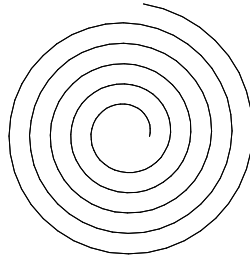


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Presence of the Ether/ESF in the life of the Universe

(LENR, Adhesion, Absorption, Ablation, Expansion)

This paper is considering that the gravitational phenomenon, generated by presence of a Large Gravitational Mass (M_{LGM}) absorbing the substance (Ether/ESF) surrounding it, to which is associated a gravitational field of depression of the fabric character of the Ether/ESF, is the cause of release of Energy of movement belonging to a mass M in freefall inside the said

field of depression of Ether/ESF.

The gravitational phenomenon is based on a Low Energy Nuclear Reaction (LENR), basically affecting the surfaces (ablation) of the atomic entities and indirectly the volumes including the nuclei of the atoms.

Note: "LENR" is an all comprehensive definition of the gravitational phenomenon since it is supposedly involving the atomic entities from their surfaces to their inner nuclei.

The gravitational field of depression of the Ether/ESF generated by absorption of the central mass M_{LGM} is transmitted to the atoms of a mass M immersed in it, in these conditions, if the movement of M and its atoms is impeded, a Potential value of Energy of movement or Static Force (SF) will be generated in M :

$$SF = M \cdot a(r)_{Static} = M \cdot \frac{k \cdot M_{LGM}}{4\pi r^2} \quad [kJ]$$

Note: the value of the SF (Potential value of Energy in kJ) is equal to the value, expressed in terms of Energy of the gravitational flow of Ether/ESF absorbed by the M_{LGM} over the unit of surface along the unit of radial distance over the unit of time, amplified by the volume V occupied by M and further amplified by the density ρ of M contained in V since $M = \rho V$.

The SF acting over the mass M (as potential to release Energy, is a Force but is to be expressed in kJ of Potential Energy) as a Force is directed towards the center of the M_{LGM} along the gravitational line of increasing depression generated by the continuous absorption (in time) of Ether/ESF by the M_{LGM} , and as M is allowed to move (movement in time takes place), ablation of the atomic surfaces belonging to the mass M moving at $v(t)$ along the depression of the gravitational field is releasing in the unit of time an amount of Energy in function of the instant t :

$$1) \quad E(t) = M \cdot SF \cdot v(t) \quad \left[\frac{kJ}{sec} \right] \quad \text{or} \quad [kW]$$

$E(t)$ is at the time t at the expenses of M (as a Mass of density ρ and volume occupied V) and consequently the sum of all the $E(t)$ from $t=0$ to t gives the amount of Energy of movement, transformed inside M moving along the gravitational depression.

The intrinsic character of the reaction involved varies in time from the moment in which the mass occupies the volume V at $t=0$ to $V(t)$ at the time t as the total volume described by M during displacement along the line of gravitational depression from $t=0$ to t .

The total amount of transformation of mass-Energy (due to ablation) along the gravitational depression over the time interval t is ΔM_0^t which in equivalent terms of Energy is $\Delta M_0^t c^2$ (in function of the time t) and comes in existence through transformation (due to ablation) of the original value of the Static Force (SF as a form of Energy in potential status) into Energy of movement or kinetic Energy belonging to M (moving M along the gravitational direction of the SF which is towards the center of the M_{LGM}):

$$E(M)_0^t = (\Delta M_{ESCE})_0^t \cdot c^2 = \frac{1}{2} M \cdot v(t)^2$$

Showing that an amount ΔM of neutron mass-Energy belonging to M is transformed into a ΔM_{ESCE} (mass having the capacity to expand transformed into Energy equivalent belonging to M) by ablation over a time t along the field of gravitational depression in the Ether/ESF (caused by absorption of the same by the mass M_{LGM}).

Note: the above expression is to be considered valid for $v(t) \ll c$ and $r \sim \text{const}$

Demonstration:

$$E(M)_0^t = FS \frac{(V)_0^t}{V_0} = M \cdot a(r)_{\text{Static}} \frac{(V)_0^t}{V_0}$$

Note: the above equation uses the Universal Law developed in the UDS. (**see: Antonio Ruggeri research papers 4495**).

Acceleration of movement of M per unit of time is generated by transformation-degradation of mass-Energy into Energy of movement and is opposed according to Newton's 3rd Law by the value of the Force developed against the Ether/ESF, the one producing elastic opposition to introduction of Energy of movement, which is the one which develops the active Force or "Dominant Force" referred in the (1) above.

$$a_{\text{cel}} = \left(\frac{dv}{1''} = a_{\text{elastic}} \right) \Leftrightarrow FS$$

Note:(the a_{elastic} above constitutes an inversion in movement of the phenomenon of Static Force FS and whilst the FS represents a value of Energy in Potential status the a_{elastic} is a Force developed in the Ether/ESF , of elastic characters opposing increase dv of velocity of M

over the unit of time inside the Ether/ESF it whilst the mass M is moving at increasing values of v).

Note: each second the phenomenon of ablation consists in the sum of half the value of acceleration plus the ablation of the existing previous value of velocity.

Note: Passage of $FS=a(r)_{\text{static}}$ (belonging to M) along the gravitational depression will release the Energy, that as FS is in potential status of existence, generating expansion and therefore movement, as suggested:

$$E(M)_0^t = \rho \cdot V_0 a(r)_{\text{Static}} \frac{V_0 \cdot \frac{dv}{1''} \sum_1^t (t - 0.5)}{V_0} = \rho \cdot V_0 a(r)_{\text{Static}} \frac{dv}{1''} \frac{t^2}{2}$$

And the value $a(r)_{\text{Static}}$ as potential of release Energy, developing the Static Force, matches $\frac{dv}{1''}$ the value of the acceleration along the gravitational depression.

Whereas: $a(r)_{\text{Static}} \cdot t = v(t)$

is a value of depression of the Energy attained at the time t and present in M along the gravitational depression and:

$$\frac{dv}{1''} t = v(t)$$

Is the value of velocity attained by M at the time t under the gravitational transformation-degradation respecting the Universal Law in the UDS, we then have the Energy ablated in M, due to gravitation, and belonging to M, after the FS was permitted to start movement, at the above described conditions will be:

$$E(M)_0^t = \frac{1}{2} M \cdot v(t)_{\text{depr}} v(t)_{\text{speed}} = \frac{1}{2} M \cdot v(t)^2 \quad [\text{kJ}]$$

M occupies a volume V at the time t=0, and after a time t is elapsed, will have occupied along its run in Space a volume $(V)_0^t$.

The above value of $E(M)_0^t$ is developed along the direction of the gravitational depression by a mass M of volume V in freefall under acceleration:

$$\frac{dv}{1''}$$

through expansion in space V_0^t at the time t of the volume V .

This is due to expansion of the neutron mass-Energy ΔM_0^t belonging to M , subjected to gravitational ablation (which is cause of movement of M).

This ΔM_0^t over a time interval t is transformed (expanded) into its equivalent of kinetic Energy $\Delta M_0^t \cdot c^2$ belonging to M , directed towards the direction of depression field caused by the gravitational absorption of the Ether/ESF by the gravitational M_{LGM} .

Note: in the Euclidean Space, the flow of the Ether/ESF is caused by absorption by the M_{LGM} inside which is absorbed as neutron mass present inside the atomic entities as modular entities called neutrons.

Note: the most basic phenomenon associated to the physical mass is the reaction supposedly involving the Nuclei of the atoms, Low Energy Nuclear Reactions (LENR), since they are supposed to absorb (through the gravitational process) the Ether/ESF (as substance in the status of a neutron cloud in the context of a fabric of Space) this, then, is going to increase the presence of the neutrons constituting the centers of the atomic entities, in the context of modular presence (and not of continuous growth).

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Internal gravitational effects inside a mass M_{LGM}

It must also be considered that in the case of Large Gravitational Masses (M_{LGM}) due to the fact that their own gravity can produce inside them ablation (ablation of the neutron components of the atoms), what is released is not Energy of movement but Heat (as Energy) which inside the M_{LGM} can only be present as compressed substance (in respect of the equivalence principle).

Heat inside a M_{LGM} comes out at a density similar to the surrounding mass but free and capable to flow to the external surface of the M_{LGM}

under the load generated by continuous internal gravitational transformation of the mass-Energy, belonging to the neutron modules of the atoms of the M_{LGM} , into more Heat (whilst at the same time there will be transmutation of the physical presences of the atomic entities inside the M_{LGM}).

Note: the abovementioned phenomena of gravitational nature are always present wherever a mass containing neutron/proton components is present but they are more evident and can be described through formulations in masses that have been described as M_{LGM} .

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ADHESION/ABSORPTION/ABLATION/EXPANSION as LENR related phenomena are phenomena whose explanations are tied up to presence of the Ether/ESF and its interactions with the atomic entities belonging to masses existing in the Universal reality.

Indestructible substance initially present in the Universal Space (of Euclidean Nature) as an uniform field of Ether/ESF, (see graphic below), can be represented in terms of presence all over it, in a pristine status, of a cloud made up of a dust consisting of nearly infinitesimal undefined particles in neutron mass status, characterized by adhesion of the substance of which they are made of (which is a character of the Energy in a pristine status) into indefinably small particles of enormous density, justifying their presence inside an Euclidean space in conditions close to "absolute vacuum".

Presence, in the Universal reality, of physical masses contained inside an Euclidean Space filled by the Ether/ESF, as above described, can only be justified as presence of objects made up of the same substance constituting the neutron cloud of which the Ether/ESF is constituted.

Note: how the masses present in the Universe came to be is at present only object of speculations (we can only ask ourselves: "was the Universe as it is now the object of creation in earlier times?").

Here I restrict myself to the observation that the atoms constituting a gravitational mass are physically present as spherical entities in whose core substance is present as mass in the modular status of neutrons.

Note: later on the presence of protons will be justified through release by them of another modular entity (the electron) expanding away from the neutron but unable to penetrate the Ether/ESF.

Presently I can only say that the indefinable particles present in the

Ether/ESF have the capacity to absorb each other through their energetic character called adhesion and adhesion permits them to coagulate up to a maximum value of modular entity called “neutron” which is the first of a series of transformations affecting the Ether/ESF and originating all the objects present in the Universal reality.

In the attempt to justify in terms of physical Laws the phenomena under scrutiny I examined the suggestion, made in the course of the centuries, that the Universal volume of Euclidean nature could not exist unless it was filled of an Ethereal substance whose characters were out of reach to the physicists of those times.

I called this substance “Ether/ESF” (ESF, for Energized Space Fabric) and based on results and intuitions reached in the course of the years, I defined it as a pristine form of existence of mass-Energy which after undergoing changes of status of existence can be related to presence of atomic entities and ultimately can be related to presence of dissipation of Energy out of the mass where was present as Heat.

Note: presently knowledge of all the physical processes dealing with the formation of the physical matter as conglomerates called Mass is very imperfect.

Outside the neutrons contained in the nuclei of the atomic entities also prevails adhesion of basic substance, tying the neutrons to each other, and this character is also to be considered as presence of Force of adhesion or a manifestation of Energy having the character of adhesion.

This is intended to show that adhesion as a form of Energy is present not only in the infinitesimal particles constituting the neutron cloud existing outside the physical mass as Ether/ESF but as a character proper of the said basic substance when present in a stage of existence agglomerating the particles belonging to the neutron cloud into modules that we call “neutrons” and in a stage of existence tying up the neutrons inside the atoms etc...

A sequence of physical phenomena associated with indestructible (therefore conservable) but degradable substance (initially present in the physical Universe as Ether/ESF), endowed of the Energy character in the status of adhesion, explains the presence of physical mass in the Universal reality as a special status of existence of basic substance endowed of Energy in various stages of degradation, which are combined and coexist together contributing to the presence of the Universal reality.

The said sequence (thanks to the concept of equivalence) explains all the manifestations of Energy belonging to the said basic substance , one of these manifestations is that the neutron mass-Energy belonging to the

atoms of a mass M when (under the power of ablation) is released through gravitational phenomena, switches its character, from adhesion to expansion, originating a flow of a minuscule amount of mass, ΔM (belonging to M) of the said indefinable particles transformed into ΔM_{ESCE} (that having exchanged the character of adhesion to expansion in terms of conservation is also subjected to degradation) and since still belongs to the mass M and since expansion is transformation-degradation of mass-Energy into Energy of movement of M, the mass M ultimately will result endowed of movement.

Note: presence of a ΔM_{ESCE} belonging to a mass M expanding in the direction of the gravitational depression in the Ether/ESF, is equivalent to pure Energy of unidirectional movement $\Delta M_{ESCE}c^2$, but since ΔM_{ESCE} here is associated to a mass M which gravitationally ablated produces it through internal transformation-degradation, presence in M of the said ΔM_{ESCE} in a status of expansion is cause of a pro rata movement of M.

I make here an example for $v=\text{const}$ (no gravitational depression in M):
 a $\Delta M_{ESCE} \cdot c^2$ belonging to M will be cause of movement of M at v constant speed (in undisturbed Ether/ESF):

$$\Delta M_{ESCE} \cdot c^2 = M \cdot v^2$$

Note: this is in touch with current theory, whereas (according to Einstein) the ΔM_{ESCE} (which to be precise on its own should be called Heat or ΔM_{Heat}) is equivalent in mass-Energy units to the Energy ($\Delta M_{Heat} \cdot c^2$ coming out of a Mass M) in dissipation at constant c depression and constant c speed in the Ether/ESF, but since now ΔM_{ESCE} belongs to the mass M the whole ΔM_{ESCE} will carry M, therefore can only generate expansion at a lesser constant velocity v of M at lesser v depression inside M (this only for $v \ll c$).

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HEAT released by a LENR related phenomenon

As mentioned above, inside a mass M_{LGM} the gravitational process is still acting on the mass but far from producing movement it causes expulsion of Energy from the mass of the atoms which in the M_{LGM} are compressed under gravitational load .

The Energy expelled/released in this manner is also under gravitational compression and we can say that we are facing a phenomenon in which

the Energy is compressed to a status of mass-Energy in accordance with the Law of equivalence.

We have that this compressed substance released (through internal gravitational process) inside M_{LGM} is Heat if form of a fluid capable to flow between the external surfaces of the atomic entities belonging to the mass M_{LGM} , whilst under the push of continuous gravitational internal production of an amount $\Delta M_{Heat}/sec$.

In terms of conservation the amount $\Delta M_{Heat}/sec$ is also flowing out of the surface of the M_{LGM} where, in contact with the Ether/ESF is expanding to a status of dissipation.

The compressed Energy (Heat) released inside the $M(R)_{LGM}$ is building up inside it as a flow of substance that when reaches its surface is equivalent to a maximum flow value $\Delta M(R)_{Heat}/sec$, (in units of mass Ton/sec) we then have that from that point on loses compression flowing in the Ether/ESF as Energy equivalent in units of Energy $\Delta M(R)_{Heat}c^2/sec$ (in units of Energy kJ/sec).

The flow $\Delta M(r)_{Heat}/sec$ for $0 < r < R$ is taking place in compressed status inside the M_{LGM} generating it and at the radius $0 < r < R$ inside the M_{LGM} its density $\rho(r)_{Heat}$ is similar to that $\rho(r)$ of the surrounding mass $M(r)_{LGM}$.

When the flow of Heat generated inside the M_{LGM} reaches its external surface, is the amount of compressed mass equivalent $\Delta M(R)_{Heat}/sec$ that reaches the surface of the $M(R)_{LGM}$ and from there moves away from the physical mass $M(R)_{LGM}$ inside which the transformation-degradation generating took place, from there on will be subjected to transformation into pure Energy, whilst be expanding in the Ether/ESF as final stage of presence in the physical Universe called dissipation taking place at c depression and c speed of expansion.

The flow of Heat inside a mass $M(r)_{LGM}$ (for $0 < r < R$) as Energy under compression is represented in units of mass-Energy, but when it moves away from the surface of a mass $M(R)_{LGM}$ (into which it was a free status of Energy under compression (and therefore to be represented in terms of mass equivalent) when reaching the surface of the mass $M(R)_{LGM}$ can be expressed in the following manner:

$$\frac{\Delta M(R)_{Heat} \cdot c^2}{sec} = \frac{(\rho_{Heat} \Delta V(R)) \cdot c^2}{sec \cdot c} \cdot c \left[\frac{kJ}{sec \cdot c} \cdot c \right]$$

Note: the $\Delta M(R)_{Heat}/sec$ produced by the gravitational mass will be the object of further treatment when calculating the amount of Energy coming out from the Sun.

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An attempt to describe and justify how the structures of the atoms are coming in existence

I have mentioned, here above, how the presence of Heat, could be justified between the atoms, as compressed form of Energy in respect of the Law of Equivalence.

I now introduce the justification of presence in the Ether/ESF of atomic entities (starting with the atoms of hydrogen).

It comes, from observation, that the atomic structures are most variously assembled into a mass M_{LGM} to which we attribute a density ρ_{LGM} of presence related to the unit of density $\rho=1$ present in the volume V_{LGM} of the M_{LGM} occupied by pure Ether/ESF.

Suppose we are under the gravitational pull of a mass M_{LGM} , the Potential Energy (or Static Force) present in a mass M of volume V depends from the density ρ of the mass-Energy constituting M and from the gravitational pull of the M_{LGM} (the value of depression of the gravitational field generated over M by the M_{LGM} :

$$SF = M \cdot a(R)_{LGM} = \rho \cdot V \cdot a(R)_{LGM}$$

This characteristic only means that since the density ρ depends from presence of atoms whose nuclei are mainly made up of the modular entities called neutrons (also present as couples protons/electrons), the density of the atomic matter depends from their atomic constitution and from the capacity of their nuclei to expand at the atomic status of existence, provided by the capacity to release another modular entity “the electron/s” capable to expand against the surrounding Ether/Ether/ESF (but unable to penetrate it) and giving this way an identity to the atomic entities.

Note: the capacity of the electrons to give their identities to the atoms is consisting of the fact that they are a status of the Energy, released by the neutron modules, facing them in a condition also modular and unable to penetrate the Ether/ESF, therefore constituting a bubble (the atomic entity) whose external surface is made of a tiny layer of compressed Ether/ESF (endowed of elastic characters and extremely resistant to penetration).

The above is justification of the presence of the atomic entities as a phenomenon of expansion of mass-Energy that from the neutron status is releasing modules (electrons) into a status of Energy, in expansion against the Ether/ESF, which being unable to penetrate it will permit to justify in Space the presence of atoms of physical mass occupying a spherical volume, to be expressed in units of mass.

Note: we avoid for the time being to refer to presence of molecules.

As far presence of substance (Ether/ESF) in the Euclidean Space, of infinite extent, the gravitational formulations developed in the UDS are assuming that such substance is subjected to a cycle that starts from an initial phenomenon of continuous absorption, in time, by the physical gravitational mass subjecting it to transformation-degradation into a component of it, (adding to neutron mass in the status of modular entities called neutrons) present inside the atoms of the gravitational mass itself in terms respecting the gravitational Law as a Law of absorption.

I start with Newton's ULG, opportunely interpreted as absorption, from the Universal cloud of Ether/ESF (present in the Euclidean Space) , by the gravitational mass M_{LGM} , in the unit of time.

Note: the absorption if we use Newton is **expressed in units of Energy:**

$$\frac{\Delta E (M_{LGM})}{\text{sec}} = 4\pi G \cdot M_{LGM} = k \cdot M_{LGM} \left[\frac{\text{kJ}}{\text{sec}} \right] \text{ or } [\text{kW}]$$

Nevertheless, since the assumption is that the ABSORPTION is in terms of mass (as we know it), if we use the formula of equivalence of A.E. results that the gravitational M_{LGM} absorbs in the unit of time the following amount of mass at density $\rho=1$ [Ton/m³]:

$$\frac{\Delta M_{LGM}}{\text{sec}} = \frac{k \cdot M_{LGM}}{c^2} \left[\frac{\text{Ton}}{\text{sec}} \right]$$

Which for the Sun gives: (in terms of increase of neutron modules expressed as mass equivalent in the unit of time)

$$\frac{\Delta M_{SUN}}{\text{sec}} = \frac{(8.3857E-7) \cdot (2E+27)}{9e+16} \text{LGM} \cong 18,634 \left[\frac{\text{Ton}}{\text{sec}} \right]$$

This absorption proceeding as a constant phenomenon in time has the

effect to produce a constant field of gravitational depression of the Ether/ESF around the Central mass M_{LGM} whilst a flow of the indefinable particles as neutron dust endowed of “adhesion” moves towards the M_{LGM} (the Sun in our case), which absorbs them.

Presence of this gravitational field of depression of the Ether/ESF has the capacity to develop subsequent transformations-degradations in a mass M , immersed in it in a status of immobility, consisting of a phenomenon having the potential to ablate Energy inside M (expand a fixed amount of mass-Energy inside M , towards the gravitational depression of the Ether/ESF which is the phenomenon generating the Static Force).

Ablation in this case is consisting of a fixed amount of transformation-degradation of mass-Energy as substance in the neutron status along the direction of increasing depression in static conditions, but then if movement is allowed there is transformation of the said substance in neutron status (in function of the time t) into Energy of movement belonging to M (see above):

$$\Delta M(t)_{ESCE} c^2 = \frac{1}{2} M v(t)^2$$

Movement (in time), of M in the said direction of increasing gravitational depression (caused by absorption of Ether/ESF by the M_{LGM}) being dependent from transformation (through ablation) is of increasing nature dependent from increase in time of ablation of neutron mass belonging to M , consequently increasing the Energy of movement possessed by M whilst it is moving along the gravitational depression.

This corresponds to increase of velocity of M which can be expressed as increase of Space occupied by M in the unit of time starting with the release of the potential of transformation-degradation belonging to the Static Force in respect of the Space occupied in conditions of quiet).

Note: all this in respect of the formulations in page 2-3 above.

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More in regard of the ADHESION character in the substance present in the Universal reality

The graphic below attempts to justify the pure undisturbed presence of substance in the Euclidean Space made up of indefinably small particles in which substance has the supposed capacity of adhere to itself.

Adhesion, in these extremely small particles of mass, is an Energy

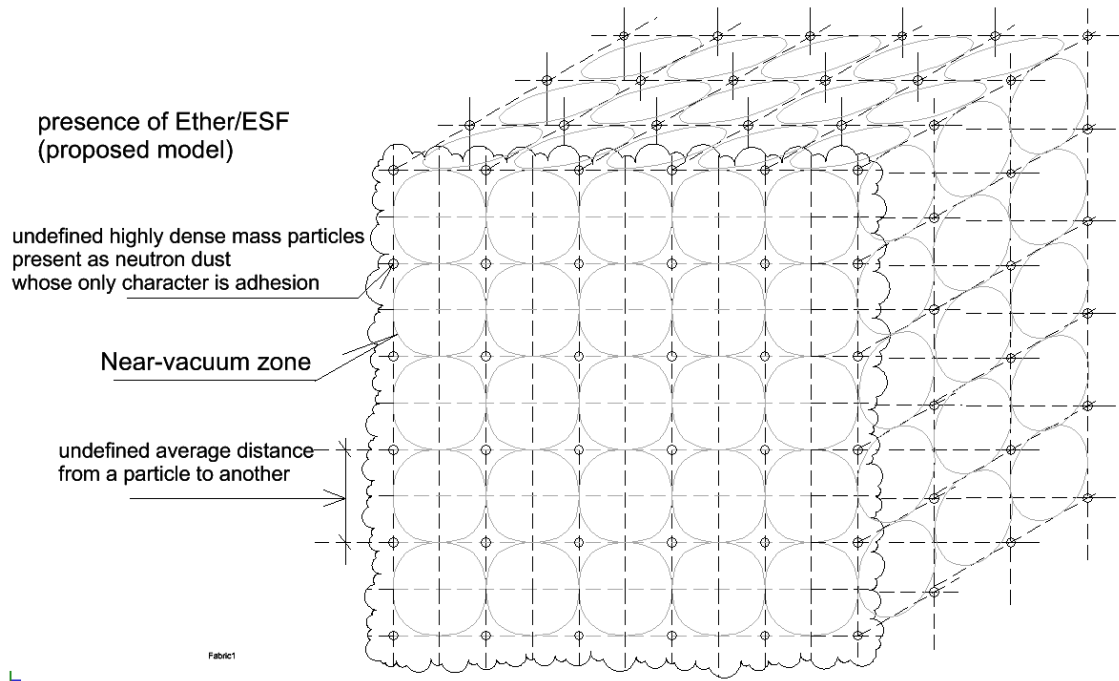
character belonging to substance (concentrated into mass points of extreme density $\rho=c^2$ [Ton/m³]) and consequently having the potential to be transformed into another character of mass-Energy or of Energy of equivalent value (subjected to conditions justifying its existence in the Universal reality) since Energy belonging to substance is a conservative character which nevertheless can undergo degradation.

The extreme concentration of the particles is to be attributed to possession of a character called adhesion, which in itself an expression of Energy, equivalent to other states of existence of Energy such as Energy of directional movement (better known as kinetic Energy or Total Force) applied to a mass M.

Note: when unimpeded transformation-degradation of gravitational origin over the unit of time of mass-Energy into Energy is applied to a mass M it causes in M presence of a Force to which is opposed another Force constituted by the elastic compression (reaction) of the Ether/ESF surrounding it (Newton's 3rd Law) etc... (**see: Antonio Ruggeri research papers 4495**) .

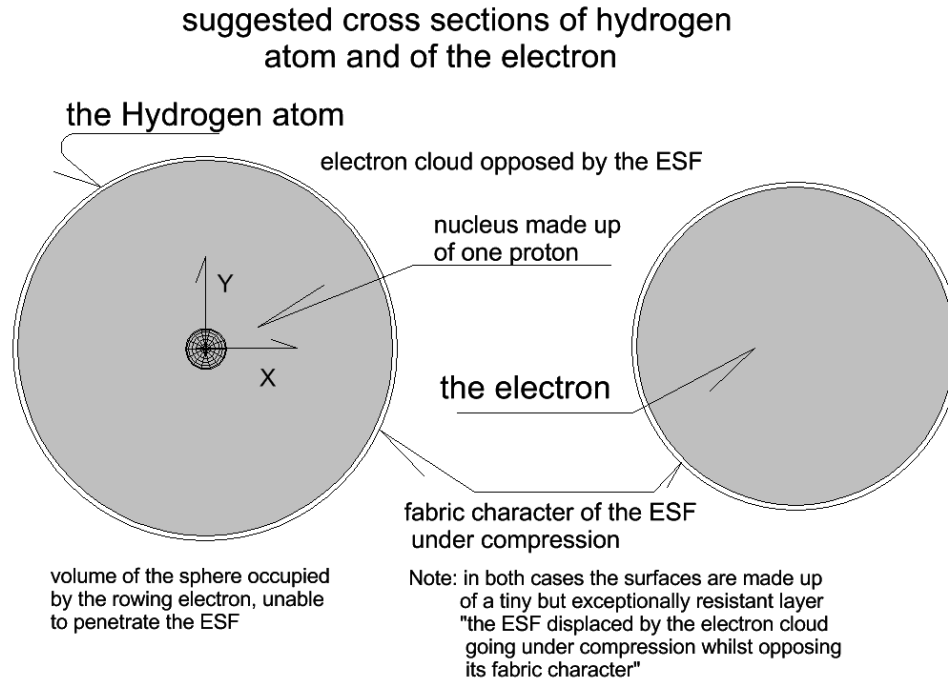
Note: As will be described in due course the total amount of Energy possessed in terms of haphazard velocity of the atoms by the single atoms of a mass M of Gas inside a volume V, immersed in the Ether/ESF, can be reduced also to temperature, etc.... (Many other phenomena, could be mentioned, regarding Energy belonging to the atoms of M, as presence of a gaseous conglomeration of atoms, such as for example, isothermal absorption by the mass M, from external source, of Energy as substance or adiabatic expansion/degradation of a mass M of gas in terms of conservation of Energy (as will be presented when dealing with Carnot's cycle) etc...

Note: In the Euclidean space surrounding these indefinable particles prevails an extreme value of depression, to the point that to us as observers, unable to detect the presence of these extremely dense and small particles, appears as the space is absolutely empty.



Description the hydrogen atom and of the electron and

their capacity to exclude presence of Ether/ESF inside a volume occupied by them



This status of facts when described in terms of density in the whole Euclidean space produces the conclusion that if these particles "P" at: $\rho_P=c^2$ [Ton/m³] density are occupying a specific volume $1/c^2$ inside the unit of volume of the Ether/ESF ($V=1$ m³) the balance will be left in a condition of nearly absolute vacuum whilst if we spread their presence in the Euclidean space over the unit of volume of Ether/ESF ($V=1$ m³) they will be occupying at average density $\rho_{ESF}=1$ [Ton/m³] the unit of volume in the Euclidean space and this in terms of the Law of equivalence would be an amount of specific Energy in the unit of volume of Euclidean Space:

$$E_{ESF}=c^2 \text{ [kJ/m}^3\text{]}.$$

The straight consequence of these conclusions is that we can make a crude reference to the density of the particles of neutron/proton mass inside the atomic entities (where they reside in a status of adhesion as neutron/proton entities) with the above mentioned indefinable particles of mass in the status of neutron dust at $\rho=c^2$ density.

With this observation we have then to assume that is possible to have this type of density of the indefinable particles in the Ether/ESF.

If now we apply the Law of equivalence, it will result that as mass in that status of concentration these indefinable particles will contain an amount of specific Energy $E_{ESF}=c^4$ [kJ/m³].

In other words, though the spatial environment is having the characteristics of a Space deprived of physical presence, if we assume that the specific volume occupied by these particles of neutron dust is $V_n=1/c^2$ m³/m³, whilst the balance can be considered “empty Space” the mass present in the Euclidean space in the status of neutron dust will be $M_n= 1$ Ton/m³ hypothetically present as a dust of highly compressed particles giving an average density to the said mass expanded c^2 times of $\rho_{ESF}=1$ [Ton/m³] whereas in terms of Energy equivalent (due to the high prevalence of void the unit of volume of 1m³ of Euclidean Space is containing the following amount of specific Energy:

$$\frac{E_{ESF}}{m^3} = c^2 \left[\frac{\text{kJ}}{m^3} \right]$$

and what keeps together substance in that powdery status inside a Space Fabric essentially empty is the phenomenon of adhesion (as Energy character, of the particles in status of neutron cloud, which distributed inside an unit of volume (1 m³) is equivalent to presence in it of a mass having density $\rho=1$ and consequently of an equivalent value of Energy $E=\rho c^2$ kJ/m³ in the unit of volume of 1 m³.

Note: as it is now a mass contained in the unit of volume at density $\rho=1$ Ton/m³ according to the Law of equivalence is the result compression of substance Energy $E/m^3= c^2$ [kJ/m³] whilst mass in neutron dust status in the single indefinable particle is the result of further compression c^2 of M/m^3 restricted to the condition that what is contained in the unit of volume at density $\rho=1$ [Ton/m³] can be reduced to the status of neutron dust, rendering the density of these single indefinable particles $\rho_p=c^2$ [Ton/m³] and producing around them a lack of substance (vacuum) and this effect of ultra compression in these indefinable particles of neutron dust can at this stage only be justified in terms of them possessing the character of adhesion.

It can be said that substance in itself exists endowed of the pure Energy character, present as adhesion, (as neutron dust), loss of adhesion will expand c^2 times the substance to the density of ordinary mass of density $\rho=1$ and further expansion c^2 (in physically explained terms) will be giving to the substance the true Energy character as Heat

coming out of a mass of density ρ and capable to expand in the surrounding Ether/ESF at the maximum speed c whilst its local density is reduced c times, or can be associated to mass in a stable status of existence which thanks to possession of substance endowed of Energy character can have movement (unidirectional velocity in space of a mass), which can be transformed-degraded into Work.

Note: Energy belonging to a mass enclosed inside a limited Volume in gaseous status can be present as haphazard velocity of the atoms contained in it resulting measurable as Heat as well.

I must add that in cases of gravitational nature if movement and all what follows is impeded (since in terms of transformation-degradation inside the field of depression of the Ether/ESF, to expansion of the mass into Energy is associated movement of it) we must say that Energy is present only as potential capacity to start transformation-degradation (is present as a Static Force corroborating the fact that a Static Force can be expressed in terms of a value of Energy having the potential to start movement and associated transformation-degradation).

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The gravitational phenomenon associated to a mass M present inside a gravitational field generated by a mass M_{LGM} (Large Gravitational Mass).

Note: what follows is an attempt to explain the gravitational phenomenon to which undergoes a solid mass M inside the Ether/ESF in presence of a mass M_{LGM} continuously absorbing the Ether/ESF according to an Universal Law and transforming it into neutron mass going to increase the mass of the neutrons belonging to its atoms.

Gravity or rather the gravitational field is the effect, over the pristine field of Ether/ESF, of continuous absorption by the mass M_{LGM} of the neutron dust as indefinable particles belonging to the Fabric of the Space, containing them.

This absorption has the capacity to produce a field of deformation of the Energized Space Fabric (Ether/ESF) as substance (of special characters) occupying the Euclidean Space and surrounding the mass M_{LGM} from which the field originates, whilst the Ether/ESF is continuously flowing towards the mass M_{LGM} , under the effect of absorption by it.

The effect of the said absorption of the Ether/ESF by the mass M_{LGM} constitutes a field of presence of the Ether/ESF around the M_{LGM} in which the equivalent presence of mass at density $\rho=1 \text{ Ton/m}^3$ is supplied by neutron dust in which the indefinable neutron particles have extremely high adhesion, high enough to be compared to presence of mass of density $\rho=1 \text{ Ton/m}^3$ corresponding to presence of Energy $E= c^2 \text{ kJ/m}^3$ and is this character which permits us to establish that flow of this substance (Ether/ESF) concentrically directed towards the M_{LGM} means increase of depression of the presence of energy equivalent (density of the neutron dust) over the unit of volume flowing along the unit of time towards the M_{LGM} .

Note: the specific Energy depression expressed in units of Energy is increasing with the inverse of the radial distance r from the center of the M_{LGM} (for $r \geq R_{LGM}$) its expression is: (for $r > R$).

$$v(r)^2 = \frac{k \cdot M(R)}{4\pi r}$$

The above value is depression of the undisturbed conditions of the Ether/ESF at the value $E = c^2$

$$E(r) = c^2 - v(r)^2$$

And the gradient along the radial direction (for $R < r < \infty$) coincides with the value of gravity in function of the radial distance r :

$$\frac{dE(r)}{dr} = \frac{k \cdot M(R)}{4\pi r^2}$$

Gravity consists on the fact that this increase of specific depression in the field constituted by the Ether/ESF affects physically the mass M present in that field (at distance r) no matter if it is impeded to move or if it can do so.

Nevertheless if the mass can move there is an additional interactive relation between it and the field of depression produced by the M_{LGM} which ablates the neutron (modules) component of M releasing it in a status in which since belongs to the mass M can expand with M against the depression field of elastic nature (**see Google: Antonio Ruggeri research papers 4495**) carrying the mass through the Space in the direction of expansion and forcing it to increase velocity, increase of velocity is a phenomenon controlled by Force opposed by the elastic reaction of the Ether/ESF, through which the mass M moves, which

requires the definition of variation of movement in time and therefore the definition of the time phenomenon in conditions of acceleration.

At this point, the mass M , with increase of its velocity releases increasing amounts of ablation of the neutron component of its atoms, transformed into Energy of movement (of M) through expansion of its volume in space on the direction of the gravitational depression and causing further increases of Energy of movement of M (increasing values of velocity of M in the space in terms of conservation in respect to the transformation of mass-Energy into Energy of movement).

M will be directed towards the surface of the M_{LGM} , following the line of flow of the Ether/ESF absorbed by the M_{LGM} and since that line is perpendicular to the spherical surface of the M_{LGM} , M will be moving along a (radial) line directed towards the center of the M_{LGM} .