Spatial Forces of Energy

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Many of the fundamental phenomena like origin of mass and charge in the electron structure at sub micro level, axial and orbital rotation of planets at macro level, creation of matter at universal level, defy explanations under the current theories based on empty space of Democritus, Newton and Einstein and followed by quantum physics. It can be said that the Cartesian space of Rene Descartes and his cosmic vortices need to be reestablished due to some new revelation from the Space Vortex Theory (SVT) on electron structure and clear violation of the Lenz's Law in over-unity-efficiency generator.
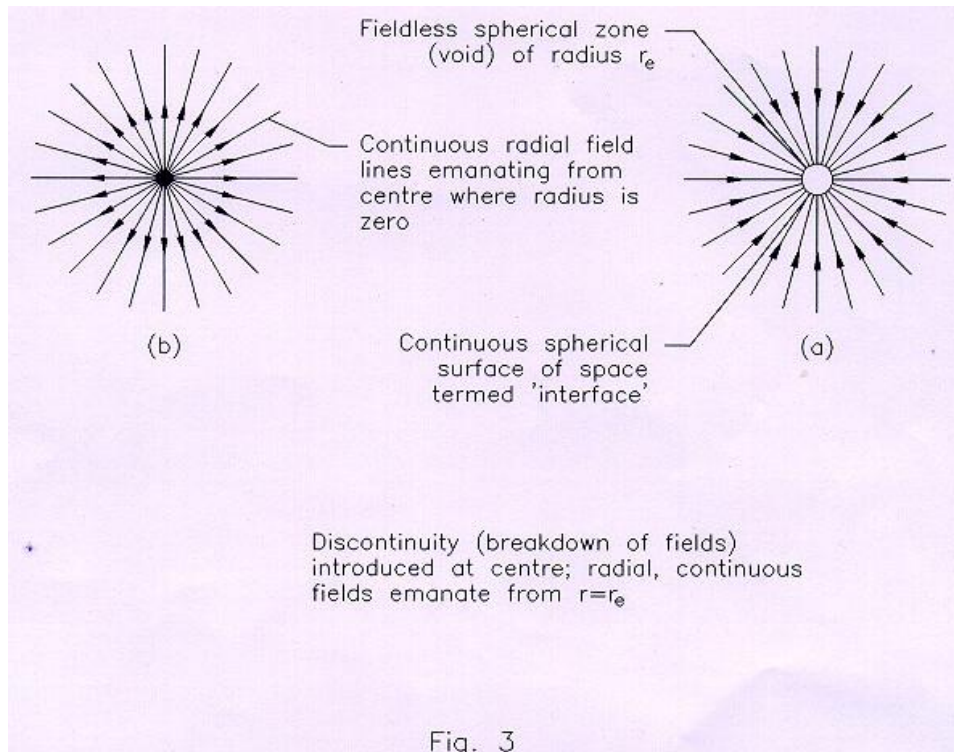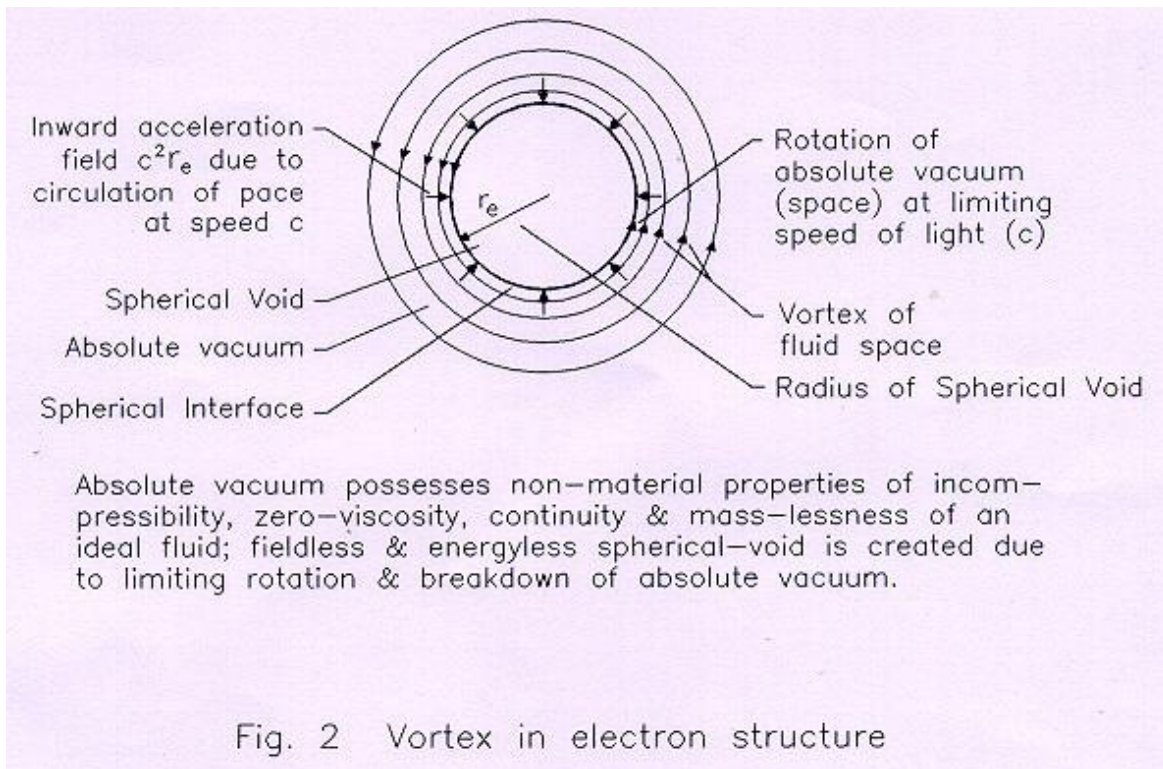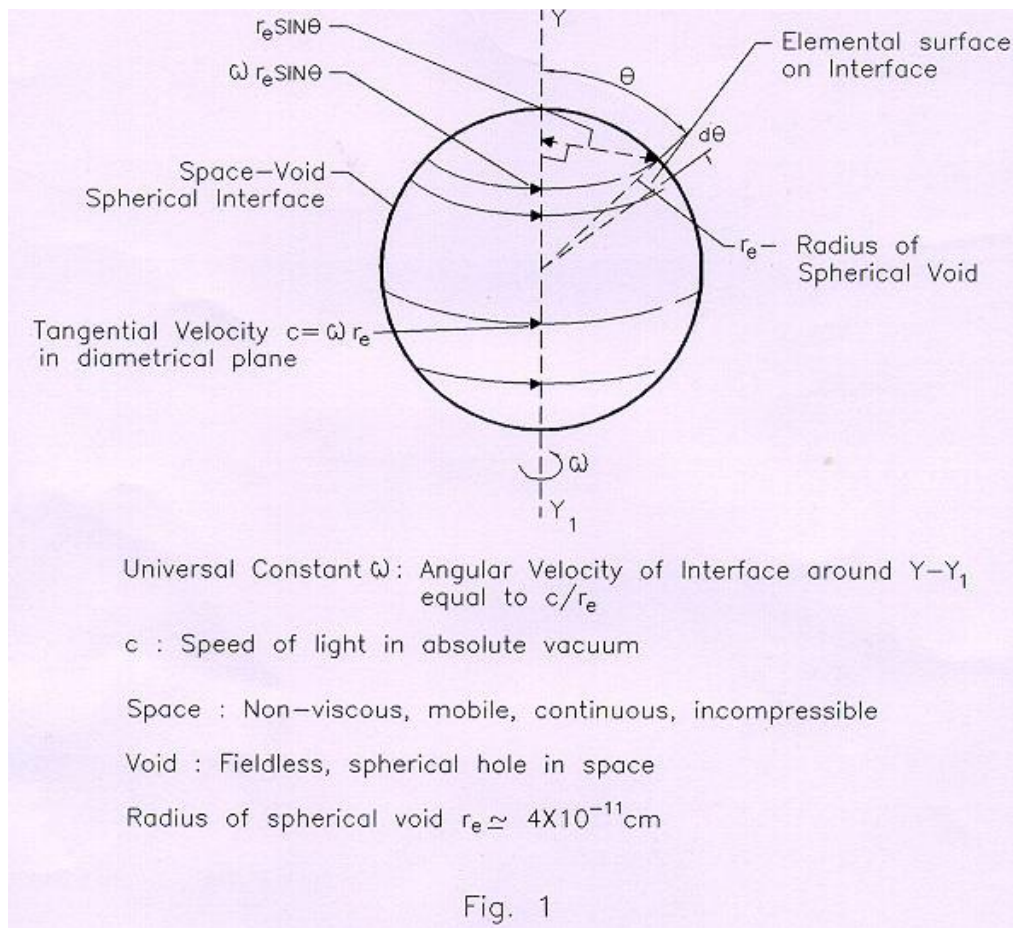
Principles of SVT

1. The medium of space is an eternally existing, nonmaterial, mass-less, continuous, isotropic and fluid substratum.

2. The medium of space (absolute vacuum without matter and fields) has a limiting flow speed equal to the speed of light relative to itself and a limiting velocity gradient, when in a state of vortex-circulating motion.

3. The medium of space is eternal and inherent with motion.

Discontinuity of fields

In the electron vortex structure (**Fig 3a**) electrostatic and gravity fields are discontinued within the interface.

Fig. 1 shows the continuous rotation of the interface at angular velocity ω which is also the limiting velocity gradient, c/r_e (the speed of light/electron radius). **Fig.2** shows the electron structure with the central void and the space vortex enclosing the same.

Fig. 3

Universal Constant ω: Angular Velocity of Interface around $Y-Y_1$ equal to c/r_e

c : Speed of light in absolute vacuum

Space : Non—viscous, mobile, continuous, incompressible

Void : Fieldless, spherical hole in space

Radius of spherical void $r_e \simeq 4 \times 10^{-11}$ cm

Fig. 1

Absolute vacuum possesses non—material properties of incompressibility, zero—viscosity, continuity & mass—lessness of an ideal fluid; fieldless & energyless spherical—void is created due to limiting rotation & breakdown of absolute vacuum.

Fig. 2   Vortex in electron structure

Each point on the streamline of the vortex is under acceleration. *Cosmic energy is defined as: "volume of mass-less space in acceleration".*

The electron interface is subjected to an inward acceleration field—the highest in the universe. **Fig. 1** shows the spherical interface on which in diametrical plane the streamlines have limiting velocity field c.

Earth's Gravity Field

Fig.3.5 shows the Earth enclosed within a space-vortex that imparts diurnal rotation to it. The velocity field in the vortex has been shown to fall inversely as the square root of the distance from the Earth center (**Universal Principle of Space and matter – A Call for conceptual reorientation**) carrying the moon in its orbit at about 1 km/s. Working backward from the moon to the ionosphere, the velocity field increases to 7.8 km/s. This field produces an inward acceleration of:
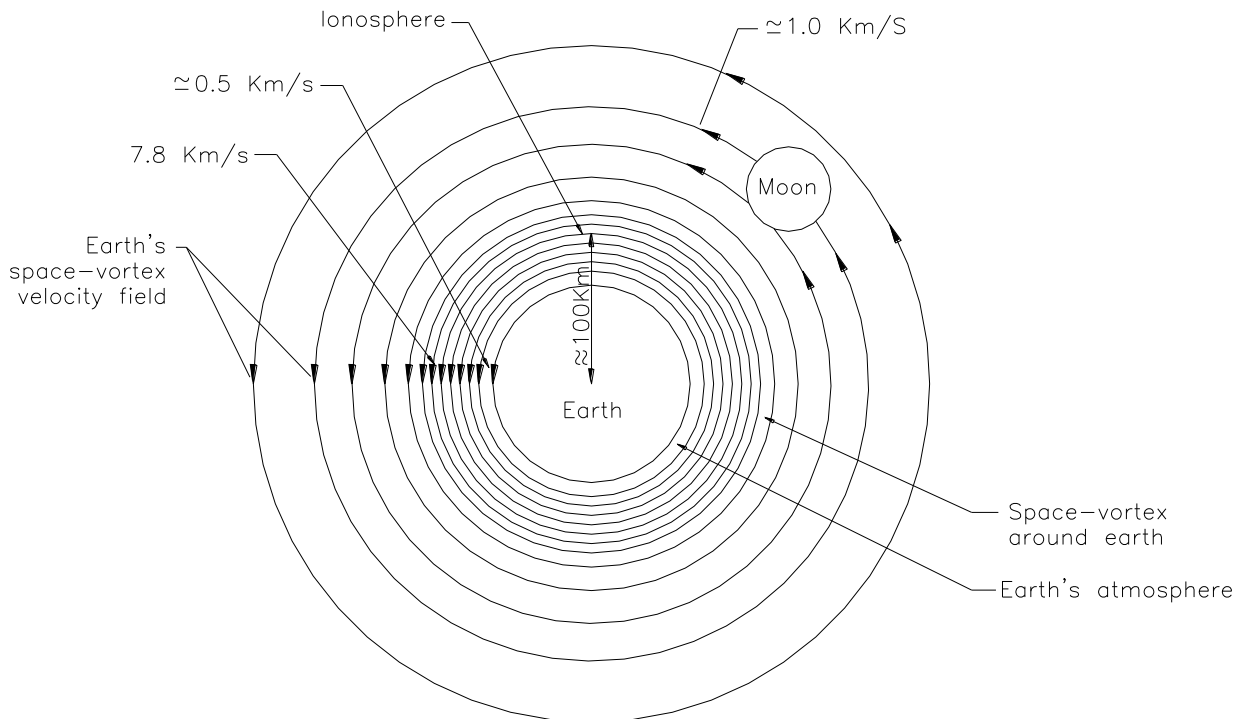

Fig. 3-5   Earth's Space-Vortex

$(7.8 \text{ km})^2 / 6370 \text{ km} = 955 \text{ cm/s}^2$, where the earth radius is 6370 km. Earth gravity field is accepted as 981 cm/s ^{2}.

Rene Descartes was right when he believed that the Earth's h gravity field is due to pressure from the surrounding fluid ether.

Also, since the Moon is carried in the stream of the space vortex, with which it has no relative motion, it is not subjected an outward centrifugal force. *Planets and satellites are carried by their respective space vortices in which they are located and or not subjected to outward centrifugal forces.*

Solar Space Vortex

Fig.3.3 shows the space vortex enclosing the sun and spread out throughout the planetary plane. Surface gravity at the sun's surface is similarly calculated as in the case of Earth with the orbital motion of the planet Mercury (or from any other planet), which indicates the magnitude of the velocity field in the solar space vortex at the orbit of Mercury. With the inverse square root

variation of the velocity field in the solar space vortex, the velocity field v f $_s$ in the vicinity of the Sun's surface is calculated as: 436.7 km/s. The inward acceleration a$_s$ at the sun's surface is calculated as: (v f $_s$) ^{2} / Sun's radius = 274 m/s^2, which is exactly equal to the presently accepted value of the Sun's gravity field.
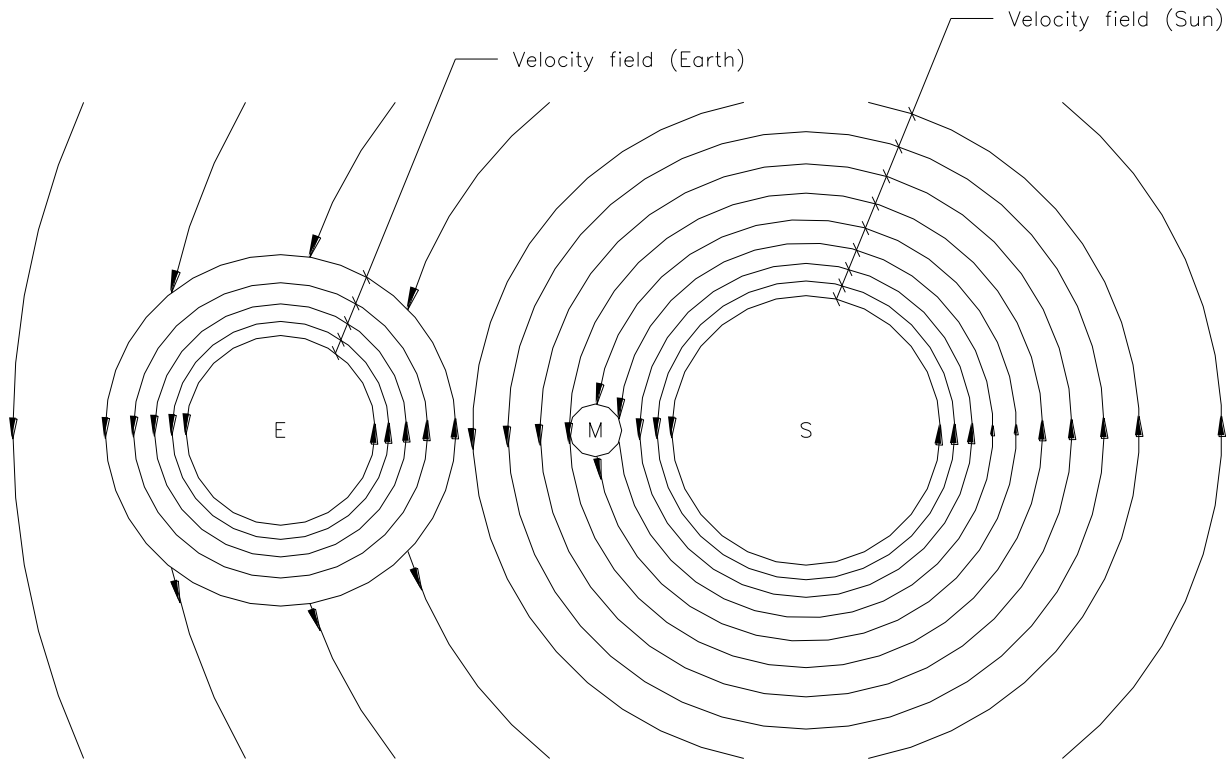

Fig. 3-3   Solar Space Vortex

E: Earth,   M: Mercury,   S: Sun

A further proof to the existence of a space vortex enclosing the sun is provided by observing the wind velocity on the sun's surface. The velocity field on the sun's surface, as used above to calculate the surface gravity, is 436.7 km/s. This is very close to the average wind velocity of 440 km/sec close to the sun's surface. [Average of 380 to 500 km/sec in 48 hours, 10 July, 2002. http://soho.nascom.nasa.gov/].

The surface gravity of all other planets with axial rotation can be calculated as in the case of the earth.

Determination of surface gravity of the sun and the planets without using the mass of these cosmic bodies proves that the solar planetary plane is pervaded with a space acceleration field which is primarily responsible for surface gravity on the sun and the planets.

Electrical repulsion between the Sun and the planets

The vortices enclosing the planets being in the same direction as the sun create electrical repulsion between the planets and the Sun. This force regulates the spacing between the planets and between the Sun and the planets. The electrical force being much stronger that gravity forces can be calculated knowing the electrical charge of each planet with a new formula based on the electron charge. Electrical forces between the planets are not known to modern astronomy. During planetary alignment, electrical forces could be very severe on earth based on the Moon positions.

Creation of Matter in the Universe

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In our galaxy, the solar system exists at a distance of about 2.62×10^{22} cm from the center of the galaxy, revolving around it at speed of 220 km/s. Assuming that similar to the derivation for the solar vortex, in the galactic vortex the space-circulation in the diametrical plane at right angles to the axis falls inversely as the square root of the distance from the center of the galaxy,

$$v = k_g / \sqrt{r}$$

where k_g is a constant and r is the distance from the galactic center. Substituting the values of v and r as given above, we get:

$k_g = v \sqrt{r} = (220 \times 10^5 \text{ cm/s}) \times (2.62 \times 10^{22} \text{ cm})^{1/2} = 3.56 \times 10^{18} \text{ cm}^{3/2}/\text{s}.$

From above equations, the distance R_g at which the space circulation in the galactic vortex reaches the speed of light is:

$R_g = [(3.56 \times 10^{18} \text{ cm}^{3/2}/\text{s}) / (3 \times 10^{10} \text{cm/s})]^2 = 1.408 \times 10^{16}$ cm, which is about 203,000 times more the than the solar radius.

Within the central zone of the galaxy, a nearly spherical volume of radius 203,000 times the sun's radius is the region of continuation creation of matter starting with electrons/positrons. With violent motion of these particles at the speed of light, the electrons will magnetically attract and electrically repel, thus coming to close ranges, and creating neutrons, protons and hydrogen atoms, projected out from the galaxy's central zone as beams of hydrogen at speeds approaching light speed. The electrons with opposite spins (positrons) will have chance-encounters with electrons leading to annihilation and thus producing gamma radiation. Therefore, galactic centers that are pushing out jets of hydrogen and are sources of intense gamma radiation are located in the active region of the universe, continuously creating matter and thereby increasing mass of the galaxies and dispersing matter in space for the formation of stars. The creation of matter should be a distinct possibility at the centers of the stars as well, as seen below in the analysis pertaining to the sun.

The mass of matter within the creation zone of the galaxy is found as follows: The volume of the creation zone, $V_g = (4\pi / 3) R_g^3$; and mass of the galaxy, $M_g = V_g c$, since the entire volume of space in the creation zone circulates at c. Substituting the value of R_g, above, $M_g = (4\pi/3) (1.408 \times 10^{16} \text{cm})^3 (3 \times 10^{10} \text{cm/s}) = 3.5 \times 10^{59} \text{cm}^4/\text{s}$. Converting cm^4/s into gram (from the relations in (Universal Principle of Space and Matter), $M_g = (3.5 \times 10^{59})$ g / $8.6 \times 10^6 = 3.49 \times 10^{52}$g.

Creation of Matter at Sun's Center

The solar space vortex maximum tangential velocity of space circulation in the equatorial plane was determined as: $V_{sm} = 4.367 \times 10^7$ cm/s. Consider the case when the sun had no matter, and the solar space-vortex extended all the way up to its center. From the solar vortex equation, it has been shown elsewhere that at the sun's center space circulation reaches close to light velocity.

In the central zone of the sun, within a diameter of about 2.95 km around the axis of rotation, the medium of space undergoes break down, and matter is created starting from the electrons/positrons continuously and assembling into hydrogen. The hydrogen jets from the polar region, if any, will the indication of matter creation at the sun center. The sun should have a through and through hole from one pole to the other. It could also be that the created matter accumulated around the sun's center, over a period of time, leads to intermittent bursts that should account for the observed solar flares. Thus, the stars formed initially from the galactic matter dispersion and seeding in space create their own matter and grow.

Expanse of the Substantial Space of the Universe

The universal space could be infinite or finite in its expanse. In the latter case, a sphere of dynamic space can exist in an infinite extension of nothingness beyond its distinct boundary and this leads to the possibility of infinite numbers of the spherical universes of substantial space existent eternally in the endless void extension beyond our own universe. In a finite universe of dynamic space, the galaxies that are presently observed to be moving away from each other at increasingly higher speeds will retard under the action of their own inward gravity field, or more correctly, their inward free-fall acceleration, when they reach closer to the universal boundary. The galaxies on their motion away from the universal center will possess spiraling motion due to the radial motion of their constituent matter obtained at the time of creation and projection from the universal center as well as the circular motion of the universal space that constantly interacts with the galaxies. Thus, when the radial motion of the galaxies is reduced to zero, they still describe circular motion in addition to some complex motion that the electrical attractive and repulsive forces among the galaxies may produce. The distribution of the galaxies towards the universal center (creative zones) being more than those towards the boundary, the electrical attractive forces may force the galaxies to return towards the universal center in due course. During this motion, as the distance in between any two galaxies decreases, a reorientation of the directions of the velocity fields in their enclosing vortices may be caused by electrical attractive forces, which will finally lead to their collisions and annihilation of matter in the final stage—annihilation taking place in the basic units

An estimate on the radius of the finite spherical universe of the substantial space can be hypothesized such as: Since it is an observed fact that the universe has cosmic matter, an electron shot radially out at velocity c from the universal center, retarded by its own inward gravity field, should have nearly zero velocity in close vicinity of the boundary of the universe, lest it loses its existence if it meets the region of void at the interface of the substantial-space boundary and the infinite nothingness beyond. Applying the classical law for the radial motion of the electron the radius of the universe is found as indicated in the sketch below.
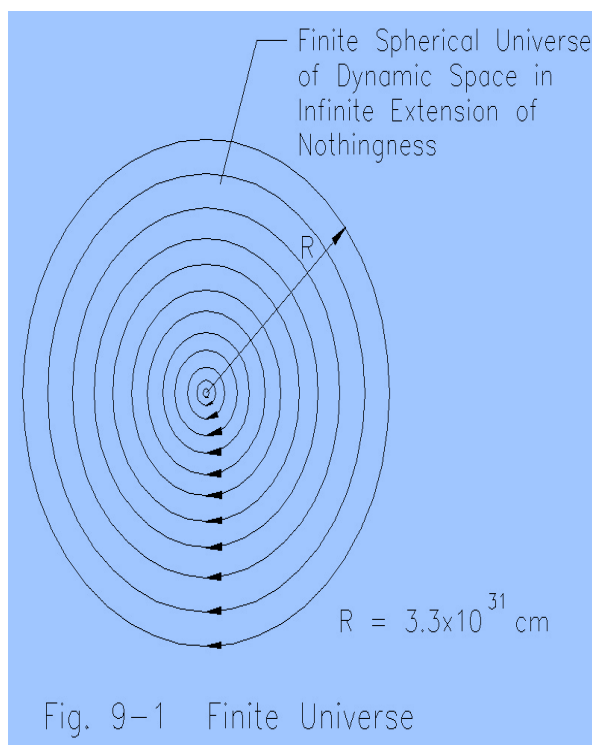

Finite Spherical Universe of Dynamic Space in Infinite Extension of Nothingness

R

$R = 3.3 \times 10^{31}$ cm

Fig. 9-1   Finite Universe