On the Local Origin of the CMB Radiation

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Until recently, cosmologists have had little concern with the solar system, being focused primarily on the power spectrum of small angle temperature anisotropies in what is believed to be the Cosmic Microwave Background (CMB). However, studies of the WMAP sky data have revealed a number of large scale alignments with the ecliptic plane, thereby to the solar system. These alignments have been confirmed in the more recent, precise Planck reports (XV, XVIII) as a deficit in the low-l power spectrum, but no physical basis for such an alignment has been suggested based on the current 'standard model' of the solar system. A number of ancient texts indicate that proto-Venus (*Aditi*, *Pallas Athene*) was born from the head of Jupiter. That is, rebounded from an enormous fusion-enhanced impact on the highly deuterated, solid, Methane Gas Hydrate (MGH) surface of Jupiter 6,000 years BP. The author maintains that the blast was *directed* into the inner solar system resulting in a dipole distribution of the heat expanding outward at the speed of light since that date. As a result, current observations are detecting black body re-radiated from 3,000 light-year distant galactic dust with the same dipole nature as the blast. Cosmologists subtract the dipole, assuming it represents the velocity of the solar system relative to the CMB. The multiple alignments of the resulting large scale anisotropies are a direct result of this subtraction, reflecting only natural deviations of the original blast from perfect symmetry. This proposed interpretation of the microwave background inherently solves the 'horizon' problem, with no requirement for 'inflation'. The recent realization that the power in the WMAP anisotropies is systematically greater than in the more recent Planck data suggests a means of corroborating the Jupiter impact hypothesis. If the small anisotropies are from the Big Bang, there should be no measurable change in their power or shape with time. If the microwave background power continues to decrease, the foreground local origin of source will be established. The NASA Juno probe, due to begin a detailed study of Jupiter's interior in mid-2016, has the potential to detect predicted features hidden below the clouds, since the Great Red Spot, the temperature excess, and the multiple zonal vortices are all driven by an active fusion furnace at the center of the impact crater which caused the explosion 6,000 years BP.

Forse non si muove

1 Cor. 1:27 But God hath chosen the foolish things of the world to confound the wise ...

I. The Big Bang

The idea that there might be physical evidence of a big bang is a result of the fundamental assumption that the red-shift of light from distant stars is the sole determinate of its distance from the observer. This has led to the illusion that the more distant a star or galaxy is from the the Earth, the faster it is moving away from us, suggesting to cosmologists that at some point in time, all the mass -energy in the universe was blasted from a single point and has been expanding until now. This blast was labeled 'The Big Bang' and triggered a search of the sky for the theoretical ancient radiation that would be 'red-shifted' to microwave frequencies.

In spite of the many astronomers seeking this radiation, two engineers Arno Penzias and Robert Wilson, working to eliminate the background noise of a radio-telescope, found such a radiation field which the newly established discipline, cosmology, presumes is radiation from the Big Bang. This radiation will be called the CMB herein for brevity, not because it truly has been proven to be related to the origin of the universe.

Decades of study and increasingly more sensitive measurements of the CMB by highly sensitive satellites, employing thousands of PhD cosmologists, now claim that a theory, known as the Lambda Cold Dark Matter (ΛCDM), provides insights into the age and composition of the universe. This hypothesis, incorporates the notion that ordinary (baryonic) matter comprises less than 5% of the universe. The other two components, Dark Matter and Dark Energy, comprise 27% and 68% of the universe respectively, have been invented based solely on their apparent attractive and repulsive effects.

II. CMB Sky Map

The NASA COBE mission (1989-1993) began the serious study of the CMB. It was followed in 2001 by the NASA Wilkinson Microwave Anisotropy Probe (WMAP) and the current ESA Planck mission launched in 2009. It was found that the microwave radiation was that of a black body at temperatures of of 2.725 +/- 0.004 K. This small signal was found by first subtracting the average temperature of the entire sky. The result is the temperature dipole shown in Figure 1, termed a 'large scale anisotropy'.

Since the theorists early-on predicted that the radiation from the Big Bang should isotropic and homogeneous over the entire sky, this dipole was interpreted as being due to the 'peculiar' motion of the solar system relative to the CMB, as explained by the very first sentence in the report: Planck 2013 results. XXVII. Doppler boosting of the CMB: Eppur si muove.

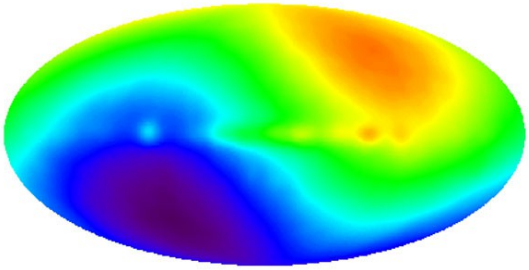

Figure 1. The Dipole Radiation Field in Galactic Coordinates. Interpreted as motion of solar system.

"Our (solar system) velocity relative to the rest frame of the cosmic microwave background generates a dipole anisotropy on the sky which has been well measured for more than thirty years, and has an accepted amplitude of v = 369 km/s."

Cosmologists believe that this dipole must be removed in order to reveal the small scale anisotropies which reveal the earliest universe. The physical reasoning behind this removal is that the CMB radiation in the direction of the solar system velocity would be slightly blue-shifted and red-shifted in the opposite direction. But because the signal contains no spectral lines from which an actual Doppler shift could be measured, (it is just low temperature black-body heat radiation), the blue shift is thought to be manifested as a slight increase in the measured temperature. This is done by simply equating temperature to relative velocity in equation (1).

$T(\Theta) = T(0)\,(1+v/c \cos \Theta)$ or

$\Delta T/T = (v/c) \cos \Theta$ (1)

When fitted to the measured dipole, this gives the velocity of the solar system, at $\Theta = 0$, as v = 368 km/s. Based on this value the dipole is removed, resulting in the CMB as shown in Figure 2.

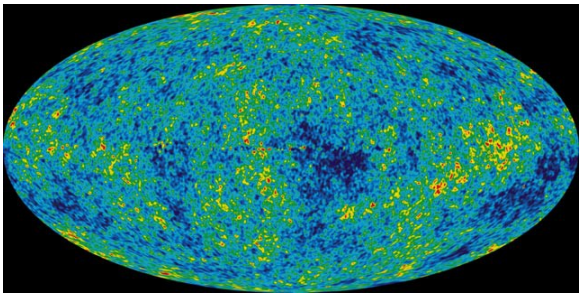

Figure 2. The CMB, in which the anisotropies are the little spots.

The remaining anisotropies, plotted by number versus their angular size, called the angular power spectrum, (Figure 3) are believed to convey an amazing amount of information about the universe, including its age, its shape (flat or curved), its expansion and the composition of ordinary (baryonic) matter, dark matter and dark energy, even though the nature of the latter two is admittedly unknown.

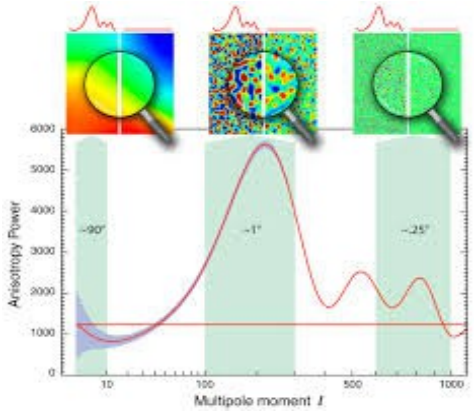

Figure 3. The Number (power) of Anisotropies Plotted as the log of their Angular Size.

III The Axis of Evil

Surprisingly the detailed analysis of the 'corrected' sky data by thousands of cosmologists, mathematicians and statisticians using millions of hours of computer time have found a number of subtle problems buried in the data. These involve *large scale* (large angle) anisotropies in the CMB data, shown at the far left of the power spectrum, shaded in blue, indicating that the CMB power is aligned in a number of improbable ways with the solar system.

This violates the theoretical (philosophical) Cosmological Principle - that the CMB should have no unique relationship to any observer in the universe, leading to the facetious term 'Axis of Evil'. These alignments with the solar system, combined, are estimated to have a probability < 0.008% as explained in the following paper: [On the large-scale anomalies of the microwave sky, C. J. Cobi et al.] quoting from this 24 page paper: **"In particular, we show that the planes of the quadrupole and the octopole are unexpectedly aligned. ... Moreover, the combined quadrupole plus octopole is surprisingly aligned with the geometry and direction of motion of the Solar system: the plane they define is perpendicular to the ecliptic plane and to the plane defined by the dipole direction, and the ecliptic plane carefully separates stronger from weaker extrema, running within a couple of degrees of the null-contour between a maximum and a minimum over more than 120◦ of the sky. Even given the alignment of the quadrupole and octopole with each other, we find that their alignment with the ecliptic is unlikely at >98 per**

cent confidence level, and argue that it is in fact unlikely at >99.9 per cent confidence level. … *While the observed correlations seem to hint that there is contamination by a foreground* or perhaps by the scanning strategy of the telescope, *closer inspection reveals that there is no obvious way to explain the observed correlations."*

These alignments were discovered in the NASA Wilkinson Microwave Anisotropy Probe (WMAP) launched in 2001 and confirmed by the ESA Planck mission [Planck 2013 results.XV.CMB power spectra and likelihood] with improved resolution and collection at nine different wavelengths, which has been collecting data since 2009.

IV Inflation – The Horizon Problem

The CMB was noted by several investigators in the 1940s and 1950s and with several estimates limiting its temperature to less than 5 K. Most noted it to be uniform (isotropic) in space and time. Based these observations, other theorists suddenly realized that there was a problem explaining this isotropy, now known to be that of a 'black body' at a temperature of 2.275 +/- 0.004 K, uniform to 1 part in 100,000 K with the same range of small anisotropies (ΔK/K) in all directions. In the early 1980s theorists began addressing the obvious question: "If the universe started from an infinitesimal point, why do we see it now in all directions with exactly the same characteristics?" This is referred to as the Horizon problem.

Answering this difficult question is crucial to the interpretation of the CMB as radiation from the Big Bang. The first attempt to solve this dilemma, published by A. Guth et al., suggested that at the time when the universe was an infinitesimal dot of 'quark soup', and therefore uniform, the quantum fluctuations in it were preserved when a 'false vacuum' caused gravity to become repulsive, exponentially expanding the tiny universe by a factor of 10^{26}, between 10^{-36} and 10^{-33} seconds after the Big Bang, which would require velocities many orders of magnitude greater than the speed of light. This 'old' inflation is no longer popular, and numerous new ones have been published, some even requiring modifications of Einstein's general relativity.

A major problem is that the required inflation (expansion) would result in a reduction of the temperature from 10^{27} to 10^{22} K but after this the entire universe would have to be 'reheated' to produce the radiation dominated phase of the universe we now enjoy. The failure to explain reheating is euphemistically stated: "Because the nature of inflation is not known this process is poorly understood."

As if inflation theories are not sufficiently outlandish, some cosmologists claim that there may have been more than one tiny clump of plasma in the beginning, leading to even more non-physical notions of *multiple universes*.

V Cyclic Catastrophism

Cyclic Catastrophism provides a completely different explanation of the microwave background radiation, as part of a recent 3,000-year process during which the Earth and the solar system were completely changed. Originally published in two books [Firmament and Chaos (© 1996)] and a web site firmament-chaos.com with many newer dated epistles posted at cycliccatastrophism.org. This body of work provides a new, consistent view of the *cosmogony*, a recent history, and makeup of all the planets in the solar system. It is based, not on general relativity, but on interpretations of the most ancient texts in the world, which reveal recent cycles of consuming astronomical events witnessed by the first one-hundred generations of mankind. It posits a period of solar system chaos, from 6000 to 2701 BP (~3985 to 687 BC), which resulted in the extinction of the dinosaurs and the complete terraforming of the Earth. Only at the end of this period did the planets Mars, Venus and Mercury, enter their current orbits.

VI Jupiter & Proto-Venus

This complete reconfiguration of the inner solar system was initiated 6,000 years BP by an impact on the solid, highly deuterated, Methane Gas Hydrate Jupiter from which rebounded an enormous fusion explosion. The resulting plasma cloud, out of which proto-Venus condensed, was blasted into the inner solar system. The great heat of the explosion and the gravitational energy released are currently propagating outward from the solar system at a distance of 6,000 light years into the Milky Way.

The impact explosion was seen by every one on Earth. It is described in Greek myth as *Zeus* swallowing *Metis*, then having such a bad headache that he had *Hephaestus* split open his head, out of which *Pallas Athene* (proto-Venus) was born. The magnitude of the explosive impact was emphasized by the statement that it caused the entire Earth "to cry out", implying that the pulse of gravitational radiation produced was so powerful that the entire Earth acted as the sensor. To put this in context, no scientific instrument built by mankind has ever been able to detect a single gravitational wave.

The ancient Rg Veda confirms the birth of proto-Venus as *Aditi* (the First, proto-Venus) from *Daus-hospitar* (the heaven father or Jupiter), the various aspects of which, as it rampaged through the

solar system, were called the 'sons of *Aditi*' or *Adityas*. In Roman myth Venus (Minerva) was born from the head of Jupiter.

Within decades proto-Venus made several close passes to the Earth destroying all of the reptilian life (K-T extinction), deposited the global iridium spike. Both *Agni* (fire) in the Rg Veda and *Phaethon* in Greek myth describe the proto-Venus devastations.

The true nature of Jupiter is detailed in: Jupiter paper, which posits that Jupiter and Saturn are solid, frozen, highly deuterated Methane Gas Hydrate (MGH) planets, not 'gas giants'. The giant planets formed cold over 50 to 700 million years from highly deuterated volatile compounds by the initial formation of snowflakes, which formed on the surfaces of dust particles at and beyond the orbit of Jupiter. The higher density of Jupiter, 1.33, reflects its incorporation of deuterium and all the heavy elements in the nascent solar system.

VII. The Little Bang

Today, planetary scientists have no knowledge of this enormous impact explosion and its aftermath. Lacking this, they have adopted the completely unprovable notion that the solar system has remained in its current configuration for 4.6 billion years. As a result, astrophysicists turned cosmologists, cannot imagine that a high energy event capable of producing the observed microwave background has occurred in the solar system, let alone in the last 6,000 years.

In contrast, Cyclic Catastrophism explains that an impact on Jupiter compressed and raised the local temperature above 100 million K, triggering a fusion explosion (> 10^{33} Joules) in the highly deuterated surface of Jupiter, from which a fusion plasma cloud rebounded into the inner solar system. Proto-Venus formed from this rebounded plasma cloud. The blast, though 100s of millions of km distant (4 to 6 AU) caused the entire body of the Earth to "cry out" due to the resulting gravitational wave.

The impact also triggered an enormous blazing plasma plume on Jupiter which was called the *aegis* (shield, fiery storm) of Zeus in Greek myth and *Mrttanda, said to be 'left behind',* an elephant-shaped plume in the Rg Veda. Both of these features were noted to disappear and reappear due to Jupiter's rapid rotation. The blazing plume on Jupiter originally extended some 2 million km, beyond Callisto, heating and coating the Galilean moons every nine hours as Jupiter rotated. It diminished slowly over the last 6,000 years resulting in the great differences in the moons observed today.

The fusion in the impact crater is now hidden some 700 km below the cloud-tops, at 22° South Latitude. It forms a hot rising vortex which is swept westward due to Jupiter's rapid rotation and is revealed some 116,000 km to the west as the Great Red Spot. The last fusion reaction currently burning in the ancient impact crater, $\mathbf{D + p \rightarrow {}^{3}He^{+} + \gamma}$ produces the observed *atmospheric* temperature excess, the multiple zonal 'wind bands', and a currently unrecognized blizzard of high energy particulate radiation, $^{3}He^{+}$, streaming from the Great Red Spot at a rate as high as 10^{30} per second, with *400*-year half-lives. This flux was sensed by the Ulysses and Cassini probes, and caused repeated rebooting of the Galileo orbiter software at distances greater than $11R_{J}$.

Due to the location of the Great Red Spot (GRS) on Jupiter, 22° South Latitude and the slow decline of the material ejected from it over the last 6,000 years, more energy has been and is still being continually ejected into the area south of the plane of the solar system, as the rapidly spinning giant planet has completed over 600 orbits.

VIII. The Direction of the Blast

The ejection of proto-Venus into the inner solar system implies that the impact on Jupiter was on the Sun side and the blast was directed opposite to the velocity of the impacting body. The heat from the blast has been radiating outward into space in all directions at the speed of light. This heat wave heats the galactic dust, which re-radiates black body radiation in all directions, producing the radiation currently perceived as the CMB. Since more heat was directed in the initial direction of the blast the re-radiated heat is stronger in that direction.

Cosmologists imagine the resulting *heat dipole,* not as heat, but as defining the direction of the motion of the solar system relative to the Cosmic Microwave Background. Consequently they mathematically remove it using the simple equation for *velocity* Eq. (1), believing that the remaining anisotropies contain information about the Big Bang. *This interpretation results in the apparent alignments of the remaining heat distribution with the imagined motion of the solar system.*

In contrast, the proposed heat wave from the Jupiter impact explosion naturally accounts for the entire microwave background radiation field, of which *the dipole field is the primary component.* As this blast moves outward at the speed of light, it heats layer after layer of galactic dust. This dust re-radiates black-body radiation in all directions. The tiny amount re-radiated back toward the Earth is what is detected, and which cosmologists want to

believe is from the Big Bang. In the Jupiter hypothesis, the large scale anisotropies are due to perfectly natural irregularities in the power of the blast and/or in the cosmic dust which is re radiating it at any stage. The heat radiation being measured today was re-radiated from galactic dust at a distance of 3,000 light years.

In the Jupiter impact explosion hypothesis there is no 'horizon' problem. Radiation is observed in all directions because the explosion occurred in the solar system and is being re-radiated back from local galactic dust. But since the explosion includes the 'dipole' which is obviously aligned with the ecliptic, there is no reason to expect it to be equal in all directions. Moreover, the *observation* that the explosion generated a gravitational wave causing the entire Earth to "cry out" only 6,000 years ago, can also explain any gravitational wave evidence that might be found in the CMB subsequently.

IX North – South Asymmetry

In addition to the improbable alignments of the CMB mentioned above, it has been found in WMAP and Planck data, that the temperature anisotropies are have greater power above the ecliptic plane, while generally the temperature is slightly higher just below the same plane, as shown in Figure 4 from Planck report 51559 on the hemispheric asymmetry of the CMB.

This extra heat just south of the ecliptic is consistent with the location of the GRS at 22° South Latitude, marking the impact latitude on Jupiter from which a vast raging plasma storm (the aegis of Zeus) originally extended millions of km whirling around with the spinning giant as it orbited the solar system. This slowly declining plume has been ejecting radioactive material just south of the ecliptic for almost 6,000 years. It not only causes a warming of a zone of the southern sky, but because it was

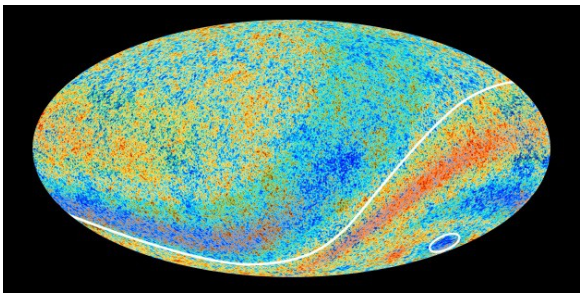

Figure 4. WMAP sky map showing temperature differences (enhanced) just above and below the ecliptic (white line).

emplaced more recently, partially obscures some of the anisotropy power of the more ancient re-radiation in that direction caused by the initial Jupiter explosion. This is termed a 'foreground' event in CMB parlance. However, what is proposed in this paper, is that the entire microwave sky radiation field, currently believed to be radiation from the Big Bang is itself from a foreground event, i.e. the explosion on Jupiter only 6,000 years ago.

X Time Variation in the CMB

Another very disturbing discrepancy has been noted among cosmologists, which is that the 'power' in the WMAP temperature anisotropies is systematically slightly larger than Planck's. As a result, the WMAP team is reevaluating their calculations. Differences in the processing in the two independent missions is considered the most likely cause from a cosmologists viewpoint, although both agree on the presence of the 'axis of evil'.

The proposed 6,000 year BP impact explosion which rebounded from Jupiter also suggests an answer to this WMAP-Planck power discrepancy. If the radiation from this recent explosion is expanding at the speed of light, the power re-radiated from a distance of 3,000 light years currently being detected, would be expected to decline rapidly as the distance increases, and the measured anisotropies due to the variation in the dust distribution might also change shape in the 10-year interval between WMAP and Planck.

If the data represents the 'true' CMB, a typical anisotropy, 1° in extent, represents an area of ~ 10^8 light years across. In that case their should be no measurable change of power or shape in our times. Thus the old saying "Time will Tell" may lead to the correct interpretation of origin of the microwave background (or foreground) radiation, perhaps just another ten years.

XI. Juno Mission

Two experiments on the NASA Juno mission, scheduled to arrive at Jupiter in mid-2016, have the potential for verifying the Jupiter impact. The MWR microwave radiometer has a small chance of detecting the fusion source, but coverage is limited by being deployed on only five 'science orbits'. Chances of sensing the hot vortex rising from the fusion to the GRS are much greater since it extends some 110,000 km longitudinally. The gravity experiment should detect the large crater in which the fusion is centered and perhaps more ancient ones, probably filled with water (melted MGH), resulting in positive gravity anomalies, and also east-west linear ice mountain ranges due to rain from the expanding vortex(s).