Space-time resonances

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Discontinuity of energy levels, particularly quantizated atomic states, is studied in physics in detail. It is characterized by Planck's constant. In a presented article, this effect is considered as a particular case. Other examples demonstrating the general law of formation of matter particles and also elements of living matter, such as DNA, are shown.

Curvature

The linear curvature in mathematics is a value, which is inversed to some radius and it can be measured in reversed meters:

$r=1/R$ [1/m]   F.1

Let's note: in physics, there is an equidimensional value of the same dimension (1/m) called "wave number". It is reversed to wave-length value. The "wave number" is number of waves in some resonator and it is integer value for the case of the resonance.

So, curvature of flatness is determined by two crossed lines. For example, for some sphere, we can use the following formula:

$r=1/R + 1/R=2/R$ F.2

It would be logical to develop this approach for three-dimensional space but we have to specify a radius' direction, i.e. radius of curvation of the three-dimensional space. Let's use analog approach. A line can be curved in the direction, which is "not included in it", as P.D. Uspenskiy wrote [1]. Surface of sphere is curved in the orthogonal direction to this surface. In both cases, space of line (one-dimensional) or space of surface (two-dimensional) can be self-closed i.e. connected to itself, then any motion in such space becomes cyclic. A parameter appears characterizing repetition of location (position data) of a point during its motion in the closed space. This parameter depends on motion speed and radius of the closed space. Actually, this is a period of time. Hence, the time has the physical sense only considering some process (motion) in the space of known curvature. Three-dimensional space, observed by us, is curved in the direction of the fourth dimension. It creates periodicity of all processes: from oscillation of a pendulum to the process of isotopes decay (half-period of isotopes). We can suggest that the space itself is created due to some global process of energy density changing and in such case it is necessary to introduce notion of "the space of some process". Dimensionality of this space is determined by the parameters of the process. It can be more than 3 dimensions but in this case it is possible to use the theory of smooth variation of dimension (from 3 to 4).

Let's consider technical aspects. Using "energy density" term for the one-dimensional space, it is easy to find its physical analog: current density. In the two-dimensional space, energy density corresponds with a transverse electromagnetic wave. In its turn, changing of volumetrical energy density is a physical mechanism of creation of the three-dimensional space of process. Periodicity of the three-dimensional space's existence is characterized by its curvature:

r = 3/R [1/m]   F.3

Technically, volumetrical energy density in space can be changing due to some modulation of density of any matter (including gas, steam or plasma) or density of electromagnetic energy. A number of electromagnetic methods of longitudinal waves' formation in aether environment also exist. It is related with notion of "time" in 3-d space. Below we'll consider the longitudinal waves and technical aspects. But now let me present some examples of calculations of the matter wave resonances in the Nature.

Calculation examples

1. Planet

Rotation period of our planet T is 31557600 seconds, which is equal to frequency of electromagnetic oscillation

$$f = 1/T = 3,16886 \cdot 10^{-8} \text{ [Hz]} \qquad \text{F.4}$$

and wave-length

$$L = c/f = 9.46...10^{16} \text{ [m]} \qquad \text{F.5}$$

So, curvature of the corresponding resonator (a value reciprocal to wave-length) is following:

$$r = 1/L = 1057,00 \cdot 10^{-20} \text{ [1/m]} \qquad \text{F.6}$$

Let's note that it is an integer value 1057 with good accuracy. Due to the fact that a dimension "one meter" was introduced as 10^{-7} of a distance (a part of meridian) from North Pole to Equator of the planet, the integer value of curvature of the electromagnetic resonator of the planet, found by us, is predictable and accountable. Integer values of curvature for the case of matter particles and other natural objects are interesting facts discovering mechanism of its formation as resonance 4-dimensional processes in aether. Parameters of this process are determined by process of the planet process since the planet is main mass object in our space-time. We will give some examples.

2. Bohr's atom

Radius of Bohr's atom (hydrogen) is R=0,52917 [Angstrom].

Length is: L=6,28... · 0,5291... = 33,2491846191

According to F.3, we find that the corresponding curvature is

$$r = 3/L = 1.00 \cdot 10^{-9} \text{ [1/m]} \qquad \text{F.7}$$

It should be mentioned that it is a simplest atom, i.e. element of matter, and curvature of its space amounts to one. In other words, this is a process taking place in similar four-dimensional resonator as our planet 4-dimensional resonator, but of the another mathematical order. So, the Universe is fractal design and we can see the same in a small and in a great.

3. Proton

Let's calculate wave-length of a proton having mass equal to

$m = 1.6726231 \cdot 10^{-27}$ [kg]   F.8

Wave-length is

$L = h/mc = 0{,}75676739...$ [m] (not taking mathematical power into account)   F.9

Curvature of proton's space is an integer with fine precision too:

$r = 1/L = 132141{,}000$ [1/m] (not taking mathematical power into account)   F.10

Taking mathematical power into account is not important in this case, because this is just a matter of unit of length measuring i.e. the scale aspect. It is important that we obtain the integer curvature values with high precision in this case also.

4. Resonance parameters of DNA-molecule

Parameters of DNA helical spiral molecule are known: diameter is 20 (Angstrom), jaw is 34 (Angstrom), branches' displacement is by 0,7 period. One turn length in a flatness measurement is 71,44117 (Angstrom). The value reciprocal to this wave-length, i.e. curvature of one turn, is integer with precision of the third sign after dot!

$r = 1/71{,}44117... = 13{,}997 = 14$ [1/m] (not taking mathematical power into account)   F.11

It should be taken into account that there are 10 nucleotides in a convolution of DNA helix. Branches are counter-displaced by 0.7 convolutions. Length of this section is 50 (Angstrom).

$L = 0{,}7 \cdot 71{,}44117 = 50{,}00$ [Angstrom]   F.12

Correspondingly, curvature of this part of the DNA molecule is also integer $r = 2{,}00$ [1/m], not taking power into account. Considering the fact that both DNA branches are "twisted" around cylindrical surface, we can mentally superpose (join) them after linear displacement along the cylinder's axle for a distance corresponding with a single curvature. We can make a conclusion that DNA-structure is reflection of a structure of some real energy-information field, which is not investigated yet. From this point of view, DNA molecule can be considered as a parametrical 4-dimensional resonator generating and receiving energy oscillations of the given field to receive or to emit its information signals. Below, we will describe which types of real physical fields can have such structure to be used for DNA molecules communication.

The similar method can be used for calculation of resonance parameters of processes corresponding to a codon (a part of DNA molecule consisting of three nucleotides), the whole code-length (19.2 convolutions), information code-length (18.3 convolutions), and stop-codon-length (0.9 convolutions).

It is necessary to note that the molecule is twisted in proportions known in wireless engineering as optimal ratio of the length of one turn L and the jaw X for antennas of circular polarization

$L/X = 2.1$ F.13

So, the DNA molecular is designed as optimal antenna. Taking this fact into consideration, let's consider physical basis of method of transformation of energy and information signal peculiar to DNA. Understanding of this method will allow developing systems of managed wave influence on DNA-molecules to biological objects in order to launch organism's reconstruction (rejuvenation) and, thereby, preventing degradation of biological systems caused by changing of its genetic code.

Conclusions

The conclusions are obvious: material particles of each planet are resonance vortex aether processes and characteristics of these processes depend on space-time parameters of this planet. Other planet size determines other parameters. This idea is not news but the calculating method is discussed here for the first time. Searching for facts confirming the concept led us to discovery, which lies in finding connections between value of space curvature of natural objects, for example, proton or any matter particle, and the planet space's curvature. It is discovered that curvature of the given objects (with high precision) is integer, in case we use SI system and decimal numeration. These results can be explained by the fact that the measuring system uses a concept of "meter" introduced into practice since 1795 as a one ten-millionth sector of the Earth meridian from North Pole to Equator. Practical sense of the new approach is that it allows calculation of resonance conditions of creation of the material elements (both organic and other matter) for each planet. It is particularly important for space projects and experiments on changing of aether density, time and gravitation control. Moreover, development of the four-dimensional curvature concept allows understanding the physical meaning of time and developing a theory of four-dimensional resonators, which create special conditions for vortex aether processes and, therefore, generate stable matter particles or isotopes. Studying four-dimensional resonators clears the way to practical research on teleportation of matter, radioactivity control, synthesis or controlled transformation (transmutation) of matter particles for energy generation.

Thus, we can ground quantifying action by Planck as a particular case and understand the physical meaning of the discovered rule of integer curvature values of natural processes' space. Obviously, there is the minimal time interval (period) determined by energy parameters of every process creating a space, for example, the space of the planet, space of some atom or DNA molecule. Integer value of curvature in macro-world (the planet) and in micro-world (Bohr's atom) proves fractal structure of Universe.

References

1. P.D. Uspenskiy, Tertium Orgamium, A key to mysteries of the world. S-Petersburg, 1911, reprint "Andreev i Synovja", 1992, p. 19.