

Exploration

Moon, Schumann Wave & Human Mind

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Abstract

We have theorized previously that the soul has the energy of the order of the $10^{30} GeV$. The human consciousness field have the range of $10^5 km$, and characteristic time = $1 sec$, which is also characteristic for Schumann waves and brain waves. The range of consciousness field is of the order of Moon-Earth distance. It suggested the influence of the Moon radiation on the Earth Schumann waves and human mind waves. Earth women body is a special detector of Moon waves, which have the range of distance Earth women – Moon (order of $10^5 km$). Let us call these sort of elementary electromagnetic waves. It is hypothesized here that these waves interact with women mind only and start macroscopic periodicity phenomena, for example distortion of women mind during the absorption psychon waves.

Keyword: Periodicity, women body, psychon wave, Earth - Moon interaction.

Introduction

In Physics World and other journals the MEN constantly discuss how to improve the percentage of Women in Science. For me it is curious problem. In Science we have 100 % of female savants. Let's, please, take into account our wife, daughters, sisters. All of them take a part in our men research. Moreover as I showed in this Essay only women have the direct inside to Universe. We men have not!

Let us start with the study of the energetic fields which surrounded the humans. In the seminal paper [1] F. Calogero described the cosmic origin of quantization. In paper the tremor of the cosmic particles is the origin of the quantization and the characteristic acceleration of these particles $a \approx 10 m/s^2$ was calculated. In our earlier paper [2] the same value of the acceleration was obtained and compared to the experimental value of the measured space-time acceleration

In the following paper we investigate the natural forces in the Universe and also the new force for the human consciousness. We define the cosmic force — Planck force, $F_{Planck} = M_P a_{Planck}$ ($a_{Planck} \approx a$) and study the history of Planck force as the function of the age of the Universe. In addition we introduce the Bohr force for atomic scale, the Yukawa force for nuclear scale, the Schwinger force for the vacuum

Masses introduce a curvature in space-time, light and matter are forced to move according to space-time metric. Since all the matter is in motion, the geometry of space is constantly changing. A Einstein relates the curvature of space to the mass/energy density:

$$\mathbf{G} = k \mathbf{T}, \quad (1)$$

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\mathbf{G} is the Einstein curvature tensor and \mathbf{T} the stress-energy tensor. The proportionality factor k follows by comparison with Newton's theory of gravity: $k = G/c^4$ where G is the Newton's gravity constant and c is the vacuum velocity of light; it amounts to about 2.10^{43} N^{-1} expressing the *rigidity* of space-time.

2. Universe forces

In paper [2] the model for the acceleration of space-time was developed. Prescribing the $-G$ for space-time and $+G$ for matter the acceleration of space-time was obtained:

$$a_{Planck} = -\frac{1}{2} \left(\frac{\pi}{4} \right)^{\frac{1}{2}} \frac{(N + \frac{3}{4})^{\frac{1}{2}}}{M^{\frac{3}{2}}} A_P, \quad (2)$$

where A_P , *Planck* acceleration equal, viz.:

$$A_P = \left(\frac{c^7}{\hbar G} \right)^{\frac{1}{2}} = \frac{c}{\tau_P} \cong 10^{51} \text{ ms}^{-2}. \quad (3)$$

As was shown in paper [5] the a_{Planck} for $N = M = 10^{60}$ is of the order of the acceleration detected by Pioneer spacecrafts [3].

Considering A_P it is quite natural to define the *Planck* force F_{Planck}

$$F_{Planck} = M_P A_P = \frac{c^4}{G} = k^{-1}, \quad (4)$$

where

$$M_P = \left(\frac{\hbar c}{G} \right)^{\frac{1}{2}}.$$

From formula (4) we conclude that $(F_{Planck})^{-1}$ = rigidity of the space-time. The *Planck* force, $F_{Planck} = c^4/G = 1.2 \cdot 10^{44} \text{ N}$ can be written in units which characterize the microspace-time, i.e. GeV and fm. In that units

$$k^{-1} = F_{Planck} = 7.6 \cdot 10^{38} \text{ GeV/fm}.$$

As was shown in paper [5] the present value of *Planck* force equal

$$F_{Planck}^{Now} (N = m = 10^{60}) \cong -\frac{1}{2} \left(\frac{\pi}{4} \right)^{\frac{1}{2}} 10^{-60} \frac{c^4}{G} = -10^{-22} \frac{\text{GeV}}{\text{fm}}. \quad (5)$$

In papers [5,6] the *Planck* time τ_P was defined as the relaxation time for space-time

$$\tau_P = \frac{\hbar}{M_P c^2}. \quad (6)$$

Considering formulae (4) and (6) F_{Planck} can be written as

$$F_{Planck} = \frac{M_P c}{\tau_P}, \quad (7)$$

where c is the velocity for gravitation propagation. In papers [5,6] the velocities and relaxation times for thermal energy propagation in atomic and nuclear matter were calculated:

$$\begin{aligned} v_{atomic} &= \alpha_{em} c, \\ v_{nuclear} &= \alpha_s c, \end{aligned} \quad (8)$$

where $\alpha_{em} = e^2 / (\hbar c) = 1/137$, $\alpha_s = 0.15$. In the subsequent we define atomic and nuclear accelerations:

$$a_{atomic} = \frac{\alpha_{em} c}{\tau_{atomic}},$$

$$a_{nuclear} = \frac{\alpha_s c}{\tau_{nuclear}}.$$
(9)

Considering that $\tau_{atomic} = \hbar / (m_e \alpha_{em}^2 c^2)$, $\tau_{nuclear} = \hbar / (m_N \alpha_s^2 c^2)$ one obtains from formula (9)

$$a_{atomic} = \frac{m_e c^3 \alpha_{em}^3}{\hbar},$$

$$a_{nuclear} = \frac{m_N c^3 \alpha_s^3}{\hbar}.$$
(10)

We define, analogously to *Planck* force the new forces: F_{Bohr} , F_{Yukawa}

$$F_{Bohr} = m_e a_{atomic} = \frac{(m_e c^2)^2}{\hbar c} \alpha_{em}^3 = 5 \cdot 10^{-13} \frac{\text{GeV}}{\text{fm}},$$

$$F_{Yukawa} = m_N a_{nuclear} = \frac{(m_N c^2)^2}{\hbar c} \alpha_s^3 = 1.6 \cdot 10^{-2} \frac{\text{GeV}}{\text{fm}}.$$
(11)

Comparing formulae (8) and (11) we conclude that gradients of *Bohr* and *Yukawa* forces are much large than F_{Planck}^{Now} , i.e.:

$$\frac{F_{Bohr}}{F_{Planck}^{Now}} = \frac{5 \cdot 10^{-13}}{10^{-22}} \cong 10^9,$$

$$\frac{F_{Yukawa}}{F_{Planck}^{Now}} = \frac{10^{-2}}{10^{-22}} \cong 10^{20}.$$
(12)

The formulae (12) guarantee present day stability of matter on the nuclear and atomic levels.

As the time dependence of F_{Bohr} and F_{Yukawa} are not well established, in the subsequent we will assumed that α_s and α_{em} [6] do not dependent on time. Considering formulae (11) and (12) we obtain

$$\frac{F_{Yukawa}}{F_{Planck}} = \frac{1}{\left(\frac{\pi}{4}\right)^{\frac{1}{2}}} \frac{(m_N c^2)^2}{M_p c^2} \frac{\alpha_s^3}{\hbar} T,$$
(13)

$$\frac{F_{Bohr}}{F_{Planck}} = \frac{1}{\left(\frac{\pi}{4}\right)^{\frac{1}{2}}} \frac{(m_e c^2)^2}{M_p c^2} \frac{\alpha_{em}^3}{\hbar} T.$$
(14)

As can be realized from formulae (13), (14) in the past $F_{Planck} \approx F_{Yukawa}$ (for $T = 0.002$ s) and $F_{Planck} \approx F_{Bohr}$ (for $T \approx 10$ s), $T =$ age of universe. The calculated ages define the limits for instability of the nuclei and atoms.

In 1900 M. Planck [7] introduced the notion of the universal mass, later on called the *Planck* mass

$$M_P = \left(\frac{\hbar c}{G} \right)^{\frac{1}{2}}. \quad (15)$$

Considering the definition of the *Yukawa* force (11)

$$F_{Yukawa} = \frac{m_N v_N}{\tau_N} = \frac{m_N \alpha_{strong} c}{\tau_N}, \quad (16)$$

the formula (16) can be written as:

$$F_{Yukawa} = \frac{m_{Yukawa} c}{\tau_N}, \quad (17)$$

where

$$m_{Yukawa} = m_N \alpha_{strong} \cong 147 \frac{\text{MeV}}{c^2} \sim m_\pi. \quad (18)$$

From the definition of the *Yukawa* force we deduced the mass of the particle which mediates the strong interaction – pion mass postulated by Yukawa in [8].

Accordingly for *Bohr* force:

$$F_{Bohr} = \frac{m v}{\tau_{Bohr}} = \frac{m_e \alpha_{em} c}{\tau_{Bohr}} = \frac{m_{Bohr} c}{\tau_{Bohr}}, \quad (19)$$

$$m_{Bohr} = m_e \alpha_{em} = 3.7 \frac{\text{keV}}{c^2}. \quad (20)$$

For the *Bohr* particle the range of interaction is

$$\gamma_{Bohr} = \frac{\hbar}{m_{Bohr} c} \approx 0.1 \text{ nm}, \quad (21)$$

which is of the order of atomic radius.

In an important work, published already in 1951 J. Schwinger [9] demonstrated that in the background of a static uniform electric field, the QED space-time is unstable and decayed with spontaneous emission of $e^+ e^-$ pairs. In the paper [9] Schwinger calculated the critical field strengths E_S :

$$E_S = \frac{m_e^2 c^3}{e \hbar}. \quad (22)$$

Considering formula (22) we define the *Schwinger* force:

$$F_{Schwinger}^e = e E_S = \frac{m_e^2 c^3}{\hbar}. \quad (24)$$

Formula (24) can be written as:

$$F_{Schwinger}^e = \frac{m_e c}{\tau_{Sch}}, \quad (25)$$

where

$$\tau_{Sch} = \frac{\hbar}{m_e c^2} \quad (26)$$

is *Schwinger* relaxation time for the creation of $e^+ e^-$ pair. Considering formulae (25) the relation of F_{Yukawa} and F_{Bohr} to the *Schwinger* force can be established:

$$F_{Yukawa} = \alpha_s^3 \left(\frac{m_N}{m_e} \right)^2 F_{Schwinger}^e, \alpha_s = 0.15, \tag{27}$$

$$F_{Bohr} = \alpha_{em}^3 F_{Schwinger}^e, \alpha_{em} = \frac{1}{137},$$

and for *Planck* force

$$F_{Planck} = \left(\frac{M_P}{m_e} \right)^2 F_{Schwinger}^e. \tag{29}$$

In Table 1 the values of the $F_{Schwinger}^e$, F_{Planck} , F_{Yukawa} and F_{Bohr} are presented, all in the same units GeV/fm. As in those units the forces span the range 10^{-13} to 10^{38} it is valuable to recalculate the *Yukawa* and *Bohr* forces in the units natural to nuclear and atomic level. In that case one obtains:

$$F_{Yukawa} = 16 \frac{\text{MeV}}{\text{fm}}. \tag{30}$$

It is quite interesting that $\alpha_v \approx 16 \text{ MeV}$ is the volume part of the binding energy of the nuclei (droplet model).

Table 1. *Schwinger, Planck, Yukawa and Bohr* forces [GeV/fm]

$F_{Schwinger}^e$	F_{Planck}	F_{Yukawa}	F_{Bohr}
$\approx 10^{-6}$	$\approx 10^{38}$	$\approx 10^{-2}$	$\approx 10^{-13}$

For the *Bohr* force considering formula (27) one obtains:

$$F_{Bohr} = \frac{50 \text{ eV}}{0.1 \text{ nm}}. \tag{31}$$

Considering that the *Rydberg* energy $\approx 27 \text{ eV}$ and *Bohr* radius $\approx 0.1 \text{ nm}$ formula (31) can be written as

$$F_{Bohr} = \frac{\text{Rydberg energy}}{\text{Bohr radius}}. \tag{32}$$

3. Human mind force

In our paper[10] we investigated the new description of the human mind . We discovered that the human consciousness (mind- soul) is a medium with internal energy 10^{30} GeV . In accordance with results of paragraph 2 we can introduce the consciousness force the fifth force. According to formula (7)

$$F_{Consciousness} = \frac{\text{momentum}}{\tau} = \frac{m_e c}{\tau} = \frac{m_e c^2}{\tau c} = \frac{10^{-47} \text{ GeV}}{\text{fm}} \tag{33}$$

In formula (33) m_c is the quantum of consciousness field= *psychon* mass = 10^{-15} eV[10] , τ is the relaxation time

$$\tau = \frac{\hbar}{E_p} = \frac{c\hbar}{E_p c} = \frac{200MeVfm}{10^{-15}eV} \cong 1sec \quad (34)$$

We can calculate the range of consciousness field

$$\gamma_{Consciousness} = \frac{\hbar}{m_c c} = \frac{\hbar c}{m_c c^2} = 2 \times 10^{23} fm = 2 \times 10^5 km \quad (35)$$

It is interesting that the range of the consciousness field is the order of Moon- Earth distance. Presumably the Moon plays some important role in the human consciousness development and maintained

4. Women Divinus and Moon

One sidedness of Moon surface in respect to Humans on Earth suggest a special role played by Moon in women evolving and life. In some sense the creation of human embryo depends on Moon period. It seems that surface of Moon or some part of it emitted /reflected the Schumann Consciousness field (Psychon) which reached the only the women on Earth surface Divinus women are in direct connection with our Creator.

5. Conclusions

The main result of the paper: the soul (consciousness) have the energy of the order of the $10^{30} GeV$. The human consciousness field have the range of $10^5 km$, and characteristic time=1 sec, which is also characteristic for Schumann waves and brain waves. The range of consciousness field is of the order of Moon-Earth distance. It suggested the influence of the Moon radiation on the Earth Schumann waves and human mind waves.

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