisting background imposes many of its own dynamics. And if it was the older universe that gave rise to the big bang, we might reasonably assume that our big bang was formed of the same stuff as its progenitor.

Noting that our big bang started out hot, dense, and as a uniform ball of light matter and has since cooled, to become sparse clumps of heavier matter; we might reasonably assume the older background universe will tend to contain even colder and sparser clumps of denser and heavier matter, with black holes that are both more numerous and more massive than those originating from our big bang.

Since the processes of a steady state universe are rather circular, I'll begin by stating that the background universe gave rise to our big bang and then describe how that occurs as we come to the appropriate point in the process.

## Dark energy

The 2011 Nobel Prize in Physics went to Saul Perlmutter, Adam Riess, and Brian Schmidt for their discovery that the big bang's expansion is accelerating.[6] (More accurately, the prize was awarded for their discovery that the *universe's* expansion is accelerating; as the current standard model posits that the big bang *is* the universe.) There is no apparent mechanism to stop this expansion and, from appearances, the universe's three spatial dimensions are becoming infinite—if they weren't already infinite.

The Big Bash model posits that the big bang took place within our universe's preexisting 3D space and that our big bang is but a local example of many such events.

The mysterious force accelerating our big bang expansion is called "dark energy". From our perspective dark energy behaves like negative gravity. So when dark energy modulates the expansion, we find an early decelerating expansion caused by the gravitational resistance of the big bang's own mass, and then—several billion years later—the dark energy causes a gradual reacceleration. The Big Bash model provides a simple explanation for dark energy.

If we shoot a projectile to earth from its moon, the moon's gravity initially decelerates the missile until earth's gravity becomes dominant. Then the projectile reaccelerates as it continues its journey to earth. If our view beyond the departing missile were obstructed the way big bang matter obscures our distant view, we'd get a sense the missile had encountered a negative gravity; the same sense we get when observing our reaccelerating expansion. The big bang's expansion has the velocity profile one might expect to see if our big bang is surrounded by other colossal masses that share its 3D space.

This reacceleration in all directions tells us there is far more mass in every direction beyond our big bang than there is within it. The masses of, and distances to, these outlying attractors should be random and therefore the rate of our bang's expansion is not necessarily uniform in all directions. Thus, dark energy itself helps substantiate that our big bang took place in an older and grander universe. The Big Bash model, therefore, does not need negative gravity or Einstein's rejected cosmological constant to explain dark energy.

## Euclidian flatness?

Researchers expend much effort pursuing the ultimate outcome of the big bang's expansion. They ask: will the big bang expand and thin forever, will it slow but never quite stop, or will it collapse on itself? The big bash answer is "none of the above". Our big bang is being reabsorbed by the same universe that spawned it. That reabsorption leads to more big bangs.

## Growing the singularities that become big bangs

Galactic superclusters are the most gravitationally attractive objects we see from inside our big bang. These clusters will continue to grow in mass for as long as they have nearby objects they can attract and feed on. If our big bang contained all of the universe's matter, then even the largest superclusters will grow to but a tiny fraction of the big bang's mass, since their radial trajectories are accelerating them outward and away from one another. The big bang's own gravity is not sufficient to draw them back together again.

Superclusters contain thousands of black holes and countless chunks of galactic star stuff. It's all merging and compacting into fewer and ever more massive galaxies and black holes. Each cluster will eventually be rendered down to one massive black hole. But, since our clusters are accelerating outward, there must be far more gravitational matter where they're headed. What could possibly stop their endless growth?

Black holes squeeze captured particles until they collapse and can no longer move. In the process the black holes' heat gets squeezed out. Stephen Hawking tells us that the more massive a black hole becomes, the lower its temperature gets.[7] He says, "A black hole with a mass a few times that of the sun would have a temperature of only one ten millionth of a degree above absolute zero." He goes on to say that a black hole will continue to absorb more mass than it emits until the background radiation temperature falls below the temperature of the black hole. At that point the black hole will begin its virtual eternity ($10^{60}$ years) of slow evaporation.

Now, if we had a black hole ten billion trillion times more massive than our sun—on the order of the mass of our big bang—and it had a temperature near absolute zero, it would be the most stable mass imaginable. What sort of natural force could possibly cause such a mass to blow itself to smithereens?

One mission of CERN's Large Hadron Collider is to smash heavy particles together at near light-speed in order to simulate a big bang. Well, ultra-massive black holes are pretty heavy particles and gravity would be the only force capable of smashing them. The Big Bash model requires *two* singularities to produce each big bang.

## Powering big bangs

In this model gravity sparks all of the heat, pressure, electrostatic, and electrodynamic energy forms when it bashes black holes together to create big bangs. It also quiesces these energies by squeezing heat out of the atoms in stars, where smaller atoms are transformed into ever more massive, but cooler and less energetic elements. Gravity finally subdues their motion and quenches their heat by crushing them back into black holes. This constant crushing process generates a continuous stream of out-flowing heat in the form of photons and electromagnetic energy.

When super-duper clusters run low on nearby matter to sweep up and the surrounding space becomes relatively empty; most stars get consumed by the black holes and the black holes centrifugally spin down and merge into one massive singularity; creating a gravitational focal point for other singularities to home in on.

Newton's equation for gravity's accelerating force is: $F=G(m_1 \times m_2)/d^2$, where G is his gravitational constant, $m_1$ and $m_2$ are the masses of our two singularities, and $d$ is their ever closing distance. The product of the masses is huge and as their speeds approach light-speed, relativity's mechanics tell us their effective masses approach infinity. Gravity's particle accelerator has an amazing feature, however, and during the last few hours, while the singularity distances are closing from a billion kilometers to a meter; gravity's force gets cranked up a trillion trillion ($10^{24}$) fold. And since the radii of singularities are thought to be very near zero, gravity's force also approaches infinity as the singularities begin to pancake and splatter.

Big bashes become natural phenomena when mass and space are unlimited. Bashes would come in many sizes and shapes; coexisting and comingling at all stages of their life cycles. Smaller bashes may even exist within our own big bang, though it is yet to be determined how large a void and how much time is required to accelerate and focus the energies of two singularities. It seems that great adjacent masses would easily draw them off their collision courses, causing them to orbit one another and eventually merge.

Our own bash takes the form of a splat and central ball of hot plasma; much like that of the Standard hot big bang model; but due to the spinning singularities, their splat, and the preexisting universe's heat and dense matter; the system is not smoothly inflating nor does the expansion create the existence of space—as space was already in place.

I and others have had difficulty comprehending the concept of the speed of light squared. Here's an exercise that helps visualize that concept: Assume our singularities are of similar mass and energy. Each singularity's kinetic energy is expressed as: $E = ½ mv^2$ (half the mass times the square of its velocity). Summing their two energies yields: $E = mv^2$. And if they collide at the speed of light, substituting $c$ for $v$ yields: $E = mc^2$. Thus, Einstein's famous equation very simply describes the kinetic energy of two masses bashing one another at the speed of light and $c^2$ is simply the upper limit of velocity squared.

## A steady state universe

The Big Bash is a steady-state model requiring vastly more mass than our big bang contains, in order for it to cycle in perpetuity. For math modeling purposes it seems appropriate to start with a universe trillions of light-years in diameter and with millions of big bang masses. However, there may be no upper limit to its mass, volume, or age.

Within this constantly recirculating universe, massive bodies continuously sweep up most of what they encounter and matter not gathered gets flung to distant reaches. Cosmic clusters become increasingly massive while their surrounding space is becoming ever more rarefied. This local cleansing continues until another bash refills vacated spaces with dense clouds of new dust. The voids remain randomly littered with old dense cosmic debris, so the clouds encounter plenty of seeds from which to grow new stars. New dust clouds will even reignite the old stars. These reignited stars will be more metallic and heavier than stars grown from new gas and small seeds.

## Great Walls, Great Voids, and Cosmic Microwave Background Texture

How is it that right in the middle of our 13.7 year old big bang we find huge structures that look to be ten times older? The most significant of these are a series of closely packed Great Walls, each made up of hundreds of millions of galaxies strung out over a billion light years of space; and similarly sized voids, called Great Voids[2,8,9]. Try this:

While the space surrounding our big bang may have been mostly void of old matter at the time of collision; even before the background radiation cloud becomes translucent it starts overrunning old stars, galaxies, and other cosmic detritus. As rivers of ancient galaxies pass across the bow of the expanding wave front, dense new gas is deposited throughout the older colder galaxies, refueling their fusion processes and forming great walls. Having blocked and absorbed much of the expanding new gas, we'd find great voids in their shadows.

The early expanding system packs a powerful electromagnetic and acoustic wallop. When it overruns galaxies it smashes stars and planets, creating enormous strings of debris; similar to the smaller strings we see surrounding supernovas. When the shockwave scatters galaxies, their black holes remain intact and get dispersed in the strings of dust. Once the expanding plasma cools and thins, external bodies being overrun will mostly remain intact and show up as red or blue shifted objects that are out of character with their surroundings.

One question researchers pose for our big bang is: what created its patchy texture[10]? The Inflation model has an accelerated expansion that takes place at a speed vastly exceeding the speed of light and amplifies the small-scale irregularities that arise during the formation of mass from nothingness. The Big Bash posits that this texture was formed in a more natural process.

When the big bang's uniform plasma cloud overruns the old cold sky, its smooth background radiation gets perforated and textured while colliding with huge quantities of ancient objects. This creates the breaks, swirls, and dense seeds that stimulate early galaxy and star formation. Our new system has overrun a sky littered with black holes, white dwarfs and other cold, dark, and dense objects. This stirring process breathes life into the smoothly expanding dullness; animating its countenance and eliminating any need for an accelerated inflationary event to account for its texture.

## What provides such hospitable anthropic conditions?

When old planets get smashed by early big bang energies, they squirt out magma and molten metal from their cores; oceans turn to steam; and dense dust clouds, resembling those of volcanic explosions, generate lightening storms that turn the clouds into virtual chemical factories. Our big bang inherited a host of heavy and complex molecules from the get-go.

Our steady-state universe has remnants of expanding bashes scattered throughout. Their constantly mixing matter creates an anthropic world, loaded with molecules that nourish life. These precious molecules are gathered, nursed, and dispersed to planets by the trillions of wandering comets that are ubiquitous and highly mobile throughout the universe. Even manmade molecules may one day enter this stream and spread our legacy to future beings. Perhaps it was beings from distant worlds that designed our programmable RNA and DNA molecules and thus helped to connect earthlings to the universe's conscious web of life.

By sowing the universe's fertile past with seeds of the future, nature hybridizes life into an infinite variety of big bang perennials. The most advanced life forms may be able to wend their way through the hazardous maze of these overlapping worlds and thereby allow their progeny to continue evolving without the necessity of starting over as single-cell creatures.

## What generated Quasars and caused Reionization?

A universe that continuously smashes objects would be thoroughly littered with debris like the asteroids and comets littering our own solar system. Mixing new and old bashes amasses conglomerates that would seem anomalous in an isolated big bang. If our big bang's gas cloud had been isolated and left undisturbed, it may never have become lumpy. Rather than form stars, it seems it would just expand uniformly and eventually collapse in a big crunch. However, if the cloud overran old debris, stars would form rapidly as these masses tunnel their way through the dense gas.

When ancient black holes pass through dense rotating clouds; instead of orbiting the black holes, the gas plows directly into them and matter accretes prodigiously. Vast radiation sprays form as the black holes are transformed into hyperactive quasars. The quasar velocities may propel them through their gas clouds and on to other clouds, or they may slowly oscillate through the clouds' gravitational centers and settle in as central black holes. The oscillating quasars drag a lot of gas with them and these streams might shape the clouds into barred spiral galaxies. Short oscillations create simple spiral galaxies while progressively longer oscillations create the whole spectrum of barred spiral galaxies. Once a quasar settles in at its galactic center and becomes part of the centrifugal system, its rate of accretion will slow significantly, causing the quasar to dim and behave like an ordinary central black hole.

A bash's newly expanding cloud constantly overruns older objects. Huge quantities of old black holes rapidly accrete the new gasses and form quasars by the trillions. While their masses are texturizing the cosmic background, the extreme collective quasar radiation is reionizing the surrounding gasses.

### Redshift implications of the Big Bash

Proponents of the Standard model tell us it's the expansion of the empty space between the galaxies that generates the redshift we see in distant objects. The Big Bash model does not execute its big bangs in an empty null. It has a different explanation for distant redshifts.

The collision generates an electromagnetic pulse and forms a spherical electromagnetic field which engulfs the expanding plasma cloud. The field's outer boundary expands at the speed of light while internal regions expand at rates proportional to the distance between the point of the bash and the field's periphery. This expanding magnetosphere is stretching everywhere within its bounds at increasing rates from the center outward. The expansion is not only stretching the electromagnetic ether, it also stretches the wavelengths of any photons flowing in this medium. The more time photons spend in this stretching ether the more redshift they acquire. This yields the same redshift results the Hubble model currently attributes to the expansion of space.

As the big bang's electromagnetic bubble grows, it overlays other big bangs. Boundaries and turbulences at these intersections may create lensing distortions for radiation passing through them. The plasma and electromagnetic ether engulfs all cosmic bodies and imparts dynamo-like forces on them. These fields would align galaxies into rivers, the way induced magnetism aligns non-magnetized iron filings around magnets. The expanding magnetic field generates an orthogonal electric field whose outward-flowing current sustains the reionization of the cosmos.

### Antimatter parity

One unanswered question the Standard model has is: why does the observed universe have more matter than antimatter[11]? Since the Big Bash model provides a glimpse at what precedes big bangs; we'll examine the question from that standpoint. Our expectations change when we see big bangs and the formation of black holes as a cyclical process.

The notion that big bangs should yield 50% matter and 50% antimatter stems from the view that big bang mass was spawned from nothingness and nothingness should generate matter and antimatter in equal quantities. Our big bash did not take place in a spatial void, but rather happened in a universe that imparts its own biases. If black holes involved in our big bash were not 50% antimatter to begin with, then smashing them together won't necessarily generate 50% antimatter; and even if it did, there is plenty of old matter in our segment the universe to neutralize it.

While it's not unreasonable to expect positrons and antiprotons to form during the bash, they may be nominal and fleeting. The equal matter/antimatter expectation stems from trying to grow a whole universe from just one big bang.

### Quantum gravity?

When we seek to understand quantum gravity we need to ask what quantum gravity means and what it might look like. Gravity behaves like an all encompassing force-field that draws and binds objects together, be they galaxies, molecules, or quarks; like a magnetic field would. We have difficulty attributing gravity to electromagnetism, though, since it seems an electromagnetic field would have two polarities and would provide repulsive forces that we don't see in nature. And while physicists often hypothesize about magnetic monopoles that might explain this mystery, we've yet to see evidence that monopoles actually exist. Well, here's a model that bears the semblance of a monopole:

A big bang's electromagnetic pulse generates a spherical radiation pattern whose outer extremes exhibit a single magnetic polarity. It would be a continuum of expanding concentric spheres whose perpendicular electric field stretches radially outward from the point of the bash's impact. The cloud produced by the impact was mostly electromagnetic plasma, so the sphere is best described as an expanding ball of radially flowing electricity. Negatively charged electrons are much lighter than the positively charged nucleons, so electromotive forces move the electrons more rapidly than the nucleons. This universal electron flow helps keep cosmic atoms in an ionized state.

The initial radiation ball was so dense that its photons could escape only from its outer periphery—like photons flowing only from the outer surface of our sun. It took some 400,000 years before the central photons could elbow enough space to begin their lightspeed journeys outward. That's when the big bang's inner space finally became transparent. This radiation provides the continuously stretching and radially polarized electric field that generates gravity. So if magnetic monopoles actually exist, it seems we may be living in one.

Ampère's and Lorentz's force laws tell us that when electrical current flows in one direction through parallel conductors, the conductors become attracted to one another. So if unidirectional currents flow through rivers of galaxies, they'd provide only attractive forces with no repulsive counterpart and thus draw the galaxies toward one another. The same is true for smaller bodies within the galaxies.

The strength of electromagnetic gravity would be proportional to the concentration of mass through which its electric field flows, since additional mass lowers the resistance to current flow. The more concentrated the mass the more intensely the field becomes focused. A black hole has a lot of mass in a tiny space so its gravitational field is highly concentrated. Light is an electromagnetic phenomenon and its trajectories are drawn inward toward the strong electric fields of great cosmic masses. It would be this electromagnetic concentration that causes space-time curvature. The friction of electromagnetic drag affects all photons and charged particles. It seems that this magnetic viscosity would generate heat proportional to the velocity of any mass in transit through it and thus become the drag that prevents objects from exceeding the relative speed of light.

The next question is: how do we account for gravity's apparent constancy and steadiness in the universe's noisy electromagnetic environment?

Electromagnetic reluctance resists changes in a magnetic circuit's electron flow by storing spurious energy in a magnetic field surrounding the circuit. The field absorbs energy pulses by expanding over a large volume, then rereleases that energy when the field contracts. This dampens the effect of large energy spikes.

Huge pulses occur when stars explode and become supernovas. You'd think they'd generate easily detectable spikes in cosmic currents, yet our gravity seems to be steady and smooth. Electrical inductance (magnetic reluctance) may smooth out those ripples. When current flows through strings of galaxies it generates standing magnetic waves that resist changes in both the direction and magnitude of current flow. This inductance dampens current spikes by momentarily storing the energy and releasing it more smoothly back into its surroundings. Supernovas may need to be fairly close to our solar system in order for us to detect the effects of their spikes; e.g. gravity waves; on the local force of gravity. The inertia of great surrounding masses pretty well absorbs most of these electromagnetic spikes.

Besides electromagnetism's mechanical work, its omnipresent ether provides awesome communication capabilities via infrared, visible, and UV light rays; plus x-rays; gamma rays; radio & TV signals; etc. There are magnetic fields in magnetic fields in magnetic fields, simultaneously flowing in all directions; yet we can discriminate radiation from each galaxy, star, TV channel, and cell tower with amazing fidelity. And now that the internet is connected with cell phones and Wi-Fi, recorded human history is being broadcast to the universe. One has to wonder if we'll ever have technologies that can ferret out the histories of civilizations radiating from other stars.

On the grand scale our big bang overlays old bangs and overlaps even older bangs—all of which are stretching and expanding at the speed of light. Their electromagnetic spectrum includes both amplitude and frequency modulations, with amplitudes as great as big bangs and wavelengths that range from Planck length ($1.6 \, x \, 10^{-35}$ meter) to more than 13.7 billion light years. These heterodyning frequencies create all of the environmental variables physicists seek in Higgs fields. Induced high frequencies vibrate atoms which elliptically rotates their electrons like hula hoops, keeping the negatively charged electrons from falling out of orbit and crashing into their positively charged nuclei. Within each spherical big bang monopole every radius is a dipole and each bang introduces new polar coordinates having spherical timelines. These should give string theorists plenty of *mathematical* dimensions to apply their skills to.

We often hear that electromagnetism is some $10^{40}$ times stronger than gravity. Yet, as magnetic flux disperses from its source outward, its force diminishes. Conversely, flux lines concentrate in proportion to the density of matter they converge in. Singularities concentrate enormous flux densities, but adding more mass to a singularity continues to increase its force of gravity; so there doesn't seem to be an upper or lower limit to the forces exhibited by either gravity or electromagnetism. The range of electromagnetic field forces seems to vary between zero and infinity, depending on the density of matter its flux concentrates in. This range of forces easily embraces both the weak and the strong nuclear forces, since quarks are far less dense than singularities.

We'll need to better understand the geometries and behaviors of atomic nuclei if we're to understand how electromagnetism's force can act as nuclear forces.

## Dark matter

The rotational behavior of most large gravitationally bound structures, like galaxies and galactic clusters, indicates that they contain more mass than they appear to[13]. The extra mass causes the extremities of these large groupings to rotate faster than one would expect they could, without flying apart. Since this surplus mass does not either transmit or absorb light, it is referred to as dark matter. The Big Bash model suggests dark matter is a conglomeration of natural ingredients.

As the universe reabsorbs our new big bang, old cold matter acts as a super capillary system that wicks-up all of the new gas it encounters. After 13.7 billion years of expansion the new gas overruns far more matter than the big bang's own mass. This results in galaxies that are denser than they'd be if the old universe and our big bang hadn't overlapped. It suggests dark matter is at least partially old heavy matter imbedded in new light matter.

When dense new gasses overrun the trillions of trillions of old asteroids, comets, planets, and stars; all of this old dense matter seeds the rapid growth of blue giant stars which soon become huge quantities of stellar-mass black holes. This suggests we will discover a far higher ratio of small black holes than previously expected, scattered throughout our big bang.

Another Big Bash mechanism stems from highly asymmetric bashes in which one singularity is far more massive than the other. In this situation the lesser object completely vaporizes and the more massive one only partially vaporizes; breaking into smaller black holes and scattering them throughout the expansion.

Then there's the question of the constancy of Newton's gravitational constant. So, if dark matter seems more concentrated in older and more distant galaxies, it may be due to a gravity that was stronger in earlier times. Our big bang's concentration of mass was greatest when the big bang was young and its expansion was still decelerating. Now that its expansion is reaccelerating, it appears our big bang's gravity is blending with that of the greater universe.

## Predictabilities

If there's variability in constants like gravity, Planck constants, or the speed of light; one might expect each big bang to demark that variability due to differing singularity masses and collision speeds, as well as the lapsed time and loss of system energy since the collisions. The overlapping magnetic domains of multiple big bangs may also produce metric gradients.

The fine structure constant commonly referred to as alpha, constitutes calculations involving the elementary charge, the Planck constant, the speed of light, the magnetic permittivity of space, and the Coulomb constant. Teams of scientists are investigating alpha variability and have detected what appears to be a variation increasing across a broad expanse of sky.[11] The gradient seems to be contained in a lobe of space in one region of the sky. Its shape seems consistent with the overlapping domains of multiple big bangs.

An alternative, if the gradient is continuous over extreme distances, is that this variance may follow a radial of our big bang's electric field, originating at the big bang's center and extending to its outer periphery. This would help us locate our big bang's point of origin and indicate which direction to look in order to locate the nearest edge of our big bang expansion. This will help us detect matter positioned outside that periphery. Should either of these alpha alternatives fit the pattern of alpha variance, it may lend credence to the Big Bash model.

The model not only provides coherence and cohesiveness for current evidence, it also offers predictability for future discoveries. While matter at the fringe of our big bang may be moving away from us too fast to see, due to an expansion velocity near the speed of light; even more distant blue-shifted external objects would be approaching us and should be quite visible. New instruments with increased resolving power will let us see incoming galaxies from far beyond the fringes of our big bang.

If, indeed, there was no super-inflationary moment in the first attosecond of the bash, then big bang matter does not exist beyond its 13.7 light year expansionary radius. Matter outside this radius should be foreign and free of contaminants from our bang. And if we're not located at the expansions center, perhaps we're close enough to its periphery to have a good view beyond this edge. It is likely; however, that changing the initial assumptions of the big bang to include a warmer and non-vacuous background will lead to adjusting our big bang's perceived age.

As technology lets us see farther out through deep field peepholes, we should find distant objects peering back at us. We'd also expect to see bodies moving laterally across those peepholes. The mixing of matter from multiple bashes will yield phenomena described as anomalous to the Inflation model, but will make sense when viewed in the context of a larger and more energetic universe.

## A vision of the grander universe – What you see is what you get

Our own local big bang has long since overlaid and begun to fade into the background of the grander cosmos. The skeletal structure of our steady-state universe is now being revealed in the composite imagery of the Sloan Digital Sky Survey[3]. The SDSS Galaxy Map reveals a structure that is much older and vastly larger than our local big bang. We should find similar structures extending as far as our instrumented eye will ever see.

The picture is one of intertwining streams of galaxies whose intersections form dense hubs of galactic superclusters. While our own big bash may have blown apart some of these linking streams and slightly modified the local cosmography; new dust clouds are coalescing and, like floodwaters on the earth, are forming new streams and channels that only slightly modify the global terrain.

This infinite web of galactic thread is continuously compacting matter. Concentrated masses reel in their galactic strings and the thinning filaments, pulled by opposing masses, eventually break. This creates great tears in the cosmic fabric and forms huge islands of isolated web segments. Over trillions of years each island becomes rendered down to one singularity that is already moving toward other gravitational masses; as everything in the universe is gravitationally aware of everything else.

The ever thickening and thinning of galactic strings provides us an image of elastic gravitational fields and suggests we will find Newton's gravitational "constant" to be but a local variable with very long time constants. Imagine a slow-motion version of the plasma globes you find at science fairs, where plasma arcs are dancing around the glass globe and constantly toggling in new directions. Just touching your fingers to the side of the glass will create new focal points for the plasma strings. Now expand that picture to a cosmic scale where instead of seconds, major electrical arcs last for millions to billions of years.

## Discussion

The Big Bash is a steady-state model whose colliding black holes are entropy's rechargeable batteries and whose improbable anthropic conditions become highly probable when nature can roll her dice, gather them up and roll them again for as long as it takes to roll life's lucky numbers. This dynamic churn creates unlimited possibilities. Its splats impinge on one another the way Set Theory's spheres overlap to blend unique domains, each having its own peculiarities. It will take years to associate anomalous data with its proper domain and circumstance; however, each domain's expanding wave front should provide a fascinating degree of predictability. It will take far more work to back-track this complex system and explore its beginnings than it took to rewind and examine our relatively simple big bang.

In contrast to the Inflation model, big bashes need no accelerated inflation, have no antimatter parity mystery, and exhibit pre and post-bang characteristics that don't require imaginary dimensions or Einstein's discarded gravitational constant. Its omnipresent electric ether provides the particle forming energies that physicists call "the vacuum energy of space" and its electromagnetic force masquerades as all of the other physical forces. One must wonder how the undulations of intergalactic current flow might affect the energies of solar cycles and the drift of earth's magnetic poles. The breathing expansions and contractions of magnetic fields would be the most natural means for animating a perpetual motion universe.

The time is ripe to reunify Maxwell and Einstein's worlds. We'll need to map the cosmic electromagnetic continuum before we can thoroughly understand the universe's behavior.

In my own mind's eye, all matter is gravitationally aware of all other matter and magnetic flux lines form the web of life that interconnects everything. They radiate outward from big bashes then curve and recondense everywhere mass is concentrated, creating the curvatures of space. Their greatest concentrations are through black holes and especially ultra massive singularities. There the flux becomes so concentrated that it commands the only force that can draw two singularities together at lightspeed. When singularities collide, their infinitely concentrated flux lines again fan out to regather their belongings. And when it comes time to record a solution to quantum physics' mysterious two-slit particle behaviors, I expect these flux lines to be playing a leading role.

While the Big Bash model provides a source for our big bang's genesis, it makes no attempt to explain the creation of the universe. That yarn remains for future theorists to unravel.

## Methods

This model was designed utilizing a conservative engineering approach that uses only highly reliable off-the-shelf parts provided by world-class teams of international researchers.

My goal was to gather up the loose ends of the current standard model and release an updated version that is both simpler and more reliable.

It began with a ten-year analysis of the dangling parts of the Inflationary Hot Big Bang model that were identified at the beginning of this paper. It sought a means to connect them with the spare part that had been left on the floor, namely, evidence that the universe is littered with matter that is older than the big bang. The most logical conclusion was that the big bang had to take place within this much older universe. That provides the framework that has sockets for the loose ends to plug into.

The trigger that launched the Big Bash model was the 1998 discovery of the big bang's reaccelerated expansion. It provided the evidence that there was far more mass out beyond the periphery of the big bang than there was within it. From that point the problem became one of understanding how this machinery produces big bangs.

Having learned in the 1950s how hydrogen and helium form stars and heavy elements and later learning how it all compresses into merging black holes; it became apparent that the universe has the means to precipitate singularities that are easily as great as the singularity believed to have spawned the big bang. It occurred that bashing two of them together was the best way to create big bangs and this supposition was reinforced when CERN announced that it hoped to simulate a big bang by smashing heavy particles together at near lightspeed.

Since a steady-state universe has unlimited time, space, and matter with which to attain any possible combination of its resources; we can comfortably discard as redundant any need for the vacuum energies of spatial voids, inflationary preambles, supernatural dimensions, and virtually any other dubious and superfluous physics that tax our sensibilities. This gives us a more logical science to teach our children. It should also reduce the number science deniers who are capable of critical thinking, but see scientists using magic in their models and believe their own conjured magic is equally valid.

Since this model is being introduced in its entirety for the first time, the model likely contains flaws either in theory or presentation that need to be addressed. The author welcomes input and will respond to as many e-mails as he can.

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