

Relation between Yuga Cycles and the Age of Solar System

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Our Sun is the Heart of the Solar system & it is always active. From its magnetic equator, the Sun, pumps out solar wind, containing Interplanetary magnetic field into the plane of orbital path of Planets. The Sun's activities follow below three kinds of cycles:

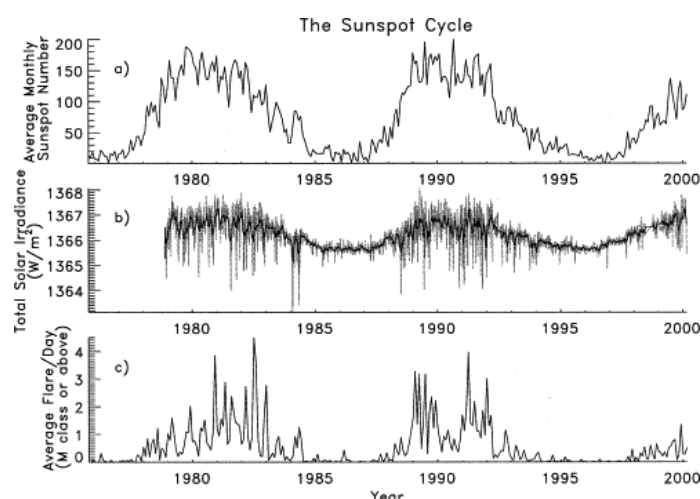
Schwabe Cycle, Sunspot Cycle & Solar Flare Cycle.

Lord Vamana, an incarnation of Vishnu, is called as Trivikrama. Word 'Trivikrama' means three orderly steps. With these three steps he measures the whole world.

There is a story related to the Mahabharata, connected with the character *Barbarik*. He claimed "I can end the war of Mahabharata with the shooting of my three arrows". Barbarik is a popular deity & worshiped in western India by name of "Khatu Shyam ji".



Here, three types of Solar activity cycles are considered to be three types of Fires (Tapa-traya) or three steps of Vamana or three Arrows of Barbarik.



(Image courtesy: NASA)

These three types of cyclic solar activities cut across the orbital periods of all planets, as explained below-

1. **Schwabe Cycle (average period of 11-year):** In the Puranas there is a story mentioning Dhruva. Dhruva performs penance and worships Lord Vishnu's name. When he is five and a half years old, Lord Vishnu appears before him. This five and a half years is half of the 11-year cycle. By the blessings of Lord Vishnu, Dhruva later becomes the Dhruva star (Central fixed Star).

- Planet Mercury follows this cycle and in 3 cycles of 11 years, it completes 137 orbits. It is noteworthy that $1/137$ is the Fine Structure Constant. There are 137 chapters in Markandeya Puran.
- Our Earth also follows this cycle and in 11 years, it completes 11 orbits around the Sun.
- 2. **Sunspot Cycle (period of average 95.115 days):** The number of sunspots increases and decreases in the cycle averaging 95.115-day.
 - Planet Mercury follows this cycle and in 37 cycles of 95.115 days, it completes 40 orbits.
 - Earth follows this cycle and in 96 cycles of 95.115 days (25 years), it completes 25 orbits.
 - Mars follows this cycle and in 65 cycles of 95.115 days, it completes 9 orbits.
 - Jupiter follows this cycle and in 4600 cycles, it completes 101 orbits around the Sun.
- 3. **Solar Flare Cycle (period of average 112-day):** This is a recurring period of on average 112 days, during which the intensity of solar flares increases and decreases. This cycle is remembered in Indian calendar as “*Choghadiyas*”. In a week there are 112 choghadiyas.
 - Venus follows this cycle and completes 1 orbit, in 2 cycles of 112 days.
 - Dwarf planet Ceres follows this cycle and completes 1 orbit, in 15 cycles of 112 days.
 - Uranus follows this cycle and completes 1 orbit in 274 cycles of 112 days. It is significant that 274 is twice of the Fine Structure Constant.
- 4. **Combined Cycle of Sunspot and Solar Flare:** When we multiply 95.115 by 112, we get a time period of 10,652.9 days or 29.1666 years.
 - Earth follows this cycle and in 6 cycles of 29.1666 years, it completes 175 orbits. Abraham’s age is said to be 175 years. In the epic Mahabharata, the 175-year period (obtained by multiplying $95.115 \times 112 \times 6$) is compared with the 275-year period (obtained by multiplying $95.115 \times 96 \times 11$). Where a ratio of 7:11 is generated. Here, the 25-year Sunspot Cycle is symbolized as an *Akshauhini* army. The Pandavas had 7- Akshauhini armies and fought the Kauravas (who had 11- Akshauhini armies). The Pandavas won in such a way that both armies were entirely destroyed. The ratio 11:7 is half of π (pi) ($22/7$). When pi is multiplied by the diameter, circumference of a circle is obtained. Kṛṣṇadvaipāyana Vyasa, author of the epic Mahabharata, got the name ‘Vyasa’ from this very formula, where diameter is called ‘*Vyas*’ in Sanskrit.
 - Planet Saturn follows this cycle and it completes 100 orbits around the Sun in 101 cycles of 29.1666 years.
 - Planet Neptune follows this cycle and it completes 177 orbits around the Sun in 1000 cycles of 29.1666 years.
 - Dwarf planet Pluto follows this cycle and it completes 2 orbits around the Sun in 17 cycles of 29.1666 years.
 - Dwarf planet Eris follows this cycle and it completes 6 orbits around the Sun in 115 cycles of 29.1666 years.
 - Apart from the orbit around the Sun, the Schwabe cycle matches the motion of the Moon around the Earth. There are 34 lunar years of 12 lunar months in 33 solar years.
 - Nodes of the Moon’s orbit around the Earth in 6798.4 days. This value of 6798.4 days can be compared with the value of the 11-year (4017.66 days) Schwabe cycle. When both above values are divided by 103, a ratio 66:39 is obtained.

Here, we can conclude that Solar activity periodicities have impact on the orbital periods of the Planets. A curious mind always wonders whether there will be a time period when all three solar cycles will coincide. When we multiply the 275-year period (which is the product of the 11-year and 95.115-day cycles) with 20, a time span of 2,008,832 days is obtained. This period is divisible by 112 days. 2,008,832 days is period of 5500 years. This is the meeting point of the three solar cycles. There is a Christian religious book called *The First Book of Adam and Eve*. In this book, God tells Adam that He will give Adam, the fruit of the Tree of Life after 5500 years. This means that the three cycles were identified by the authors of the scripture. But the matter does not end here. The 5500-year period is not divisible by the combined cycle of the Sunspots (95.115 days) and the Solar flares (112 days). To obtain this, we must multiply 5500 years with 14. Now we have a figure of 77,000 years. This period is divisible by both 175 years and 275 years. It is notable here that Zarathustra’s age was 77 years.

This period of 5500 years was spelled by the God to Adam & humans are considered as descendants of Adam. In India humans are called as ‘*Adami*’. Words ‘*Man*’ & ‘*Manusya*’ are synonyms of ‘*Adami*’. So, this period of 5500

years is called as a 'Manvantara', where 'Manu' is Indian name of Adam. That is why a Maha Yuga of 77000 years is said to be made of 14- Manvantaras.

According to Hindu scriptures, a Mahāyuga is divided into four yugas.

The durations of the four Yugas are as follows:

1. Satya Yuga: 30,800 years (4 times of Kaliyuga)
2. Treta Yuga: 23,100 years (3 times of Kaliyuga)
3. Dvapara Yuga: 15,400 years (2 times of Kaliyuga)
4. Kali Yuga: 7,700 years

Total duration of the four Yugas is 77,000 years. Basic unit of the Yuga cycle is 7,700 years. In total, there are 10 cycles of 7,700 years each, which correspond to the 10 great incarnations of Lord Vishnu. In each incarnation, the deity rules over a period of 7,700 years.

In addition to above yuga cycle, a 32-year time cycle is also popular. This 32- year period is marked by 64- *Yoginis*. The word 'Yogini' is originally taken from the word 'Yoga' or Conjunction. Sixty-four *Navaratri* is a festival marked by time of year when solar rays fall straight over the earth's equator. This happens twice in a year or 64 times in the period of 32 years.

Selection of period of 32- year is because, the Inner planets of our Solar system- Mercury, Venus, Mars, and Ceres have symphony in their conjunction period with the Earth, in such a way that during this period- Mercury is in conjunction with Sun and Earth for 101 times, Ceres for 25 times, Venus for 20 times, and Mars for 15 times.

The period of 7,700 years is not divisible by the 32-year Yogini cycle. To achieve this divisibility, we must multiply 7,700 with 24.

Now, we have a duration of 184,800 years. That is why there are a total of 24 incarnations of Lord Vishnu, there are 24 Tirthankaras in Jainism, & there are 24 spokes in the Ashoka Chakra of Sarnath.

When 184,800 is divided by 11, a period of 16,800 years is obtained. 46-year transit cycle of Mercury is a period of 16,800 days.

Period of 184,800 years is also divisible by transit cycle of Venus, that is 243 years by 760.5.

It is possible to view transit of Earth from Mars. This follows a pattern of 79 years. Period of 184,800 is divisible by 79, with 2380 as product.

Now a question arises: is there any connection between these numbers and actual events on Earth?

To verify this, we will compare them with Milankovitch cycles.

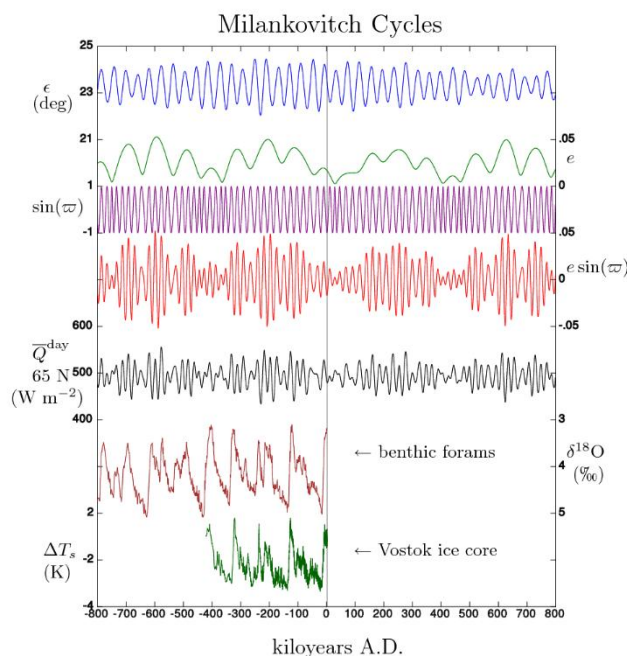


Image courtesy: Wikimedia.org

The first Milankovitch cycle concerns periodic changes in the axial tilt of the Earth. The axial tilt, relative to its orbital path around the Sun, changes cyclically over time, with an average cycle length of 41,025.6 years. Multiplying 184,800 years by 9.99 and then dividing by 45 gives us 41,025.6.

The Earth's eccentricity refers to the elliptical shape of its orbit around the Sun, which is slightly flattened rather than a perfect circle. Over time, the shape of the orbit changes cyclically, with an average period of 94,117.65 years. The sum of 9 cycles of 94,117.65 years equals $11 \times 77,000$.

The Longitude of the Earth's perihelion (the point nearest to the Sun) also changes over time, in a cycle of 21600 years. When we multiply 184,800 years with 9 & divide by 77, we get 21600.

The Precession index of the Earth measures the timing of the Earth's closest approach to the Sun when it is summer in the Northern Hemisphere. The precession index follows two patterns:

1. A short-period cycle of 21600 years, the same as the longitude of the perihelion.
2. A long-period cycle averaging 106,666.67 years. In 400 cycles of 184,800 years, there are 693 (that is 700×0.99) cycles of 106,666.67 years.

The 106,666.67- year period is divisible by 3333.333 through the average synodic cycle of 32 years.

The cycle of daily average solar insolation (sunlight) at the summer solstice on Earth follows the same double cycles as the precession index.

In Antarctica, the Russian agency established a station at Lake Vostok to study Earth's atmosphere. They drilled ice from 0 to 3,300 meters, collected samples, and studied the dissolved carbon dioxide and methane. This ice has been accumulating in the drilled portion of the lake for the last 420,000 years. It is important to note that both carbon dioxide and methane are greenhouse gases that affect the Earth's atmospheric temperature.

During this period, the peak levels of dissolved carbon dioxide in the ice follow two types of cycles:

1. A long-term cycle averaging 105,000 years.
2. A short-term peak cycle averaging 5,833.33 years.

Both of these cycle lengths are divisible by the combined cycle of sunspots and solar flares, which is 29.1666 years. The 105,000-year cycle is divisible 3,600 times, and the 5,833.33-year cycle is divisible 200 times. The same pattern is followed by dissolved methane. The above-mentioned 105,000-year period is in a ratio of 15:11 with the 77,000-year period.

Thermohaline circulation, the Global oceanic conveyor belt has a cyclic periodicity of 22- years. This period is double of 11- year Schwabe cycle.

Here, we can conclude that the durations of the Yugas have a clear relationship with various cyclical climatic changes & other periodicities of the Earth.

Now, a question arise-

Is there any relation between the Yuga cycle & Life time of our Solar system?

But, before to the subject of life time of the Solar system, we must understand the explanation given by ancient scripture on how this Solar system is created.

For this purpose, we will consider popular stories from Vedas, Upanishads, Puranas & Enuma Elish.

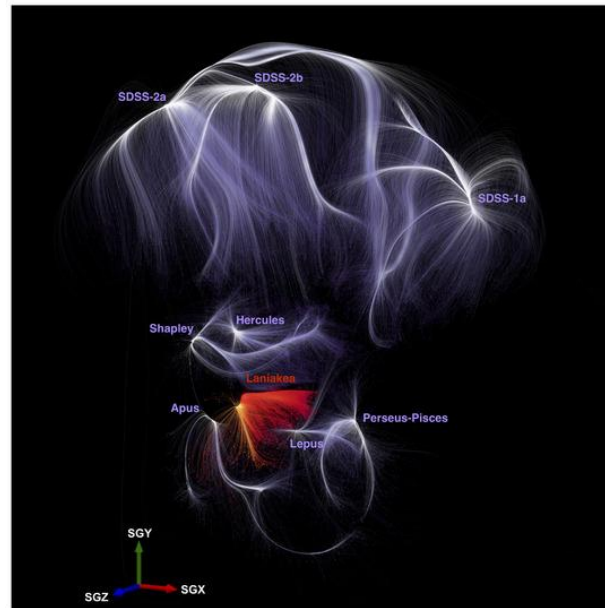
Sage Yajnavalkya described 33 gods in Brihadaranyak Upanishad, as-

11- Rudras, 12- Aditya's, 2- Ashwini kumaras & 8- Vasus. They are offsprings of Devamata Aditi.

Vamana purana describe birth of Marud-ganas from Diti & their division into 7 & 7 parts by Indra. It is also mentioned that Indra, then pronounced word 'Ma-Ruda'.

As per Enuma Elish whole creation is originated from two primal beings- Apsu, fresh water ocean (husband) & Tiamat, salt water sea (wife). Enki killed Apsu. Enki's son Marduk killed Tiamat with help of fishing net & created Heaven & Earth from her corpse. Before her death, Tiamat created 11 Monsters.

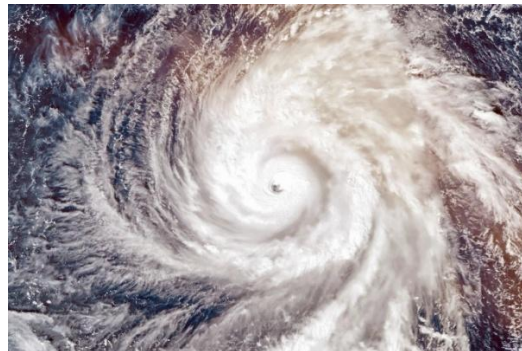
Apa (Primordial waters) of Veda's, is called as Apsu in Enuma Elish. Aditi (Devamata), mother of Gods in Veda's, is called as Tiamat in Enuma Elish. 11- Rudras of Veda's, are called as 11- Monsters in Enuma Elish. Indra, combined personification of Rudras speaks word 'Ma-rud', which means I am Rud (River). Marud-gana of Veda's, is Marduk of Enuma Elish. Aditi is ever existing plasma of Universal magnetic field in singular form & Energy is dissolved in this Plasma. This is expressed in Enuma Elish as Salt water ocean. As Salt is dissolved in Water in such a way that only Water is visible. This is imagination of condition of universe before creation, where nothing existed except universal magnetic field. From this ocean of Universal magnetic field & within it, Shining rivers are created. These rivers are called as 'Rudra' (Where Persian word 'Rud' refers to a River & Egyptian word 'Ra' refers to Shine & combination of both is 'Rudra'). Eleven Rudras refers to a cycle of ups & downs in the flow of River with average 11- years periodicity.



Galaxy Superclusters and their Complexes in Cosmic Web

(Image courtesy: Maret Einasto, Tartu Observatory, Estonia, MDPI Journal, 2025)

The above image confirms groups of Galaxies making river (hair) like structures, wherein each group resembles a Thunderbolt in rainy clouds. Indra is portrayed as God of clouds & his weapon is Thunderbolt. Within a Galaxy Supercluster (Thunderbolt) exist hundreds of thousand numbers of Galaxies (Maruts, Storm deities or Cosmic Cyclones).



A Cyclone, resembling a Galaxy

A Galaxy is constituted mainly by two parts- Central Black hole & Galactic arms. Wherein, the Central Black hole consumes Magnetic field from the Space, through its Magnetic poles & supply that to its Galactic plane, through its Magnetic equator. All Celestial spherical objects- Black holes, Stars, Planets, Natural Satellites & Comets are more or less similar in their structure & operation. All of them are created by Whirlpools in the Magnetic field. They do consume Magnetic field from their surrounding space through their Magnetic poles. The Plasma (Magnetic field), so consumed is passed through spiral coils, narrow at poles & wider at equator. In this process the Plasma is churned out. The Energy contained in this plasma is separated from it. The Free energy (butter) now moves from both Poles towards Inner core of the Celestial body.

Remaining unused Plasma (butter milk), is pushed out of central spherical body, through its magnetic equator in the form of a disc. This disc is known by various names, like- Galactic plane, Interplanetary magnetic field & Planetary Rings. This disc, is represented in Enuma Elish as Fishing net used by Marduk to kill Tiamat. Comets do also reproduce by division of their body & central Nucleus into multiple parts.

The Free energy in the Inner core of a Celestial body forms- Electrons (Vishnu), Six types of Quarks (Six headed Karthikeya), Photons (Ram) & Neutrinos (Anasuya/ Inanna/ Sita). Quarks join in different combinations to form Protons (Brahma, four headed deity- made of three Quarks & a positive charge) & Neutrons (Three eyed Shiva or Trinetra- deity made of one up- quark, two down- quarks & without any charge). Electrons, Protons & Neutrons joins to form Atoms (Three headed Dattatreya). Amba is another name of Aditi. Since, All the Three constituents of an Atom are carved out of energy churned from Amba, they are jointly called as Triyambak. These Atoms join together to make various molecules. This is how Matter is created. This newly created matter is pushed

out, from the Inner Core to spherical Outer Crust/ Corona of the Celestial body. The Matter is first deposited on outermost part of crust & with passing of time the Crust becomes thicker & thicker. The process is similar to deposition of white flesh (Solid endosperm) in Coconut fruit. So, Basic structure of a Celestial bodies is like an Earthen pot. Photons & Neutrinos are jointly called as Ashwini kumaras, this is because that from the time of their creation itself, they continue to run like a Horses (Ashwa). Photons are called as Ram, word originated from Egyptian Ra (Ray), deity of Shine. Neutrinos are called as mother Anasuya, as they feed energy to all the three particles of Atom- Electron (Vishnu), Protons (Brahma) & Neutron (Shiva).

This is how Marduk (Maruts) convert Aditi (non- dual form) to Diti (Duality- Matter & ever moving Ashwini kumaras- Photons & Neutrinos). In Vedic scripture, Diti is known as Mother of Maruts. In Shakta traditions Goddess Aditi/ Amba /Parvati gets divided in two parts- First, Spherical Cell shaped celestial body (Koshiki, where Koshika is Sanskrit word for Spherical cell) & Second one Kali (Invisible Plasma, which act as muscles for the Spherical body & is deposited around it- Forming Magnetosphere, Cusps, Magnetic tail & Radiation belt). There is a third part, which passes out, from Magnetic equator & sprayed around equator in the form of a disc & it is known as; Galactic magnetic field/ Interplanetary magnetic field/ Planetary ring. The 3rd one is known as Para-Sara (one, which is passing out from head shaped spherical astronomical body), the Progenitor of astronomy- as all the Stars (of a Galaxy), Planets (of Stars) & Natural satellites (of Planets) are originated from & located in this ever-flowing disc of Magnetic plasma. The name Parvati is used both for Amba & Parasara. This is because the Plasma (Par-vati, one who penetrates through) penetrates through the Matter, both the times- when in the form of Amba it enters a celestial body through poles & again in the form of Parasara, it exits through Magnetic equator. Though, the modus operandi of all kind of spherical bodies similar. There is basic difference- Central Black holes of Galaxies are known for spreading Magnetic field throughout their galactic arms. Stars are known for producing more of Photons & Neutrinos & some quantity of matter as well. Planets, satellites & Comets are known for producing more & more of Matter.

Non- availability of Neutrinos is the cause of disintegration of matter. All the matter of Celestial bodies containing Neutrons gets disintegrated due to non-availability of Neutrinos (Food). But Hydrogen is still able to survive. This is because, Neutrons consume more of Neutrinos, whereas Protons & Electrons consume less quantity of Neutrinos. Small quantities of Neutrinos required for survival of Hydrogen is available in the space from nearby star systems. This is why Hydrogen is most abundant matter in the Space.

The matter, when disintegrated, gets converted back to Energy. This free Energy is dissolved in the Plasma of Magnetic field. Hence, Diti (defined by dual nature) is again converted to Aditi (Single universal Magnetic field). This is called as death of a Celestial body. This cycle goes on again & again. So, the concept of Re-birth is created.

The name 'Amba' assimilates creation & destruction in it. Fresh Magnetic field is known, in Sumerian mythology as 'Anu' & merger of Energy back into Magnetic field, on death of a celestial body, in Egyptian mythology is known as 'Ba'. Word Amba is made by union of these two words- Anu & Ba. Sanskrit synonym for Magnet is 'Chumbak'. The word Chumbak is made from root word 'Amba' with 'Chu' as its prefix & 'Ak' as suffix. Word 'Magnetic field' is originated from root word 'Magnet'. That is why, 'Ambar' is Sanskrit synonym for 'Space'. 'Enmebaragesi' was king of Kish, Sumer during c 2750 BC. Three parts of his name has important significance, where, word 'En' means 'God', 'Amber' means 'Space' & 'Kesi' means 'Hair' or river-like structure, made of group of thousands of Galaxies.

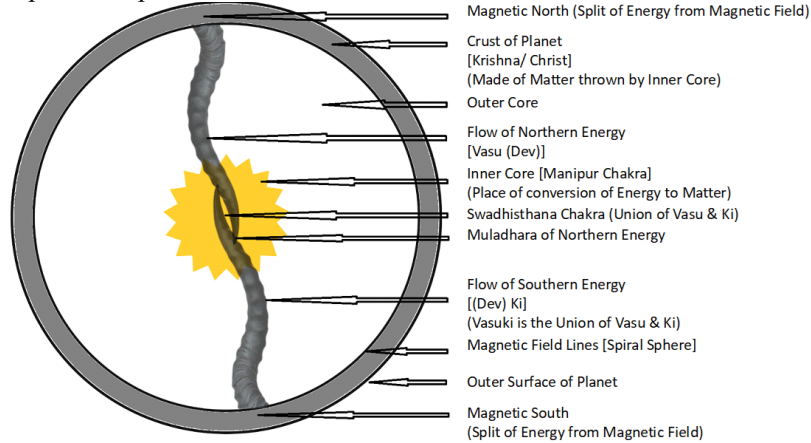
In addition to above features, Sun has developed its Heliosphere. Through its cusps, the Heliosphere directs Galactic magnetic field (Plasma) coming from the direction of star Antares to both the poles of sun. Since solar bow shock is directed towards Antares, Sky has got its Sanskrit name 'Antariksh'. The incoming packets of Magnetic plasma from Solar cusps falls over the mid latitudes of Solar corona. This phenomenon creates black spots on solar corona, which are known as 'Sun- spots'. The black coloured 'Sun spots' are created due to difference in temperatures of incoming packets of Magnetic field, in the form of Plasma, which are at Sub- zero-degree temperature & they fall on Corona of Solar surface, which has got temperature in the range of thousands of degrees.

The Plasma coming through Sun spots enters the Outer core of the Sun in a swirling pattern. Due to swirling form of a coil, the Energy contained in the Plasma is Churned out. The entry of Magnetic field inside Sun is described in Vayu purana, as jumping of Sati (form of Amba, wherein word 'Sat' means 'essence') into fire of Yajna. This Free energy enters vertically, into the Solar inner core. In contrast to it, the Unused plasma moves to Solar Magnetic equator, from where it is pushed out in the form of Interplanetary magnetic field to the Plane of orbit of Planets. The Free energy which has entered into Solar inner core, is converted into matter, major portion of which is Hydrogen. The Hydrogen, so created is pushed vertically from the inner Core to the Solar corona, in the form of bubbles. This inner push of very hot Hydrogen to outer Solar surface appears in the form of 'Solar flares' over the Corona. Burst of these bubbles of hot hydrogen over solar surface is known as 'Coronal mass ejection or CME'. In addition to creation of matter, sun converts free Energy into Photons & Neutrinos. These particles move out vertically, in all directions around the Sun.

The Method of operation of the Planets is more or less similar to that of the Sun. The difference is that, in case of planets, their magnetosphere & cusps are always directed towards sun. This is because the Sun, through 'Interplanetary magnetic field' is the only source of the Magnetic plasma available to them.

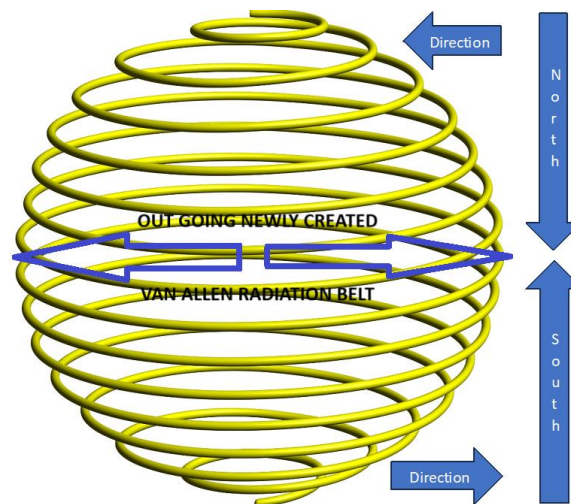
Let's take the Earth as an example.

The picture below explains the process of creation of matter inside our Earth.



Creation of Matter inside a Planet by Churning of Magnetic Energy from Magnetic Field

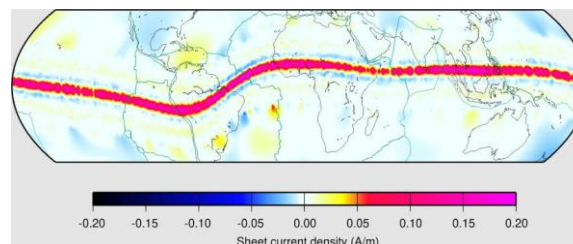
In this process, there is meeting of Vasu (Dev) from Vedas, with En-Ki (or Dev-Ki) from Enuma Elish & by combining both of these, word 'Vasuki' is formed. Vasuki is the Serpent god, used as a rope, for Churning of ocean in the story of 'Samudra Manthan', mentioned in Puranas. Actually, Vasu & Ki are Spiral coil shaped flow of Magnetic field in outer core of the Earth, where 'Vasu' flows from Northern pole & represents Northern magnetic hemisphere & 'Ki' flows from Southern magnetic pole & represents Southern magnetic hemisphere. This is depicted in below image.



Flow of Magnetic Field inside the Outer Core of a Planet

Art by: acworks.co.jp

Tails of two Serpents- Vasu & Ki meets over Earth's Magnetic equator. This is shown in below image.



(Image courtesy: Geomag.org)

At Earth's Magnetic equator, there is upward vertical ExB drift in Electric current. This phenomenon is known as Equatorial electric current (EEJ) of Ionosphere. In fact, this phenomenon is due to outward push of unused Magnetic plasma, in the form of a Ring. Since Plasma is undetected, only electric current is being measured. The outgoing Magnetic field is detected in the form of vertical ExB drift. Van Allen radiation belt, extending to about 9 earth radii, which lies between 60 degrees of both hemispheres is detected, due to presence of Protons & Electrons trapped inside it. But, the middle ring, extending up to 60- Earth radii in each direction from centre of the Earth, supplying Magnetic plasma to the Moon, remains undetected.

Outer boundaries of the Earth's ring & the Radiation belt are oval shaped. The radius of middle Ring is spread up to 60 Earth radii, extending up to Lunar orbit. Moon consumes the Plasma (Magnetic field), supplied to it by the Earth through Earth's Magnetic plasma ring. The Moon consumes the Plasma through 'Reiner Gamma' Swirl, located on moon's part facing the Earth. It is located on the Moon at 7.5 N, 59.0 W. In fact, 7.5 N of the Moon is at its actual latitudinal central point. 59.0 W of the Moon is, in the front side face of Moon's body, orbiting around the Earth.



Reiner Gamma of Moon
(Image courtesy: NASA)

The Earth's Ring completes one orbit around the Earth in a period of 8.85 years. That is why, a complete cycle of anomalistic months, known as Apsidal precession, which is cause of phenomenon of Moon's Perigee & Apogee takes 8.85 years. The Earth's ring is tilted, with an angle of 5.145 degree, with respect to Earth's ecliptic. This tilt crosses the Ecliptic at two points, known as; North & South nodes. These nodes orbit the Earth in retrograde direction with orbital period of 18.61 years. This rotation of the Nodes & direction of the Sun combinedly causes Eclipses.

Similar to the path of orbit of the Moon, the Earth itself is bound by Oval shaped path around the Sun. The Point of Perihelion of the Earth, orbits the Sun with a periodicity of 21613.116 years. The point of Axial tilt of the Earth completes one 360-degree rotation in 25771.5 years. Due to alignments with the supply of interplanetary magnetic field from the Sun & as a combined effect of above two orbital phenomenon's a periodicity of 23692.308 years is formed.

Now, consider Yuga cycle taken from various Sources
(All calculations are based on Solar years on the Earth)-

1. Yuga cycle as Presented by various Puranas-

As per Aztec Calander, period of a year is arrived by multiplying 18 with 20. In India 9- days Navaratri festival is celebrated twice in a year. By total of 9 + 9, a figure of 18 days is arrived. It is customary during Navaratri festival, to prepare two types of puzzles of numbers, wherein if we make total of any row or column, the sum should be 18, in one & 20, in other type of puzzle. If we divide period of a year by 20, a figure of 18 days is arrived, which is equal to 0.05 year. Age of a Yuga is said to be 432,000 years. 24 Yugas make 01 day of Brahma. There are 360 days in a year of brahma. Brahma's total life span is 100 years. When we multiply these figures-

$0.05 \times 432000 \times 24 \times 360 \times 100$

The result is 18,662,400,000 years.

2. A yuga is considered as 360- degree precession of earth, which is made up of 25771.5 years. 10 times of the value of a yuga (1 part- Kaliyuga, 2 parts- Dwaper, 3 parts - Treta & 4 parts - Satya yuga) is a Mahayuga. Multiple of 71 to a Mahayuga is a Manvantara. 1000 Manvantara is value of total cycle. We have to multiply the total value with 1.01

$25771.5 \times 10 \times 71 \times 1000 \times 1.01$

The result is 18,480,742,650 years.

3. Based on Solar cycles, one *Kaliyuga* is period of 7,700 years (Period of each incarnation of lord Vishnu) & a *Mahayuga* is 24 times of a *Kaliyuga* (with respect to 24 incarnations of lord Vishnu) & it has 184,800 years. A *Kalpa* consists of 1,000 *Maha Yugas*. So, a *Kalpa* is period of 184,800,000 years, which is equal to 01 year of Brahma. Brahma's life is of 100 *Kalpa*'s.

7700 X 24 X 1000 X 100

So, the Brahma's life is 18,480,000,000 years.

4. A Saros cycle is a period, when similar eclipse is repeated. This is a period of 18.031 years. An Eclipse season is a period of time little less than half a year. Eclipse season consists a period of 0.4745 year or 173.3074 days. 38 Eclipse seasons makes a Saros cycle. The Sun is on average 150000000 km away from the Earth. Diameter of the Sun is 1392700 km. The Distance to Diameter ratio for the Sun is 107.7. The Moon is on average 384,400 km away from the Earth. Diameter of the Moon is 3474.8 km. The Distance to Diameter ratio for the Moon is 110.6. But, when we take average Distance to Diameter ratio of the Sun & the Moon, during periods of such Solar eclipses, when apparent size of both of them is same. We get the figure of 108.

When we multiply the period of Saros cycle with the period of an Eclipse season & then with 108.

That is, from multiplication of 18.031 X 0.4745 X 108 the result is 924.016626. on multiplying this with 1 crore, we get a period of 9,240,166,260 years. In above formula the equated Diameter of the Sun & the Moon plays a crucial role. Sanskrit word for the Diameter is *Vyasa*.

18.031 X 0.4745 X 108 X 10000000

Taking above period as day & by assigning equal time as night we get 18,480,332,520 years.

So, this verse- "*Vyasaya vishnu roopaya vyasa roopaya vishnave*".

Meaning that through knowing Vyasa (Diameter) or Vishnu (7700 years) or by both, time can be mapped.

5. In Hinduism it is believed that there are 33 Crore or 3,300,000,000 Gods. Each God corresponds to a period of 01 year. Lord *Jagannatha* is offered 56 *Bhog* (56 kind of foods). Word *Jagannatha* means controller of the World. When these two figures are multiplied, product is a period of 18,480,000,000 years.

6. This figure of 9.24 billion years can also be arrived by multiplying periodicity of 23692.308 years (Combined effect of cycles of; Perihelion of the Earth & Axial tilt of the Earth) with 390,000.

7. Again, this figure can be arrived by multiplying Perihelion of the Earth, that is 21613.116 years with 100,000,000 & dividing it with 234.

Since, lord Krishna represents the Earth & Very 1st Verse of the 1st Chapter of '*Bhagavatam Mahatmya*' in *Uttara Khanda* of '*Padma Purana*' reads as below-

*Sad chid ānand rūpāy viśva utpatyā di hetave
Tāp tray vināśāy śrī kṛṣṇāy vayaṁ namaḥ*

Which means-

We salute Sri Krishna, the embodiment of Truth, Consciousness & Bliss, for cause of creation of the World & for pacifying three kind of Fires (Matching the period generated by three Solar cycles).

The 1st formula, out of above six, is based on figures taken from Scriptures (Puranas). The value arrived here is almost 1% more than values arrived from other calculations. Common figure, arrived as life span of Brahma in 2nd to 6th calculation is 18.48 billion years. We have to multiply 18.48 billion with 1.01, to match this value with the 1st one. Clue for this additional 1% is taken from the orbital period of Saturn around the Sun. Wherein; to get the value of 29.45 years, we have to multiply value of 29.1666 years (arrived by multiplication of 112 days with 95.115 days) with 1.01.

So, the total cycle of Brahma is 18,664,800,000 years.

Considering total lifespan Brahma as 01 unit (day) consisting 24 parts (hours), such that from first 00 hours to 04 parts (04 am) representing complete silence, when nothing existed, except Galactic Magnetic plasma. Then from 04 am to 06 am, is the period when Whirlwinds start to form.

06 am to 18 pm; spherical coil is formed & middle fire inside the inner cores of astronomical bodies is generated. The Sun & Planets do exist in condition, as it exist currently.

18 pm to 20 pm; the spherical shape is dissolved in the Galactic magnetic field.

20 pm to 00 mid night, is again time of complete silence.

For 12 hours, out of the 24-hour long life cycle of Brahma, the Sun & Planets maintain their Spherical shape. This is half of total life span of 18,664,800,000 years.

That is equal to 9,332,400,000 years. Life span of *Brahma* is equal to life span of our Solar system.

From above observations, we can conclude that our Solar system has total life span (in current form, when all the planets & the Sun have a stable Spherical shape) is 9.3324 billion years.

But this figure is not complete in itself.

There is a verse from seventh mandala of the Rigveda, known as Mahamrityunjaya Mantra, reads as below-

*Trya Ambakam Yajaa Mahe Sugandhim Pushti-Vardhanam.
Urvaa-rukamiva Bandhanaan Mrityor-Mukshiya Maa-mrataat.*

Which means:

Three things are produced from Amba- Central fire of spherical body, Matter & Quint-essence, which validates Enhancement. By the bonding of Urvashi (a dancing- a whirlwind) and fixed Gem like inner core (Rukmani), the mother Aditi dies.

All the parts of above verse are already explained in this paper, except 'Quint-essence, which validates Enhancement'.

Actually, the Solar system is made up of very little volume of Solid objects immersed in huge amount of Plasma (which is not a Matter). And it is caught in a dynamic of 'Time varying form of Vacuum energy or Quintessence'. Wikipedia page showing 'Equation of state' mention a value of $w = -1.028 \pm 0.032$. When we add 0.028 and 0.032 from above given value & divide it by 2 & then add with 1, a value of -1.03 is arrived. In percent terms it is 103%. While studying events of Solar system, we encounter value of 103, for two times-

1. Nodes of the Moon's orbit around the Earth in 6798.4 days. This value of 6798.4 days can be compared with the value of the 11-year (4017.66 days) Schwabe cycle. When both above values are divided by 103, a ratio 66:39 is obtained.

2. By addition of full 360-degree rotation of Tropical (Sayana) Ayanamsha, that is 48000 years with full 360-degree rotation of Sidereal (Nirayana) Ayanamsha, that is 55086 years, we get value of 103086 years.

Taking clues from the above, we will multiply above theoretical value of 9.3324 billion years with 1.03 to reach a practical value of 9.612372 billion years.

So, 9,612,372,000 years is the actual life span of our Solar system.

8. As per the speeches of *Sri Nischalananda Saraswatiji*, current Shankaracharya of Puri.

Life of the Creation is 14 Manvantara, each made of 71 Mahayuga. Value of 14 Manvantaras can be taken as half of total 28 asterism of Zodiac belt. This is because, we are considering half value 9.612372 billion years (day part) of total life cycle, leaving night part. He, further states that 6 out of 14 Manvantaras are already passed. Of present Manvantara, this is last part (Kaliyuga) of 28th Mahayuga. On this basis, below is calculation-

A Manvantara is: 686,598,000 years

A Mahayuga is: 9,670,394.36 years

From above data

6 Manvantara = 4,119,588,000 years

27 Mahayuga = 261,100,647.89 years

0.9 Mahayuga = 8,703,354.93 years (Kaliyuga, which is 1/10 of 4 yugas, is excluded)

Time passed of present Kaliyuga = 5126 years (Considering, starting point of Kaliyuga from 3101 BC)

By sum of above values, we can conclude that:

4,389,397,129 years is the age of our Solar system as on 2025 CE.

The oldest of known matter on the Earth; Zircon crystals, discovered at Jack hills near Perth of western Australia have been dated 4.374 billion years old by researchers.

The age of Zircon crystals is 99.65% of the age of the Solar system calculated above. This validates the correctness of age calculated in this Paper.

Now, let's move forward & make an estimate of other Cosmic events-

A period of Galactic year, that is 228,866,000 years, can be arrived by dividing above figure of 9.612372 billion years by 42. The value of 42 is half of value of 84, which is pronounced as '*Lakh chorasi joon*'.

Life of our Milky way Galaxy, that is 67.98 years, can be arrived by multiplying 9.612372 billion years with 7 & again with 1.010305070911.