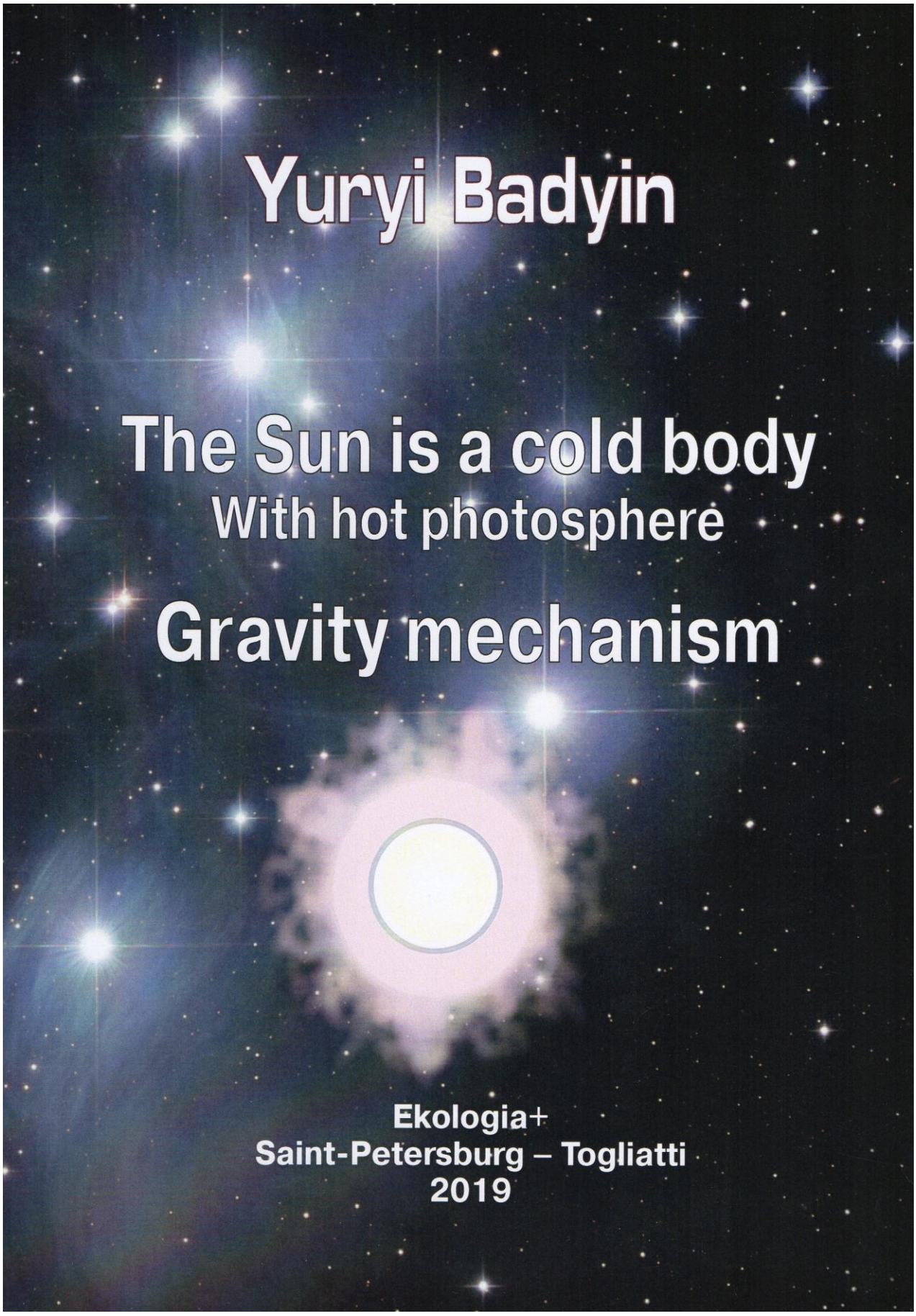
Yuryi Badyin
The Sun is a cold body
With hot photosphere
Gravity mechanism
Ekologia+
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The Sun is a cold body with hot photosphere. The shock-wave thermodynamics. Gravity mechanism.

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Reviewer:
Doctor of Physical and Mathematical Sciences O.A. Malafeev (Saint-Petersburg),

The Sun is a cold body with hot photosphere.

Cold thermonuclear process inside stars, planets. Gravity mechanism. The shock-wave jet motion.

The smooth rise up in space.

/Second edition, supplemented/

Saint-Petersburg – Togliatti 2019 Editorial board “Ekologia+”.
P. 108, pictures - 65.

The book is dedicated to the thermodynamic structure of the stars, the Sun, the planets and to the gravity mechanism. The discovery of a cold-nuclear structure of particles, atoms and molecules gives a strong impact to study, to design and to create new materials, means of production and consumption, connected to the nano infrastructure.

The discovery of the gravity mechanism gives the possibility to create thermal or electric energy sources based on the gravity principle with the help of ecologically pure space energy.

The book presents the fresh theory of the shock-wave aerodynamic and space jet motion. The shock-wave theory of jet motion helps to create a brand new engine for spacecrafts which will be able to make a smooth rise in space.
It opens the way for a mass piloted exploration of space.

The book is aimed at innovative engineers, technological designers, explorers, creators of the sixth technological paradigm - a brand new way of life support on Earth.

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Saint-Petersburg - Togliatti 2019

REVIEW

Y.M. Badyin “The Shock-Wave Thermodynamics. Gravity mechanism”. It is the result of years of work and cogitation of the author over the unsolved questions of the universe. The book is dedicated to a wide spectrum of scientific problems both general and specific which present interest for a wide range of the readers.

The research presents both theoretical and practical interest. The results of the research can be implied to different spheres of human activity.

The author’s fresh view of the periodic table of Dmitri Mendeleev presents a great interest promising possible scientific discoveries in chemistry, physics, and an advance in nanotechnology.

Further use of the achievements in nanotechnology will cause radical movements of a global character in the way of life of a present generation.

In my opinion it is essential to support the author’s researches in all directions.

Doctor of Physical and Mathematical Sciences,
Prof. Malafeev O.A.

Knowledge of the physical phenomena.

Humanity lives in a wonderful world of the environment always trying to learn the mysteries of its structure, the laws of physical phenomena.

Nature is always creating millions of structures in space and on Earth: stars, the Sun, planets, elements of plant and living world of nature.

How these structures are created and how do they work, considering that their birth happens in space already. In 1887 Nikola Tesla stated: “I know how Space works!” And it really works!

There is an ongoing process of thermodynamic equilibrium in Space - in the Galaxy and in the Universe: the appearance of heat sources is accompanied by the occurrence of the centres of cold; the transfer of heat to the centres of cold is made with the help of a gear unit - microparticles.

Since 1795 the world development of scientific knowledge of nature was going in the right direction. The theory of a greatest astronomer W.Herschel was commonly accepted for over a century:

V. Hershel “The Sun is a cold, firm body with a red-hot photosphere”.

It was necessary to develop this knowledge, but the absence of design thinking and the non-compliance with the law of thermodynamic equilibrium led to the fact that the process of knowledge of the environment by humanity was thrown back to the Middle Ages. The modern science continues to repeat endlessly and in vain the theory of a red-hot core in the centre of the Sun, which do not exist and has never existed. There is no process of synthesis inside the Sun and inside Stars - fusion of hydrogen to helium.

The cold thermonuclear process is going inside Stars, the Sun, planets, in living and plant world. Protons, electrons, atoms of substances are formed through its centres of the cold, where heat enters constantly - space microparticles of the world ether of the Universe.

The space microparticles were discovered by the brilliant D.Mendeleev over a century ago. Mendeleev called them Newtonium and Coronium and included them into his periodic table, into the zero group, as the “basic elements” of atoms, molecules, of all the material world.

But due to the lack of understanding these elements were withdrawn from the periodic table. Why did it happen?

It is important to restore the truth of the unique knowledge of the environment. Due to calculations 97% of the Sun’s volume is a cold body! The cold Sun with hot photosphere not only opens the knowledge of the structure of macro- and microworld, but also gives the possibility to study the unique phenomenon - Gravity mechanism, which acts on the immense spaces of the World.

Life without gravity is impossible on our planet. Everything on Earth is connected to gravity. The discovery of the gravity principle is a possibility to step into a brand new world of knowledge of the environment.

The more we know about the connection of thermodynamics and the macro- and microobjects with the interstellar space in the process of construction the faster will be the progress in all spheres of human activity, the more ecology will be preserved.

Book 1 Cold thermonuclear process inside stars, planets, atoms. Gravity mechanism.

Chapter 1. Cold and hot thermonuclear processes.

Part 1. The perfect thermal systems.

1. The cold interstellar space and a red-hot photosphere of stars.

"Take a look at the sky at a clear night. Plenty of Stars surround us. Some of them twinkle, the other are barely visible. The colour of some is blue, the other's - yellow, some of them are red". (3) There are endless thermodynamic processes inside stars creating atoms of substances. We know the outer temperature of stars and the temperature of the interstellar space. "It was found out that our Universe is like a thermostat with the constant temperature T_R = 2,7K". (28)

But to create the thermal radiation of stars, galaxies of the constant temperature, a material world is needed - microparticles.

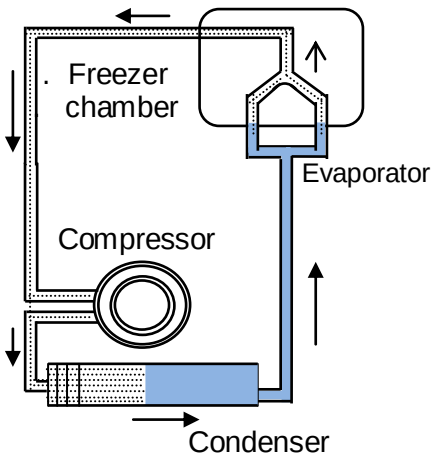
The entire space of the Universe, including the interstellar space of the Galaxy is filled with microparticles which present the thin material world. The endless motion and friction of microparticles create the thermal background of the field, created by microparticles.

"The thermal radiation of the Universe is equal from each side. Wherever the radiotelescope is pointed, it receives the radiation of the same temperature with a slight difference in a range of a thousandth". (3)

It turns out to be that as interstellar space of the Galaxy has low temperature T_R = 2,7K, so do the stars with the red-hot temperature of the photosphere: 30 000K, 20 000K, 10 000K, 8000K, and the Sun with the temperature of the surface T_{ss} = 6000K. Then there is a question: Which thermodynamic processes occur inside stars in this abrupt temperature drop of the interstellar space and the surfaces of stars?

2. Cycles of cold and thermal processes in a closed system.

Let us take a look at the temperature mode of the refrigerator, the operation of which is defined by an abrupt temperature drop. A scheme of the refrigerator is presented on picture 1-1.



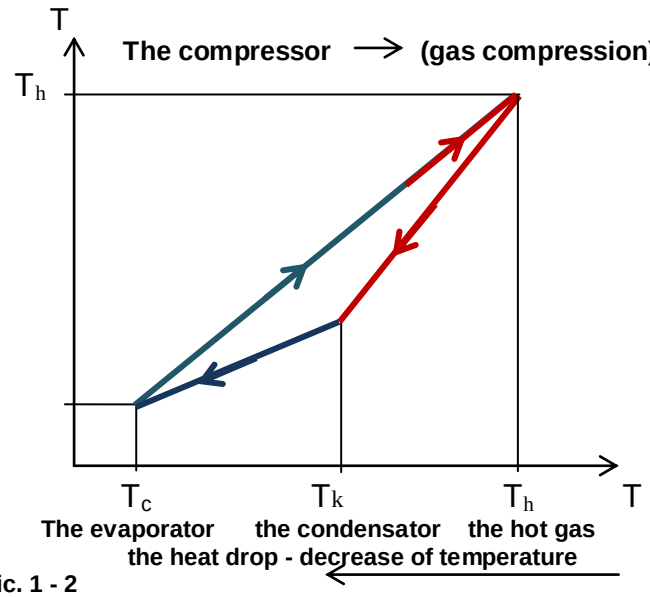
Pic. 1 - 1

Gas is a working substance which transforms into liquid (condensate) at a room temperature. The compressor injects gas from the evaporator to the condenser with a high temperature T_h, which rises due to the compression and the friction of particles. The heat of compression and the heat of condensation are taken away in the condenser and gas goes into the liquid condition - condensate with the temperature T_k . Then the condensate goes into the evaporator where the pressure is much lover and liquid boils turning into gas. The blowing process of transfer of the liquid molecules into gas goes with the expenditure of heat. The freezer chamber cools down till the temperature T_c .

Back from the refrigerator gas returns to the compressor and the process repeats.
Thus, the cycle of temperature transfer from heat to cold in the refrigerator is done according to the following scheme.

1. The process of condensed hot gas temperature decrease T_h to the occurrence of condensate with the temperature T_k.

2. The process of creation of cold with the temperature T_c in the evaporator goes because of the explosive transfer of molecules of the condensate T_k into the gas molecules. (See pic. 1 - 2)



Pic. 1 - 2

If the processes are conducted with the same ratio of the temperature difference, we get the following formula:

$$T_h / T_k = T_k / T_c \quad (1^*)$$

$$T_k^2 = T_h \cdot T_c \quad (2^*)$$

3. To repeat the cycle, the particles return back to the initial state.

The process of the thermodynamic transfer of microparticles in the perfect systems is due to the temperature difference - the action of the second law of thermodynamics.

The formulas (1* and 2*) are universal and are applied for the calculation of the perfect thermal systems with the endless loop cycle of the heat ecshange with equal ratios of temperature differences according to the scheme: Heat / cold

Van't Hoff (1852-1911)

The van 't Hoff equation is as follows:
"If the temperature of the stable system changes, then with the increase of the temperature the equilibrium moves to the heat absorption process, with the decrease of the temperature it moves to the heat extraction process". (8)

The interstellar space of the Galaxy which is the equilibrium temperature system with the constant temperature T_R = 2,7K is filled with billions of hot stars. How is the temperature balanced in the Galaxy with such a huge temperature difference?

If the star is in an equilibrium temperature system, then the process of increasing the temperature on the surface of the star, according to the Van Goff law, should shift towards the process of lowering the temperature inside the star.

It means that there should be a refrigerator inside the Sun! Then the emission of solar plasma particles for the Sun's surface should be compensated by the particles of the interstellar space, which should enter the Sun's refrigerator.

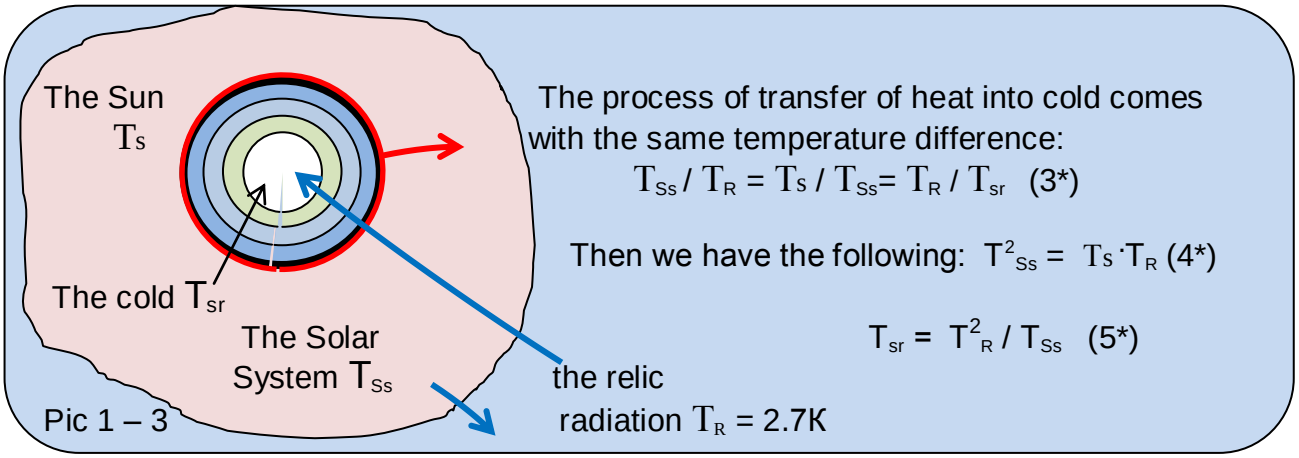
Wherein the the total temperature equilibrium in the interstellar space is preserved. Then, using the cycle system of the temperature difference with the help of the formulas (1*) and (2*) it is possible to define all the themodynamic modes of the Sun - an ideal thermal system in the interstellar space.

Part 2. The temperature modes of the Sun.

The constant temperature of the relic radiation T_R is in equilibrium with the constant temperature of the Solar System T_{Ss}, then according to the law of Van't Hoff.

The hot temperature T_s of the Sun's surface as the volume of space is made with the aim of the temperature decrease to T_{sr} - is cold(refrigerator) inside the Sun, where the cosmic heat comes to T_R.

The heat from the sun surface T_s transfers to the Solar System T_{Ss}, from where it comes out into the space of the relic radiation T_R.



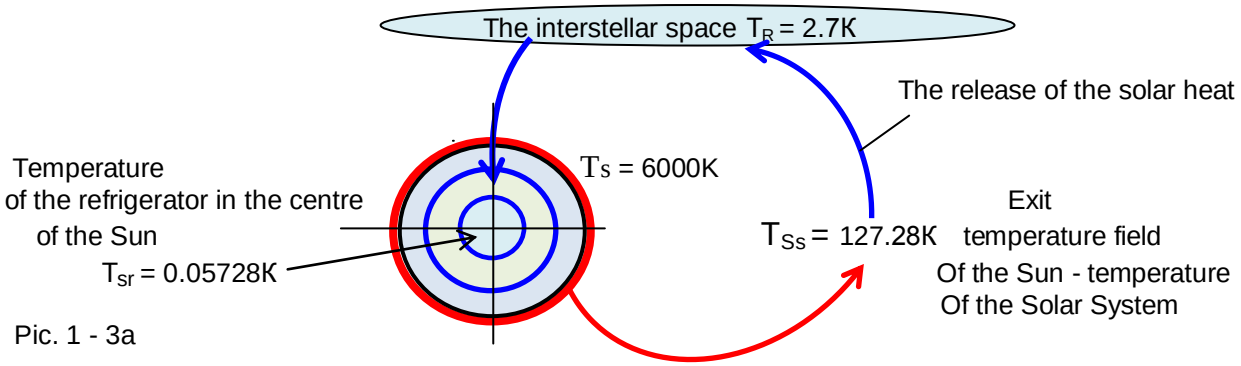
Pic 1 – 3

The temperature of the Sun surface T_s = 6000K, according to the equation (4*) we define the temperature of the Solar System $T_{Ss} = \sqrt{T_s \cdot T_R} = \sqrt{6000K \cdot 2.7K} = 127.28K$

According to the equation (5*) we define T_{sr} - the temperature of the refrigerator inside the Sun, which gives the possibility to enact the reverse thermal process: The amount of the heat $T_R = 2.7K$ the Sun gives to the interstellar space of the Galaxy through the temperature exit field T_{Ss}= 127.28K should be equal to the amount of the heat the Sun should get into the refrigerator T_{sr} out of the interstellar space.

$$T_{sr} = T_R^{\,2} / T_{Ss} = (2.7K)^2 / 127.28K = 0.057275K = \sim 0.05728K$$

The entrance of the space heat into the cold centre of the Sun and the temperature exit of the heat out of the surface of the Sun into the interstellar space through the exit temperature field T_{ss} = 127,28K is presented on pic. 1 - 3a.



Pic. 1 - 3a

The first and the second law of thermodynamics are implied here, and the law of temperature equilibrium:

1. The amount of heat (out of space T_R = 2.7 K), given to the system (to the Sun) goes for changing the inner amount of the energy and for making of the outer work by the system:

dQ = dU + A

2. It is important to have a heat source (T_s = 6000K) in the system (in the Sun) for making a thermodynamic cycle, and not only the refrigerator (T_{sr} = 0.05728K). The absence of a heat source makes the return of the working heat into the initial point (into the space T_R = 2.7K) impossible. The temperature cycle of equilibrium in the system (Solec) with an equal temperature difference is determined by the formula: $T_{Ss} / T_R = T_s / T_{Ss} = T_R / T_{sr}$

The temperature coefficient of the heat ecshange of the Sun.

During the transfer to the low-temperature centre of the Sun the space microparticles with the temperature $T_R = 2.7K$ meet the heat release of the Sun into the interstellar space on the counterflow - the sun particles of the temperature field $T_{SS} = 127.28K$ - of the Solar System. The shock wave appears of the boundaries of this temperature difference.

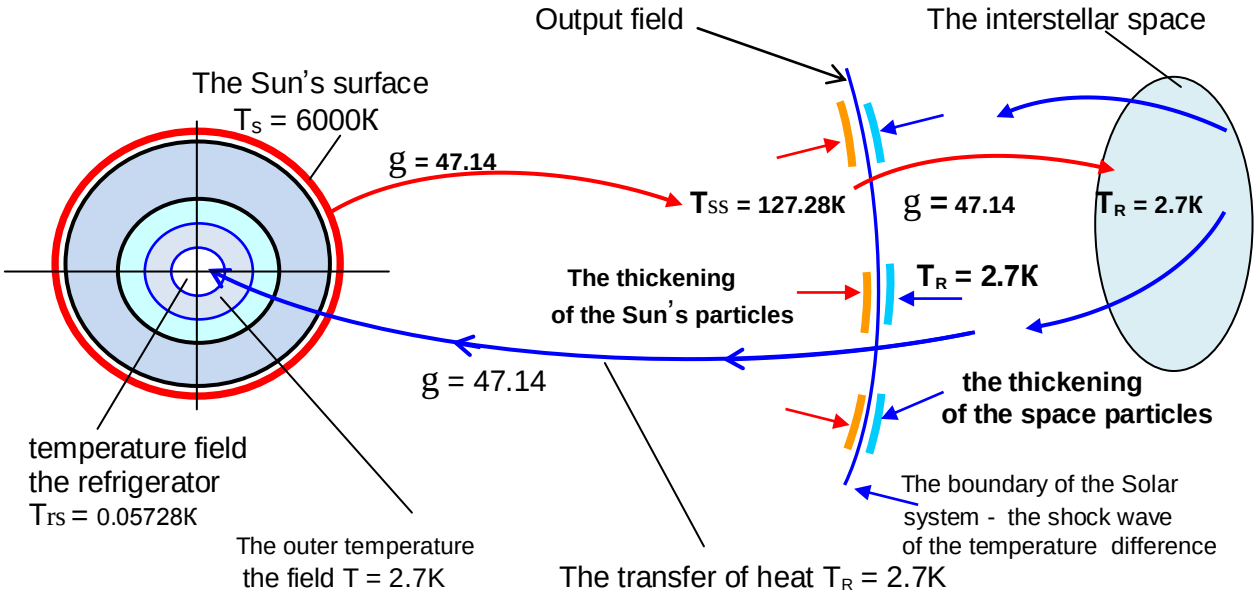
a). The process of particle thickering of the Solar System with $T_{SS} = 127.28K$ is carried on on the inner (Solar) side of the shock wave.

b). The process of particle thickering of the cosmic space - relic radiation with $T_R = 2,7K$ is carried on on the outer side of the shock wave.

The temperature coefficient of the output of the solar microparticles from the Sun's surface into the relic field of the cosmic microparticles $T_R = 2.7K$ is equal to:

$$g = T_S / T_{SS} / T_R = 6000K / 127.28K / 2.7K = 47.14$$

On pic. 1 - 4 there are the examples of the temperature fields, formed near the shock wave of the output temperature field of the Sun.



Pic. 1 – 4

The Sun acts as a thermal machine: the quantity of temperature difference g = 47,14 being withdrawn by the Sun out of the space is equal to the temperature difference of the heat being returned to the interstellar space.

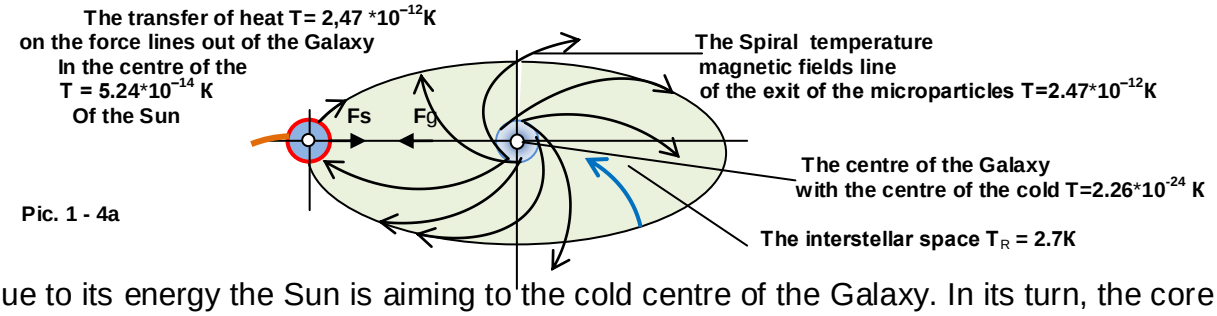
The Sun and the Galaxy

"The spiral "waves" comes out of the centre of the Galaxy, where the density of the stars is much higher. Radioactivity, and the shortwave x-ray radiation reach us from the centre of the Galaxy". (3) But all the kinds of the radiation comes on the magnetic fields lines, created by the microparticles of the gravity field with the temperature $T = 2.47^{*}10^{-12}K$. {The calculation of the microparticles is presented in chapter "Particles and Microparticles of the temperature fields"}.

The cosmic microparticles which create the magnetic fields lines in the environmental space - the gravity field, carry the minimal thermal energy - the quantum of energy and make: the gravity transfer to the centre s of the cild of the stars, the Sun, planets and particles.

The cosmic microparticles T_R = 2.7K come to the refrigerator of the Sun T_{sr} = 0.05728K with the ratio of the temperature difference: g = T_R / T_{rs} = 47.14 .
The centre of the Galaxy is connected by "the largest threads"with the same ratio, created by the microparticles of the magnetic field
with the temperature $T_{mf} = 2.47*10^{-12}$K with the centre of the cold of the Sun:

$$T_{centre\ of\ cold} = T_{mf} / 47.14 = 2.47*10^{-12}\ K / 47.14 = 5.24*10^{-14}K$$



Pic. 1 - 4a

Due to its energy the Sun is aiming to the cold centre of the Galaxy. In its turn, the core of the Galaxy pushes the Sun with the help of the force flows of the microparticles.
Due to its energy the Sun keeps the constant orbital speed of the movement of the whole Solar System 250 *km/s* per second around the centre of the Galaxy.

Part 3. The internal structure of the Sun.

There is a modern theory of the internal structure of the Sun.
There is a core inside the Sun, where thermonuclear processes of the synthesis occurs under the high pressure: four protons (the hydrogen nucleus) form the alfa-particle (the helium core). The structure of the Sun: 70% of hydrogen; 30% of helium" (6)
Finally we have the questions with no answers:
1. What is the source of the energy which heats the core up to the temperature of 100 mil degrees Kelvins to make the thermal reactor work, inside of which the lighter atoms of the hydrogen create more heavy atoms of helium?
2. If the Sun's core has the operating temperature of 15 mil degrees it will provoke the explosion of the whole amount of hydrogen of the Sun!
In fact, the modern concept of the Sun's structure is absolutely non-working.
What is the structure of the Sun which continuously reproduce and consumes the heat - the solar plasma?

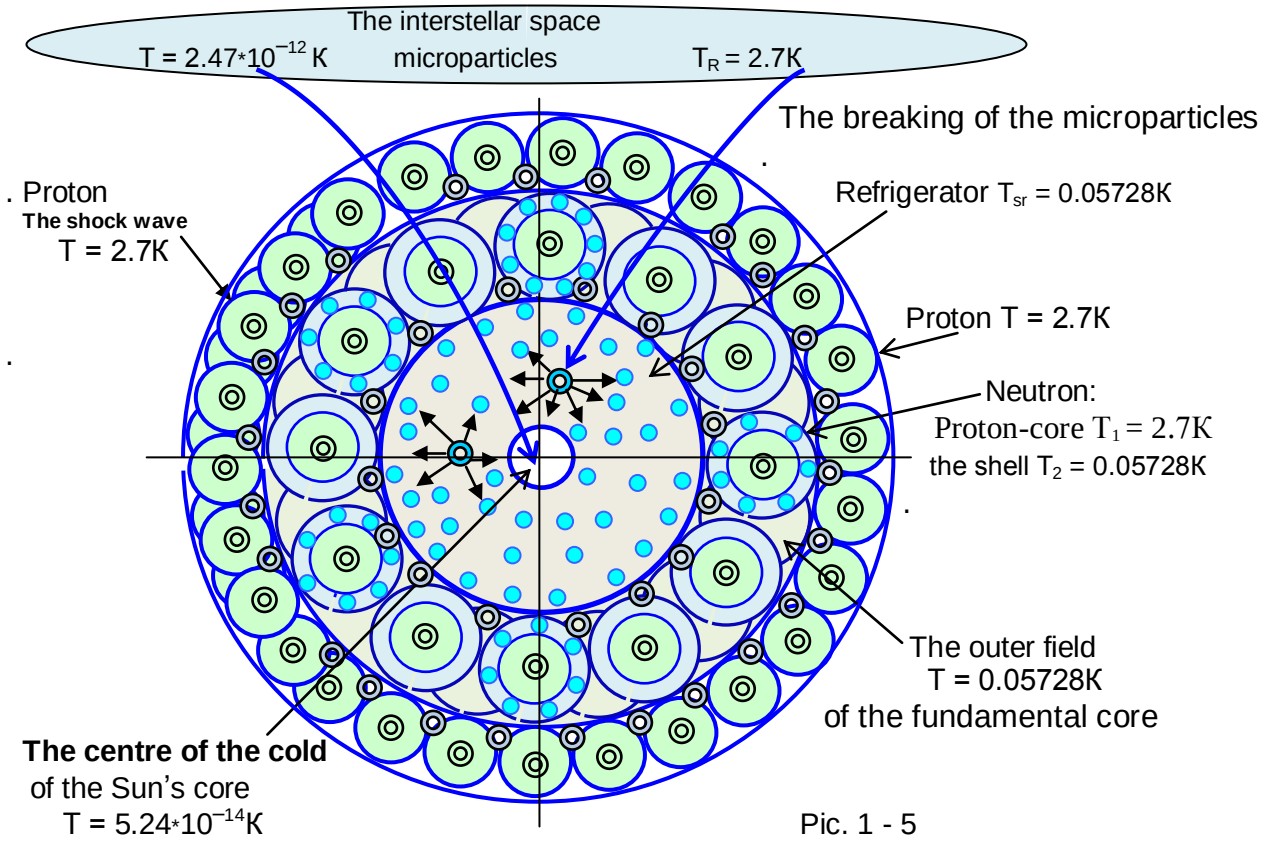
The Fundamental and the central cores of the Sun.

There is a cavity inside the Sun where the Fundamental core with the centre of cold is formed out of cosmic particles. The microparticles with the temperature T = 2,47· 10^{-12} K move in the forms of the force lines out of the centre of the Galaxy into the centre of cold of the Sun $T_{centre\ of\ cold} = 5.24*10^{-14}$K where the process of breaking of the cosmic microparticles up to the microparticles of the centre of cold of the Sun is being carried out with the difference:

$$g = T / T_{centre\ of\ cold} = 2.47*10^{-12}\ K / 5.24*10^{-14}K = 47.14\ .$$

The process of the breaking is accompanied by the absorption of heat, but at the same time a large amount of new microparticles appear. As a result, the pressure inside the Sun is increasing.
But as the temperature inside the centre of the Sun shall maintain constant, the ecsess microparticles eject under the pressure aiming to the centre of the cold of the Galaxy in the form of the force lines.
A field with the temperature T_{sr} = 0.05728K (the refrigerator of the Sun) is created around the centre of the cold. See pic. 1 - 5.

The Fundamental core of the Sun



Pic. 1 - 5

The cosmic microparticles with the temperature $T_R = 2.7K$ continuously come into the Sun's refrigerator, which break into the microparticles up to the temperature of the refrigerator $T_{sr} = 0.05728K$. Under the pressure the microparticles are thrown out of the refrigerator through the temperature difference border, created by the cosmic microparticles $T_R = 2.7K$ into the exit field of the fundamental core, where the process of creation of neutrons of single-typed structure is being held.

The microparticles $T = 2.47*10^{-12}K$ enter the centre of a cold of a neutron, and the microparticles $T_R = 2.7K$ enter the refrigerator of a neutron core with the temperature $T_{sr} = 0.05728K$, which pump up the neutron's core up to the weigh of the proton with the shock wave $T_1 = 2.7K$ {see ch.3 }

The pressure in the exit field of the fundamental core of the Sun increases and the neutrons are thrown out of the exit field through the temperature difference border, created by the cosmic microparticles $T_R = 2,7K$. The neutral shell is breaking away out of the core - proton $T_2 = 0.05728K$: The proton shock wave with the temperature $T = 2.7K$ is created around the Fundamental core of the Sun.

The larger the volume of the refrigerator of the Sun with the temperature $T = 0.05728K$, the larger the amount of the cosmic particles with the temperature $T_R = 2.7K$ it contains, the larger the amount of the cosmic heat thrown out of the fundamental core through the spherical proton shock wave $T = 2.7K$.

The nature keeps continuously building the structures of the same type: the formation of atoms as well as stars is happening with the help of cosmic microparticles, entering the centre of the cold and the refrigerator of the atom's core - a cold thermonuclear process of creating atoms of hydrogen and carbon takes place.

A central core of the Sun is formed out of hydrogen and carbon.

It is widely known that activated carbon has microscopic nano pores with the diameter from $9.2*10^{-9}m$ till $2.8*10^{-9}m$. The whole surface of these pores of $1g$ of activated carbon, for example, can reach $1000\ m^2$. (8)

The hardened hydrogen of the central core of the Sun is penetrated with the “web” - the coal nano pores .

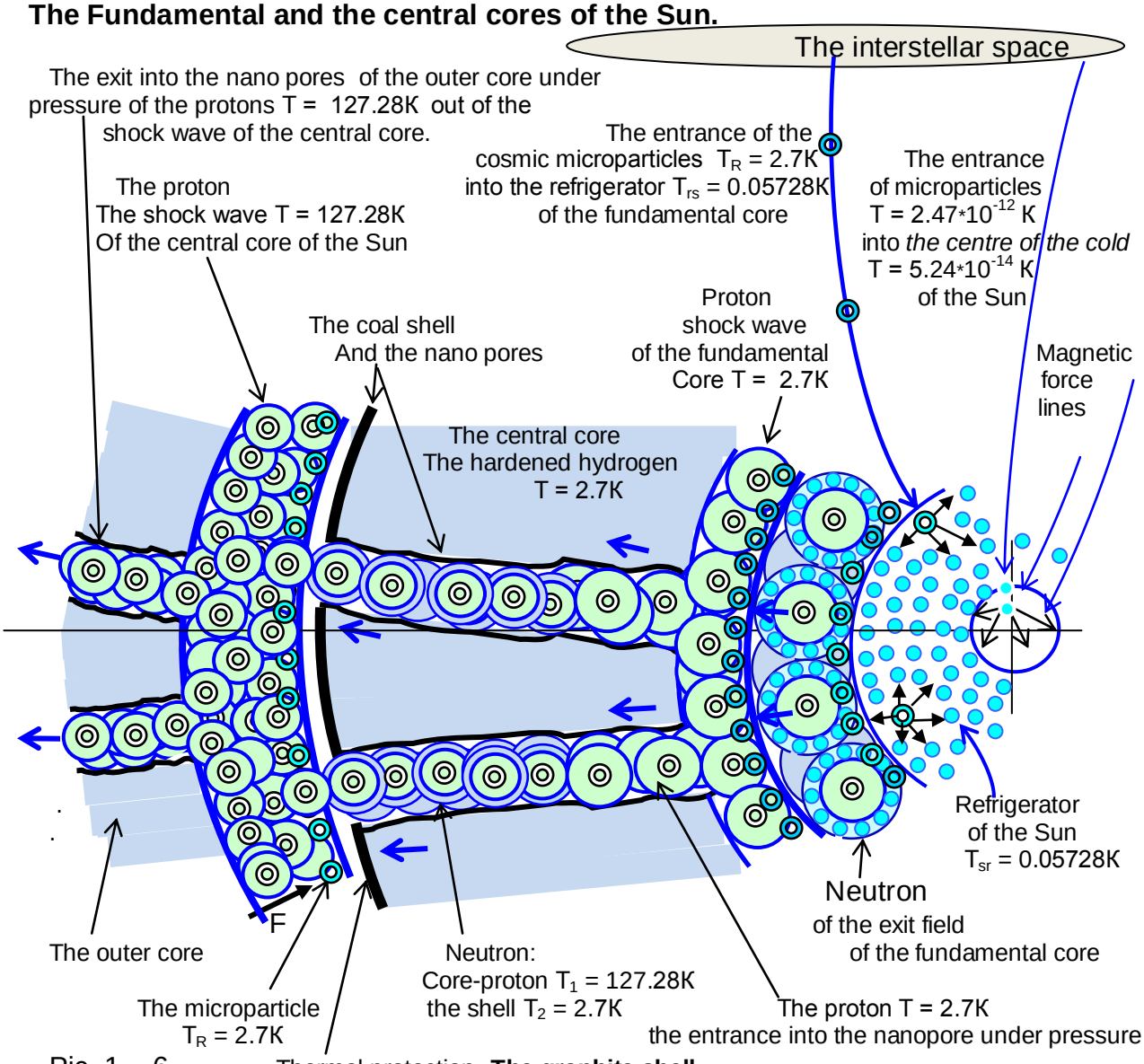
Bursting out of the proton shock wave of the fundamental core the protons comes into the microscopic nano pores of the central core under pressure.

Moving under pressure in the graphite tunnels the particles (the protons) shrink, condense, and the process of the high frequency friction occurs. It leads to the increase of the temperature of the shock wave of the protons from T = 2.7K up to T = 127.28K .

But the temperature in the central core of the Sun is equal to T = 2.7K . Therefore the shell of micro particles with the temperature T_2 = 2,7K is formed around the proton T_1 = 127.28K . It means that the proton comes into the neutron.

Upon the exit of the central core under pressure, neutrons meet cosmic micro particles T_R = 2,7K, which eservice the gravity transfer into the refrigerator of the fundamental core. On the border of it a shock wave is created. See pic. 1 - 6

The Fundamental and the central cores of the Sun.



Pic. 1 – 6 Thermal protection**: The graphite shell**

During the breakthrough of the shock wave the shell of microparticles is tearing off from the neutrons with T_2 = 2.7K and the appearing proton cores create a proton shock wave with the temperature T =127.28K between the central and the outer core of the Sun. The central core with the temperature T = 2.7K has a thermal protection of the shock wave T = 127.28K - the grafite layer- the shell.

The Structure of the Sun's outer core and the Sun's surface

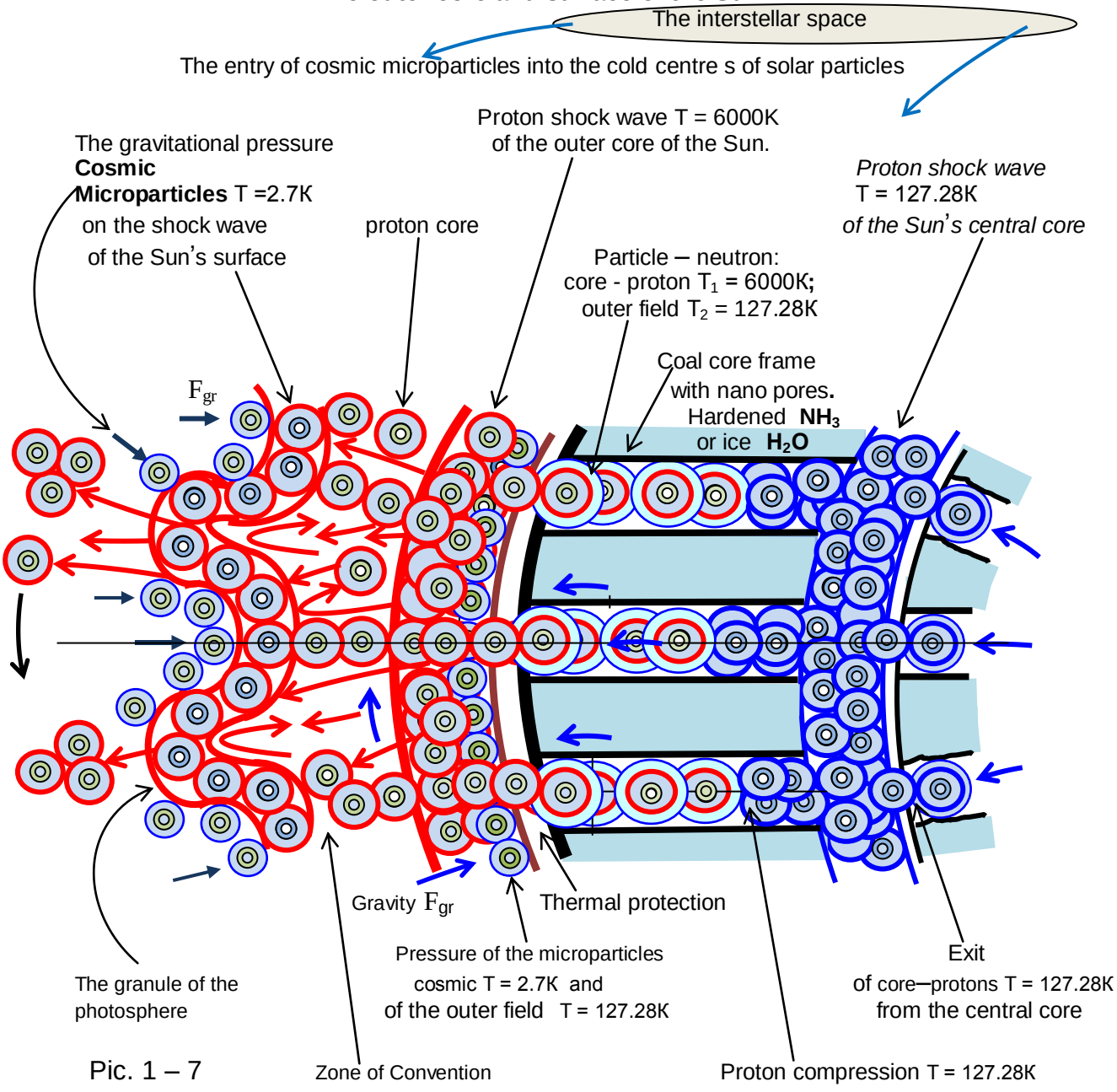
The proton particles comes under pressure into the coal nano pores of the outer core with the temperature T = 127.28K , which are thrown out from the proton shock wave of *the central core***.**

In nano pores, the proton nucleus temperature increases to T = 6000K due to pressure, friction, and the continuous entry of cosmic microparticles into the cold centre of the proton. The pressure in the nano pore can be determined:

$P = nk\mathrm{T}$, где $n\ /m^3$ – concentration of microparticles; k – Boltzmann constant; T = 6000K

But since the temperature in the nano pores of the outer core of the Sun must remain constant at T = 127.28K , the temperature is preserved: Microparticles with temperature T_2 = 127.28K are grouped around a proton nucleus with temperature T_1 = 6000K - a neutron is formed. Pic. 1 - 7

The outer core and surface of the Sun.



Pic. 1 – 7

The structure of the outer core of the Sun is a closed volume with coal protection, filled with solidified substance with temperature T = 127.28 K and penetrated by the web with coal nano pores.

The hardened substance is either NH_3 ammonia, which has a solidification temperature of $T = 195.5K$, or H_2O ice. (Methane has a solidification temperature of T = 89K).

Ice and carbon are known to be the main building material of Solar System comets. Micrometeorites found in antarctic ice contain from 50% to 80% carbon. (Conclusion of the National Centre for Scientific Research (France).

Breaking out under pressure by reactive flows from coal nano pores of the external core, particles - neutrons, meet with a stream of microparticles with temperature $T = 127.28K$, which are under the gravitational pressure of cosmic microparticles $T_R = 2.7K$, carrying out a gravitational transition to the fundamental core - the solar refrigerator.

As a result, at the border of the meeting of two streams, the compression of neutrons and their friction occurs. From the neutrons emerging from the nano pores of the outer core, the outer layer of microparticles with a temperature $T_2 = 127.28K$ breaks down; nuclei appear - protons with an output temperature $T_1 = 6000K$, which, condensing, contracting, form a powerful proton shock wave of the outer core of the Sun with a temperature $T = 6000K$.

The outer core, the temperature of which is $T = 127.28K$, has thermal protection - a carbon shell, against a proton shock wave with a temperature $T = 6000K$.

Powerful reactive proton fluxes, under pressure, escaping from the proton shock wave of the outer core with a temperature $T = 6000K$, meeting with the surrounding interstellar space, create a shock wave of the Sun's surface. Between the proton shock wave of the outer core and the shock wave of the surface of the Sun there is a convection zone.

In the zone of convection, powerful proton fluxes arise, leaving force lines from the proton shock wave of the outer core, which spin the proton shock wave - the surface of the Sun. On the surface of the Sun, there are spots that have not the same speed of movement, which decreases with their distance from the equator of the Sun. (6) This indicates a zonal rotation of the shock wave of the surface of the Sun.

In 1977, employees of the Arctic and Antarctic Research Institute, and in 1984, American researchers found in samples of deep-sea ice, whose age was estimated at 20 thousand years, the thinnest golden hairs - threads.

Consequently, in coal nano pores, in addition to the creation of neutrons, the process of forming atoms takes place due to cosmic microparticles $T = 2.47*10^{-12}K$ entering the centre of cold of the nucleus of an atom, and microparticles of relict radiation $T_R = 2.7K$, entering the refrigerator of the nucleus of an atom.

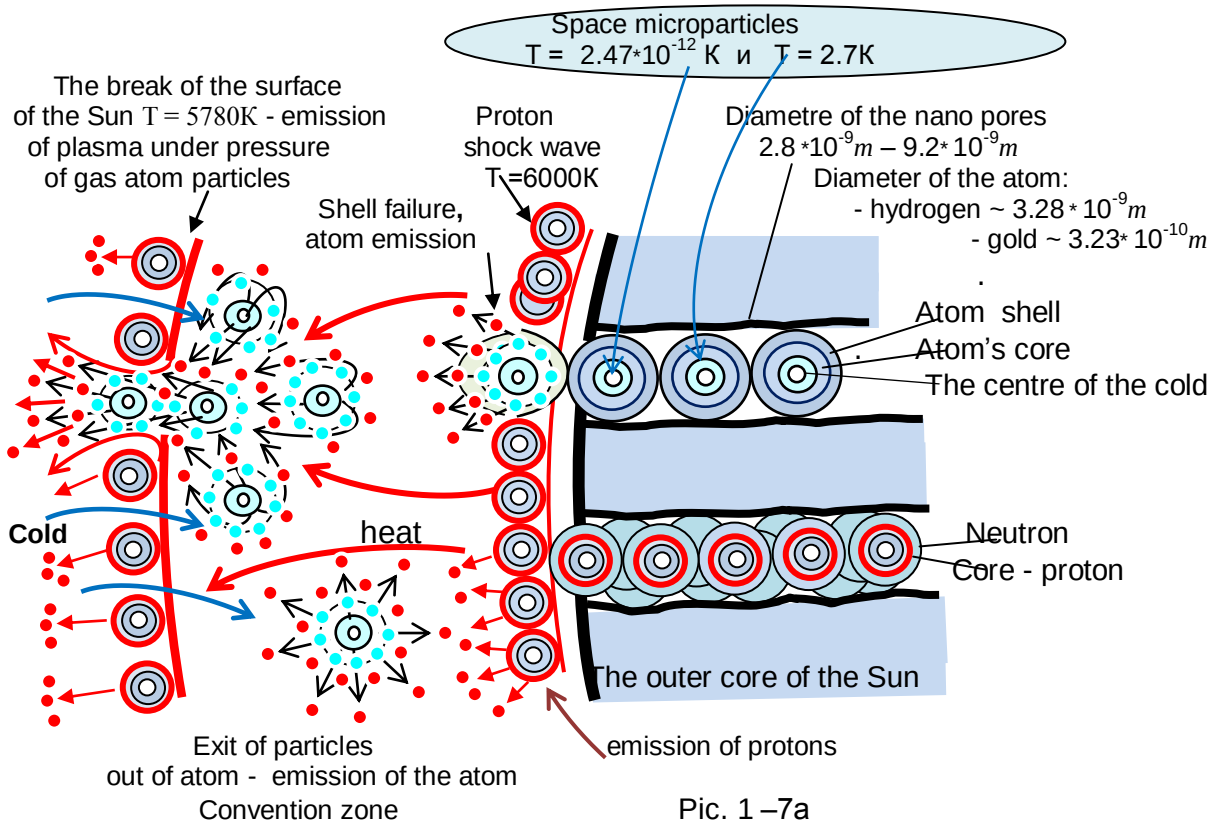
Gold atoms, like other elements, were formed in coal tunnels, frozen in ice - due to the cold thermonuclear process.

Each atom has its own temperature of the centre of cold; the lowest temperature at the hydrogen atom is $T = 4.88*10^{-16}K$, see table N^o 4.

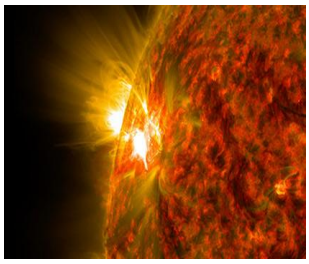
In addition to protons, the atoms of the elements of the substance (hydrogen, helium, etc.), which are ejected under pressure from coal nano pores , rush continuously into the convection zone, because The process of forming atoms is continuous.

In the convection zone, the atoms of the elements become gaseous; there is an accumulation of gases, pressure increases and a shock wave of the sun surface breaks out to form protuberances It follows a powerful release of solar plasma and gas elements into the atmosphere of the Sun - the solar corona.

The transition of atoms into a gaseous state in the zone of convection and release of plasma pressure from the Sun.
Radiation of protons, atoms, stars.



Pic. 1 –7a

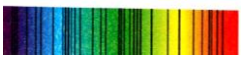


Pic. 1 - 7b (from the Internet)

On pic. 1 - 7b, a flare is observed - the emission of solar plasma under the pressure of atoms in the gas state. "When studying the composition of the solar plasma, it was found that protons make up 91,3% of helium atoms 8,7%, and there are heavy ions (oxygen, etc.). Solar plasma — streams of high-energy protons and electrons — is neutral in general. " (14)

Cosmic microparticles continuously enter cold centers of protons, atomic nuclei, therefore, when a neutral shell is disrupted from neutrons, from atoms — from protons, atomic nuclei — microparticles are released — radiation of protons, atoms, stars is observed.

We observe "the solar spectrum with dark - fraunhofer lines, since the element of a substance (of atoms) in a gaseous state absorbs light of exactly the same wavelength as it emits." (35)

Solar spectrum   Fraunhofer light absorption lines

continuous spectrum - radiation from the surface of the Sun

It is known that gas particles moving at the speed of sound $M = v/a = 1$, create a shock wave - a shock wave. When braking, the kinetic energy of the jet stream of molecules in the shock wave goes into heat: $^1/_2\, mv^2 = {}^1/_2\, ma^2 M^2 = {}^3/_2\, k T$, where m - is the mass of the molecule gas; k - is the Boltzmann constant. $T = \sim ma^2 M^2 / 3k = \mu_o a^2 M^2 / 3R$, where

$R = \mu_o k /m = 8.314$ J / (K mol) - is the gas constant;

for gas $\mu_o = 29 * 10^{-3}$ *kg /mol*; $a = 330$ *m/s*; $1nm = 1$ *J*; $T = \mu_o a^2 M^2 / 3R$. (29)

If protons particles move with speed M = 7, then we obtain the temperature of the shock wave — the shock wave: $T = \mu_o a^2 M^2/3R = 29*10^{-3} kg/mol * (330\ m/s)^2 \cdot 7^2 / 3 * 8.314\ J/(K\ mol) = \sim 6000K$.

"The temperature is in the order of magnitude the same as on the surface of the Sun! ». (29)

That is, it is the temperature of the solar plasma.

Determination of the radius of the outer core of the Sun.

1. The beginning of the quantum theory of gravity

The radius of the proton shock wave of the Sun is calculated through the gravitational constant of the temperature field, which consists of microparticles having mass, frequency and temperature.

Constants with indicators of *frequency* and *temperature* are included in the energy equations:

$E_\nu = h\nu$ and $E_T = kT$, where the precisely calculated constants are:

$h = 6.62607015*10^{-34} Js$ - is Planck's constant - minimum energy per unit frequency;

$k = 1.38066*10^{-23} J/K$ - is the Boltzmann constant - minimum energy per unit temperature.

With equal energies $E_\nu = E_T$, Since $h\nu = kT$, we get: $\chi = h / k = T / \nu$

$\chi = 6.62607015*10^{-34} J/s \ / \ 1.38066 *10^{-23} J/K = 4.799243*10^{-11} Ks$

$\chi = 4.799243*10^{-11} Ks$ - is the temperature field constant.

But microparticles have: mass m *(kg)*; which emits pulsating energy (quantum energy) in certain portions, with frequency ν (*1 / sec*) and a wavelength of λ (*m*).

It is known that a *quantum* is the smallest amount of energy given or absorbed by a physical quantity (particle, microparticle).

Then, microparticles with a mass of $m = h\nu / C^2 = h / \lambda C$, emitting pulsating energy (quantum energy), they create a force action from particle to particle with a certain frequency.

Therefore, the numerical value of the constant temperature field has force units - gravitational.

Then, $G = 4.799243*10^{-11} nm^2/kg^2$ – *gravitational(force) constant* of the temperature field.

*** «The law of gravity $F = GMm/r^2$ is not exact .... because they have not yet connected it with quantum theory».(33)

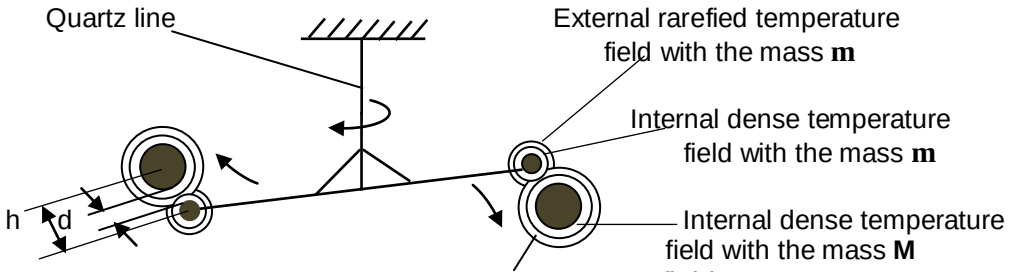
Cavendish experiment to determine the gravitational constant.

For this, torsion scales and the formula of Newton's law of gravity were used.

A light rod is suspended on a thin quartz filament, at the ends of which there are two lead balls with a mass **m** each. They bring two symmetrically located lead balls with large masses of **M**.

As a result, the thread twists at some angle until the elastic force of the twisted thread balances the force **F** of the gravitational interaction between the two balls. The essence of the experiment was that, by measuring the interaction force by the twisting angle of the quartz thread, knowing the masses of the balls and the distance between their centre **h** , the gravitational constant was determined: $G = 6.672*10^{-11} nm^2 / kg^2$

Let's try to figure it out: is it possible to accurately determine the gravitational constant with the help of this installation. The cosmic and solar microparticles, making a gravitational transition into the cold bowels of the Earth, form temperature fields around the balls - external rarefied, and internal which are denser, because atoms of the balls have centre s of cold.



Pic. 1 - 8

When balls of mass **M** and **m** approach each other, rarefied temperature fields merge to form a single temperature field. As a result, it turns out that the quartz thread is twisted. The angle of twisting of the thread stops at the boundary between the denser temperature fields of balls of masses **M** and **m** , and the distance **d** between the balls is established.

The presence of temperature fields between the balls does not allow to obtain the exact force of gravitational interaction **F**. Conclusion: it is not possible to determine the exact gravitational constant using the Cavendish experiment.

Moreover, the constant of the gravitational (force) field $G = 4.799243*10^{-11} nm^2/kg^2$ is more accurate (~ 30%) than the gravitational constant from the experience of Cavendish.

In table № 2 we see that the particle at the Sun's surface has a mass $m = 9.217*10^{-37}\ kg$ frequency $\nu = 1.25*10^{14}\ 1/s$, then to the formula $T = \chi \nu$ we can define temperature of the Sun's surface $T = \chi \nu = 4.799243*10^{-11}\ Ks * 1.25*10^{14}\ 1/s = 6000K$.

At Earth, a surface particle has a mass $m = 3.99*10^{-38}\ kg$ and a frequency $\nu = 5.42*10^{12}\ 1/s$

Then, the Earth's surface temperature $T = \chi \nu = 4.799243*10^{-11}\ Ks * 5.42*10^{12}\ 1/s = 6000K$.

It turns out that the temperature field constant $\chi = 4.799243*10^{-11}\ Ks$ like the constant of the gravitational field $G = 4.799243*10^{-11} nm^2/kg^2$, have a single basis - pulsating energy with a certain frequency (quantum energy) and are universal for all temperature fields.

In all likelihood, this laid the foundation of the quantum theory of gravity:

- Microparticles create temperature - gravitational fields: the Sun, the Earth, planets etc..
- The mechanism of action of gravity occurs during the transition of microparticles, due to its pulsating energy (quantum energy), from a warm temperature field T_1 to a cold temperature field T_2. The temperature difference creates gravitational (quantum) acceleration of microparticles $g = T_1 / T_2$ in the *microworld* system.

2. Calculation of the radius of the outer core of the Sun

I.Kepler

The force action of the Sun on planets is determined by the laws of Kepler and Newton.

Taking as a basis the motion of the Earth in orbit, according to Kepler's 3rd law:

$r^3 / T^2 = const$ or $r^3 / T^2 = G M / 4\pi^2$, a.s. $a = 4\pi^2 r / T^2$, then

$Ms = a r^2/G$ - we determine the proton mass, which is emitted by the Sun into the solar system - it is equal to the mass of the proton shock wave of the outer core of the Sun (according to Gauss law).

$Ms = aR^2 / G$, where G - gravitational constant;

$a = 5.932*10^{-3} m/s^2$ - the Earth receives acceleration from the Sun;

$R = 14.96*10^{10} m$ - the distance from the Earth to the Sun.

Then, the mass of the proton shock wave of the outer core of the Sun:

$Ms = 5.932*10^{-3} m/s^2 \cdot (14.96*10^{10} m)^2 / 4.79924*10^{-11} nm^2/kg^2 = 2.766*10^{30} kg.$

Verification solution. We determine the proton mass of the Sun, which provides the movement of the planets in orbits, through acceleration and distance:

Mercury: $Ms = 3.9*10^{-3} m/s^2 * (5.8*10^{10} m)^2 / 4.79924*10^{-11} nm^2/kg^2 = 2.76*10^{30} kg$.

Jupiter: $Ms = 2.2*10^{-4} m/s^2 * (77.7*10^{10} m)^2 / 4.79924*10^{-11} nm^2/kg^2 = 2.76*10^{30} kg$.

The results are the same.

In a spherical proton shock wave, the equality of the impulse of the entire mass of nuclei — protons concentrated in the shock wave — with the impulse of a proton at the speed of light is observed: $\mathbf{Mvn = m_pCk}$ (3 *) - the formula of equality of the macro and microcosm,

where $M = M_s$ is the mass of the proton shock wave is equal to the proton mass, which is ejected by the Sun into the Solar system.

v — is the proton velocity in a shock proton wave with a temperature T = 6000K.

Proton speed: $T_p / T = C / v$, where $T_p = 1.0888*10^{13}K$ (see table number 2)

The proton velocity in the shock (transverse) wave at a temperature T = 6000K is equal to:

$v = T C / T_p = 6000K * 2.9979*10^8\ m/s / 1{,}0888*10^{13}K = 1.65*10^{-1}\ m/s$;

$n = g = 47{,}14\ m/s^2$ — acceleration of ejection of particles from the proton shock wave, in magnitude equal to the coefficient of thermal heat transfer of the Sun;

$k = S / s_p$ — ratio: area of the sphere of the proton shock wave of the Sun $S = 4\pi R^2$ to the area of the proton $s_p = \pi r^2 = 1.39*10^{-31} m^2$ on the sphere of the shock wave, where $r = 2{,}1*10^{-16} m$ the radius of the proton; $m_p = 1.67265*10^{-27} kg$ - proton mass.

The area of the proton shock wave sphere is: $\mathbf{S = M_c vn\ s_p / m_p C}$

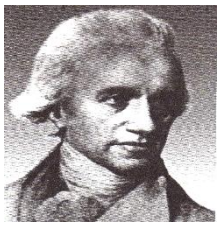
$S = 2.766*10^{30} kg * 1.65*10^{-1} m/s * 47.14 m/s^2 * 1.39*10^{-31} m^2 / 1.67265*10^{-27} kg \cdot 2.9979*10^8 m/s$;

$S = 596.3*10^{16} m^2$, as $S = 4\pi R^2$

Therefore, the radius of the proton shock wave - the radius of the outer core is:

$R^2 = S / 4\pi = 47.48*10^{16} m^2$; $R = 6.89*10^8 m$. Diameter $D = \sim 13.78*10^5 km$

Since a proton shock wave with a temperature T = 6000K is created at the surface of the outer core, therefore, the core radius is actually equal to the radius of the proton shock wave.
The volume of the outer core in a proton shock wave is $V = 4\pi R^3 / 3 = 13.7 * 10^{26} m^3$.
The radius photosphere - $R = 6.96 * 10^8 m$
Diameter $D_s = \sim 13.92 * 10^5 km$; the volume of the Sun $V_s = 14.11 * 10^{26} m^3$.
It turns out that **97%** of the total volume of the Sun ***is a cold body***. Pic. 1 - 9
It is known that 450 years ago the great astronomer, physicist Johann Kepler believed that "the stars are frozen into a fixed firmament of ice"!

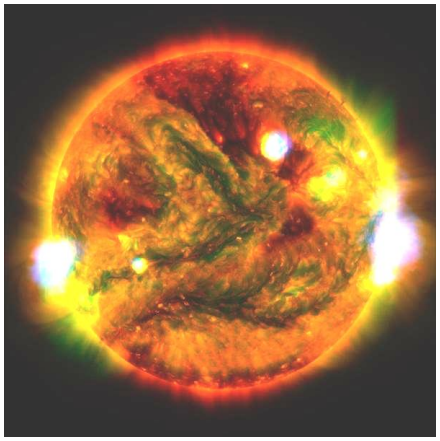

Wilhelm Herschel

Famous astronomer, scientist V. Herschel developed the theory of the structure of the Sun, which enjoyed recognition for more than a century. According to this theory, "the Sun itself is a cold, solid, dark body, surrounded by two cloudy layers, of which, the photosphere, is extremely hot and bright. The inner layer of clouds, as a kind of screen, protects the central core from the action of heat. " (12)

As has happened more than once in history, it is necessary to restore the truth of a unique natural phenomenon that follows the law of conservation of energy. The diameter of the fundamental core of the Sun.

The charge (mass M_p) of the proton shock wave of the fundamental nucleus, according to Gauss's law, is equal to the charge (mass M_s) of the proton shock wave of the outer core of the Sun. By area of the proton shock wave of the fundamental nucleus:
$S = M_s v n / m_p C$, where at T = 2,7K the velocity of proton particles is $v = 7.43 * 10^{-5} m/s$ (table 2),
$M_s = 2.76 * 10^{30} kg$, we determine the radius of the fundamental core:
$S = 2.76 * 10^{30} kg * 7.43 * 10^{-5} m/s * 47.14 * 1.39 * 10^{-31} m^2 / 1.6726 * 10^{-27} kg * 2.9979 * 10^8 m/s = 26.8 * 10^{14} m^2$
$R = 1.46 * 10^7 m = 14600 km$, we determine the radius of the fundamental core:
In the centre of the Sun, a cavity with a diameter of ~ 30 thousand km, with a temperature $T_{rs} = 0.0572K$ is a refrigerator.
Cold centre with a temperature $T_{\text{center of cold}} = 5.24 * 10^{-14} K$

Ultraviolet radiation of the sun. (Internet - photo)


Pic. 1 –8a

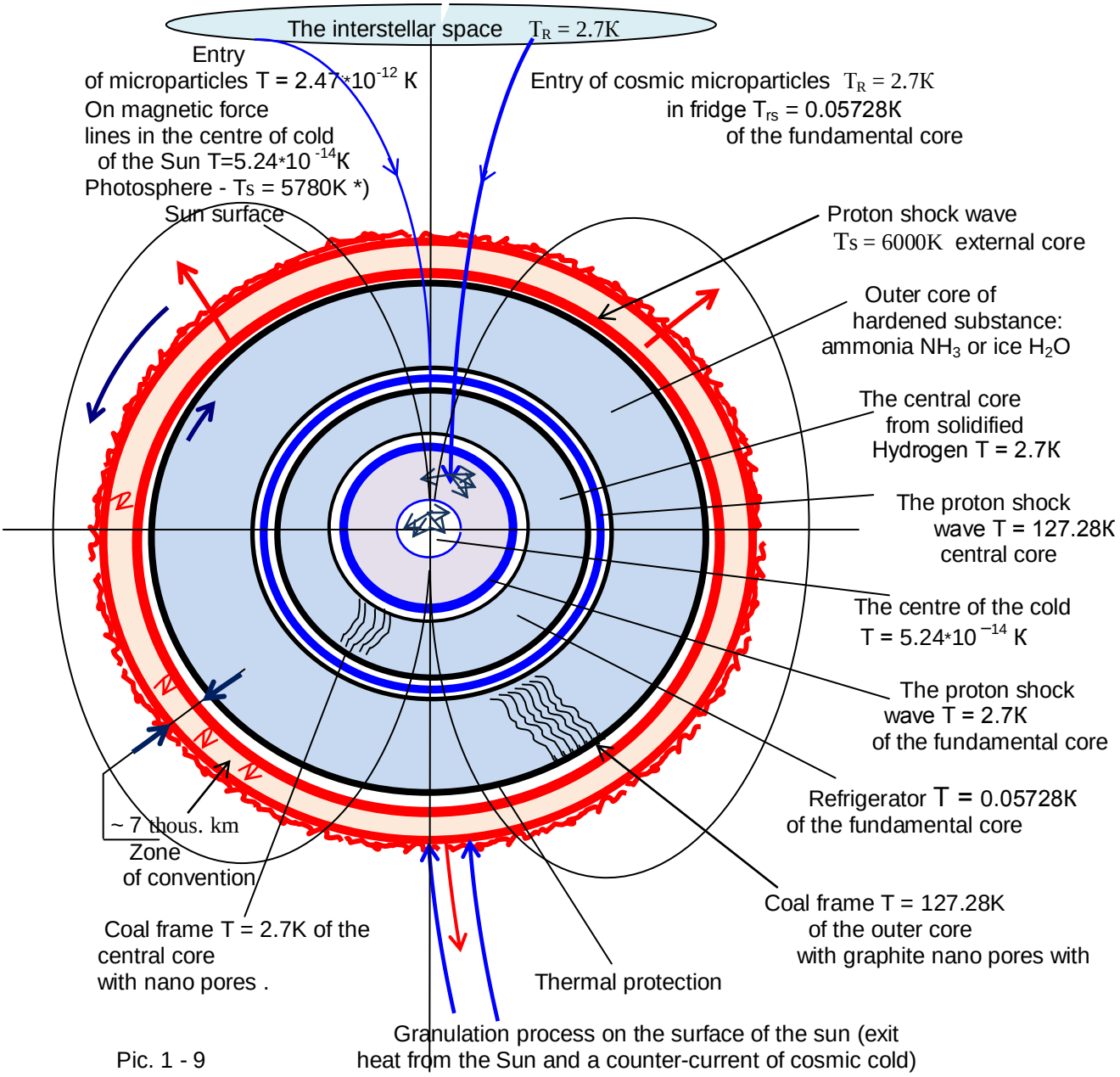
X-ray solar radiation spectrum
(photo by NASA www. talks.su)

TABLE A

Frequency	Wavelength	
10^{20} Hz	10^{-12} m	Gamma radiation
10^{17} Hz	10^{-9} m	X-ray radiation ($1.5 * 10^7$ K)
10^{15} Hz	$1.5 * 10^{-7}$ m	Ultraviolet radiation Of the Sun's crown ($1.0 \cdot 10^5$ K)
10^{14} Hz	$4 * 10^{-7}$ - $8 * 10^{-7}$ m	Visible radiation ($3.6 \cdot 10^4$K – $1.8 \cdot 10^4$ K)
$1.25 * 10^{14}$	$2.4 * 10^{-6}$ m	**Surface of the Sun** (6000K)
10^{13} Hz	$1.15 * 10^{-5}$ m	Infra red radiation (1250K)
$5.62 * 10^{10}$	$5.33 * 10^{-3}$ m	Relict radiation (2.7K)
$1.2 * 10^9$ Hz	$2.5 * 10^{-1}$ m	Longwave radiation **Fridge of the Sun** ($5.7 * 10^{-2}$ K)
10^3–10^{-3}	$10 * 10^5$m - $3 * 10^{11}$ m	Low frequency **(superlong) waves**
$5.14 * 10^{-2}$	$5.83 * 10^9$ m	Gravitational waves ($2.47 * 10^{-14}$ K)
$2.2 * 10^{-12}$	$1.36 * 10^{20}$ m	**Center of the Sun's cold** ($5.24 * 10^{-14}$ K)

In the centre of the Sun there is no core with a temperature of 15 mil. degrees (~ $1.5*10^7$ K) is a powerful X-ray radiation (see table A). On the surface of the Sun, where T = 6000K, a dark core would be highlighted. But it is not.

The internal structure of the Sun.



Pic. 1 - 9

The main source of short-wave radiation is T = $1.0*10^5$K in the region of λ <1500 A^0 are rarefied layers of the solar corona. The intensity of short-wave radiation is very small ~ 1% and is almost completely absorbed by the atmosphere of the Earth. ». (14)

The fact that the cold volume of the outer core of the Sun has a reliable protection against the sizzling heat of a proton shock wave with a temperature T = 6000K - from a layer of perfectly black graphite is confirmed by the following calculations.

"There is a law of Stephen - Boltzmann, which says:
radiation power (w) per unit of the surface of a black body is proportional to the fourth power of its absolute temperature: $i = \sigma T^4$, where
σ = $5.67*10^{-8}$ $Wt/(m^2 K)$ -- is a constant value.

Total solar radiation power $I_{©} = S\,\sigma T^4$

Solar Radiation Energy: $I_{©} = 4\,\pi\,a_o^2\,E_{©}$, where

$E_{©}$ = 1.37 kW/m^2 — the solar constant (the energy of the Sun per 1 m^2 of the Earth's surface);

$a_o = 1.496{*}10^{11}$m — the distance of the Earth from the Sun;

$I_{©} = 4\,\pi\,a_o^2\,E_{©} = 4\,\pi\,(1.496{*}10^{11}\,m)^2 * 1.3\,kW/m^2 = 3.85{*}10^{26}Wt$». (35)

$S_{я} = 4\,\pi\,R_{я}^2 = 4\,\pi\,(6{,}89{*}10^8 m)^2$ – the area of the sphere of the outer core of the sun.

It follows that the radiation temperature of an absolutely black carbon (graphite) protection of the outer core of the Sun, around which a proton shock wave is located, is equal to:

$$T^4 = I_{©} / S_{я}\,\sigma = 3{,}85{*}10^{26}Wt / 4\,\pi\,(6.89{*}10^8\,m)^2 * 5.67{*}10^{-8}Wt/(m^2 K)$$

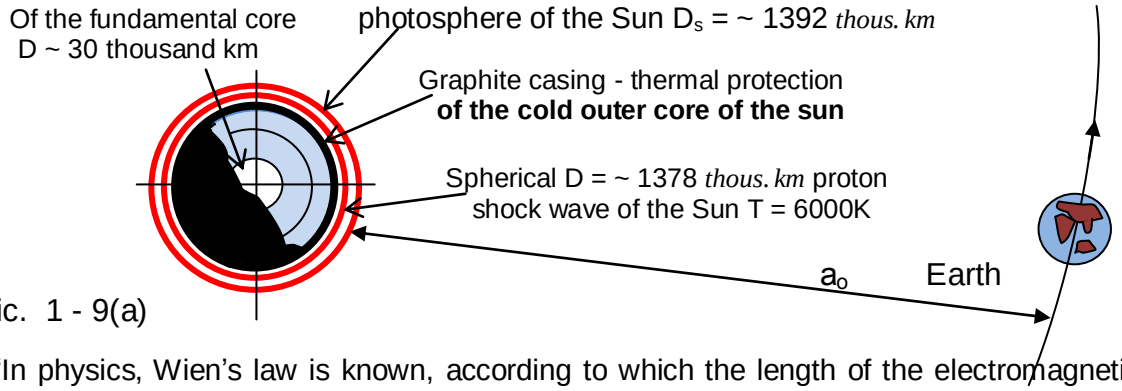
Then we have the following: T = 5810K is the radiation temperature of an absolutely black graphite protection of the outer core of the Sun, under the influence of temperature T = 6000K of a proton shock wave.

2. $S = 4\,\pi\,R_c^2 = 4\,\pi\,(6.96{*}10^8 m)^2$ – surface area - the photosphere of the sun..

Photospheric radiation temperature:

$T^4 = I_{©} / S\,\sigma = 3.85{*}10^{26}Wt / 4\,\pi\,(6.96{*}10^8 m)^2 * 5.67{*}10^{-8}Wt/(m^2 K);$

Then we have the following: T = 5780K is the refined temperature of the surface of the Sun.



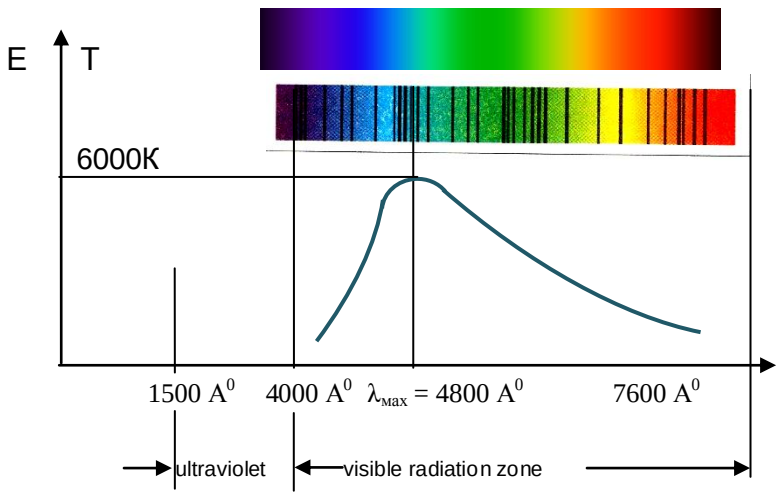
Pic. 1 - 9(a)

"In physics, Wien's law is known, according to which the length of the electromagnetic wave λmax transmitting the greatest energy is related to the absolute temperature T of the radiating body by the equality: $b = \lambda_{max}\,T = 2.9{*}10^7 A^0\,K = 2.9{*}10^{-3} mK$

In the spectrogram of the Sun, the light wave with the highest energy is in the area with the wavelength $\lambda_{max} = 4800\ A^0$ " . (35) Pic.1 - 9 (b)

Therefore, we get the temperature: $T = 2.9{*}10^7 A^0\,K / 4800 A^0 = \sim 6000K$

What corresponds to the temperature T = 6000K of the proton shock wave of the Sun; this is the highest temperature of the sun. Only solar plasma particles, overcoming gravity, create a corona of the Sun up to 2 mil. Degrees



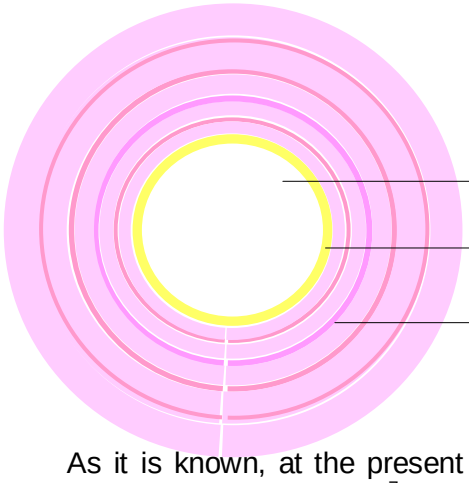
Spectrum of the Sun:
1. Continuous spectrum

2. Spectrum with absorption lines

The intensity of the radiation of the sun in the earth's atmosphere:
8% - ultraviolet zone;
47% - ultraviolet zone;
45% - infrared

Pic 1 - 9 (b)

"The energy distribution in the solar spectrum coincides with the energy distribution in the emission spectrum of an absolutely black body with a temperature T = 6000K." (14)



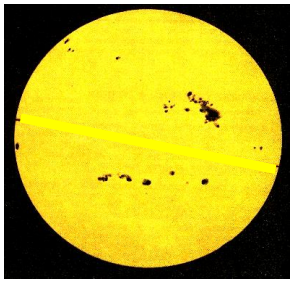
The effect of the "cold" Sun can be observed, if you look intently at the setting, not the bright Sun, when the atmosphere reflects and delays the infrared and ultraviolet spectral regions, then literally
In ~ 30 seconds gradually the following phenomenon occurs:
The Sun gradually begins to turn into a solid white "cold" disk, around which a brilliant ring.

White disk - "cold" Sun

Outer shiny ring (convection and photosphere zone)

Outgoing waves of red-pink color created by particles of the plasma of the Sun. This means that there are gravitational waves emanating from the Sun to the planets of the solar system.

As it is known, at the present time it is believed that "in the centre of the Sun is a core with temperature T = $1.5*10^7$K; then there is a zone of radiant energy transfer, and a zone of convection with the photosphere. Each of these zones occupies approximately 1/3 of the solar radius. "(5) Hence, the radius of such a "hot core" should be $R = \sim 2.3*10^8 m$.



On pic. 1 - 9 (g) - view of the Sun with a large number of spots.
If the sun would have a "core" with temperature at $t = 1.5*10^7$K (15 mil. degrees) - and this is powerful short-wave X-radiation, then:
1. On the surface of the Sun - the photosphere, where the temperature is only T ~ 6000K, a dark nucleus with powerful X-ray radiation would be highlighted.

2. Radiation power of the "core" energy with $T = 1.5*10^7$K per second:
$I_я = S\,\sigma\,T^4$, where S is the surface area of the "core": $S = 4\,\pi\,R_я^2 = 4\,\pi\,(2{,}3*10^8 m)^2$
$I_я = S\,\sigma\,T^4 = 4\,\pi\,(2.3*10^8 m)^2 \cdot \{5.67*10^{-8} Wt/(m^2 K)\} \cdot (1.5*10^7 K)^4 = 1.9*10^{39} Wt$
The sun radiates energy in a second $I_© = 3.85*10^{26} Wt$, *i.e.* 10^{13} times less !!!
Under the influence of such a powerful x-ray solar system would be completely different, or ceased to exist.
3. Mass of X-ray particles (see Ch. 3) emitted per second: $I_я(1sec) = E_{X\text{-}ray} = mC^2$
$m = E_{X\text{-}ray} / C^2 = 1.9*10^{39} кg\ m^2/s^2 / (2.99*10^8 m/s)^2 = 2.1*10^{22} kg$, где $1\ Wt\,s = 1\ J = 1 kg\ м^2/s^2$
Mass of particles emitted by the "core" per year:
$M_{X\text{-}ray} = 2.1*10^{22} kg \cdot 3.154*10^7 sec = 6.6*10^{29} kg$
Hydrogen in the Sun is 70%, i.e. $M_Н = 1.9*10^{30} kg$.
It turns out that such a "core" in just one year can burn all the hydrogen of the Sun.
4. Let us estimate the energy of hydrogen nuclei and helium nuclei in a shock wave at a temperature
T = $1.5*10^7$K (15 mil degrees) where the proton velocity is $v = 4.13*10^2 m/sec$ (see.ch. 3)
The mass of 4 hydrogen nuclei $mn = 6.692*10^{-27} kg$; helium nucleus mass $m = 6.644*10^{-27} kg$
Energy of 4 hydrogen nuclei: $E_н = m_н v^2/2 = 5.7*10^{-22} J$. Helium nucleus energy: $E_{не} = 5.67*10^{-22} J$
Hydrogen in the Sun is 70%, i.e. This means that helium nuclei can form from all hydrogen:
$n = 2.9*10^{56}$ *units, and, at the same time, the energy n will be released* $(E_н - E_{не}) = 0.087*10^{34} J.$
The sun produces more energy in a year: $E_© = 3.85*10^{26} Wt \cdot 3.154*10^7 s = 1.2*10^{34} J$
Hence, the process of formation of helium nuclei from hydrogen nuclei does not exist.
On the Sun is another process of heat dissipation.five.
5. If we calculate the radius of the proton shock wave with $T = 1.5*10^7$K according to the formula $Mvn = mCk$, then such a radius will go far beyond the limits of the Earth's orbit.
Conclusion:
in the centre of the Sun there is no core with a temperature of 15 mil. degrees.

The temperature of the Sun's crown.

“In the upper layers of the chromosphere, the temperature (from 20 000K) rises sharply and reaches 1mil. K. Here begins the most external and most rarefied part of the solar atmosphere - the solar corona. The temperature of the corona rises until the energy of the thermal motion of the particles ecseeds the potential energy of the gravitational field of the Sun that holds them, after which the solar plasma flows into the surrounding interstellar space. ” (14)

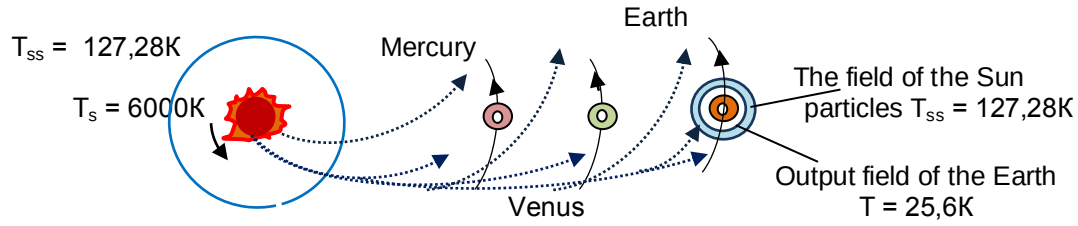
"The temperature in the crown rises to 2 million K, then decreases. " (15)

Consequently, in order to determine the temperature of the solar corona, it is necessary to know with what coefficient of acceleration the plasma particles begin to leave the solar corona.

"Plasma streams leaving the corona carry with them the magnetic field of the Sun, which is frozen in them, as it were.” (14)

Consequently, a particle of solar plasma that goes into interplanetary space is a miniature sun, has a core with a shock (transverse) wave temperature T_1 = 6000K and a shell of microparticles T_2 = 127.28K.

“The lines of force of the interplanetary magnetic field, along which plasma flows move, have the form of Archimedes spirals. It turned out that with a quiet solar wind at the Earth's orbit of $1 sm^3$ there are only 1 - 2 particles of solar plasma, and their speed of movement is 300-400 *km/s.* " (14) So, the solar particles moving along spiral lines of force are at a distance from each other, there is no contact between them.



Pic. 1 - 10

Reactive streams of solar particles on the border of a meeting with the Earth’s magnetic field are condensed and create a shock wave. “Solar plasma, passing through the shock wave, compacted and slows down its movement. A compacted “hot” plasma flows around the Earth and exerts pressure on the geomagnetic field. ” This means that the solar particles of the plasma create a field around the Earth’s magnetosphere with a temperature T_{ss} = 127.28K, equal to the temperature of the outer shell of the solar particle. Consequently, at the output field of the Earth, T_{eo} = 26.5K, the solar field with temperature T_{ss} = 127.28K "presses".

The heat exchange between the Sun and the planets occurs according to the energy conservation scheme: with what temperature difference the Sun transfers heat to planets with the same temperature difference heat from the centre of the planets passes into the colder centre of the Sun.

For the Earth, the coefficient of temperature difference:

g = 127.28K / 26.5K = 4.8 , with such a coefficient heat is transferred from the core of the Earth to the fridge of the core of the Sun T_{sr} = 0.05728K.

Earth's fridge temperature: $T_{er} = T_{sr}\, g$ = 0.05728K * 4.8 = 0,275K

Knowing the temperature of the output field of the planet, we determine the coefficient of temperature difference between the temperature of the surface of the Sun T_s = 6000K and the temperature of the output field of the planet.

For example:

1. The temperature of the output field of the Earth is equal to T_{eo} = 26.5K, which means that the heat that the Earth receives from the surface of the Sun T_s = 6000K corresponds to the coefficient of temperature difference:

$$g = T_s / T_{eo} = 6000K / 26{,}5K = 226{,}4$$

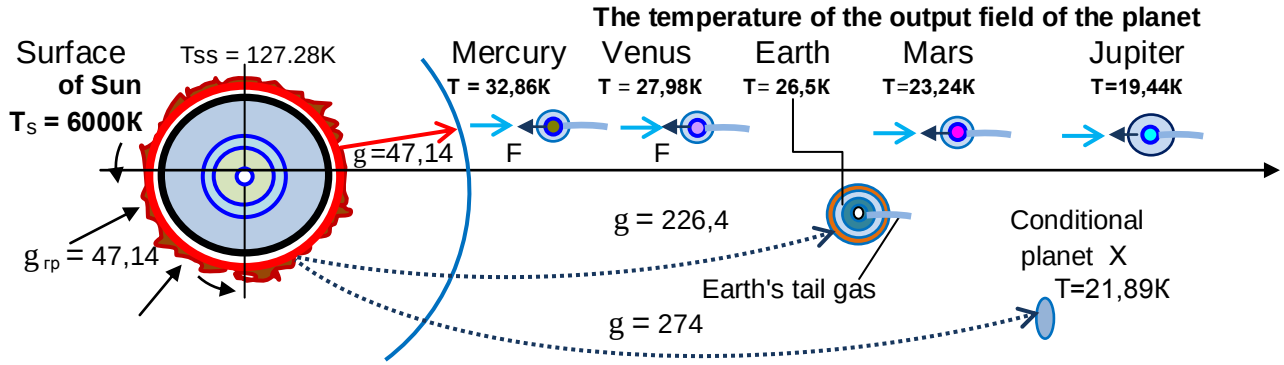
This result is also equal to: $g = 47.14 * 4.8 =\sim 226.4$

To disperse and deliver the solar particles to the Earth, the temperature of the solar corona is sufficient: $T_{sc} = T_s \cdot g = 6000K * 226.4 = 1358400K$. Pic. 1 - 11

2. For Jupiter, where the temperature of the output field T_{oju} = 19,44K, the coefficient of temperature difference: $g = T_s / T_{juo} = 6000K / 19.44K = 308.6$

Consequently, the temperature of the corona for the delivery of solar particles to Jupiter is equal to: $T_{sc} = T_s \cdot g = 6000K * 308.6 = 1851600K$.

3. For Saturn, where the temperature of the output field T_{sao} = 14.7K , the coefficient of temperature difference from the surface of the Sun will be $g = 408$; therefore, for acceleration and delivery of solar particles to Saturn the temperature of the corona must be more than 2 million K.



Pic. 1 - 11

4. The average particle emission factor from the surface of the Sun to a “conditional” planet in the solar system is determined by the formula: $M_S = gR^2 / G$, then $g = G M_S / R^2$, where M_S is the mass of the proton shock wave of the Sun or the proton mass emitted by the Sun into the Solar system.

$R_s = 6.95*10^8 m$ - the radius of the surface of the Sun - the photosphere;

The acceleration coefficient of solar particles in the solar system:

$$G = 4.7993*10^{-11} nm^2/kg^2 * 2.766*10^{30} kg / (6.95*10^8 m)^2 = \sim 274\ m/s^2$$

Let us determine the temperature of the output field of the “conditional” planet, to which heat is directed from the surface of the Sun T_s = 6000K with a coefficient of temperature difference $g = 274$. Then we have the following:

$T_\alpha = T_S / 274 = 6000K / 274 = 21.89K$.

A planet with an output temperature field of T_α = 21,89K, if it existed, was located between the orbits of Mars and Jupiter.

Average crown temperature: $T_{sc} = T_s g = 6000K * 274 = 1644000K$.

The coefficient of temperature difference with the solar system: $g = 127.28K / 21.89K = 5.814$.

At this temperature of the solar corona, the energy of thermal motion of particles with an acceleration of $g = 274\ m/s^2$ *) greatly exceeds the potential energy of the Sun’s gravitational field that holds them with acceleration $g = 47.14\ m/s^2$, and the solar particles freely enter interstellar space, creating a thermodynamic solar space system.

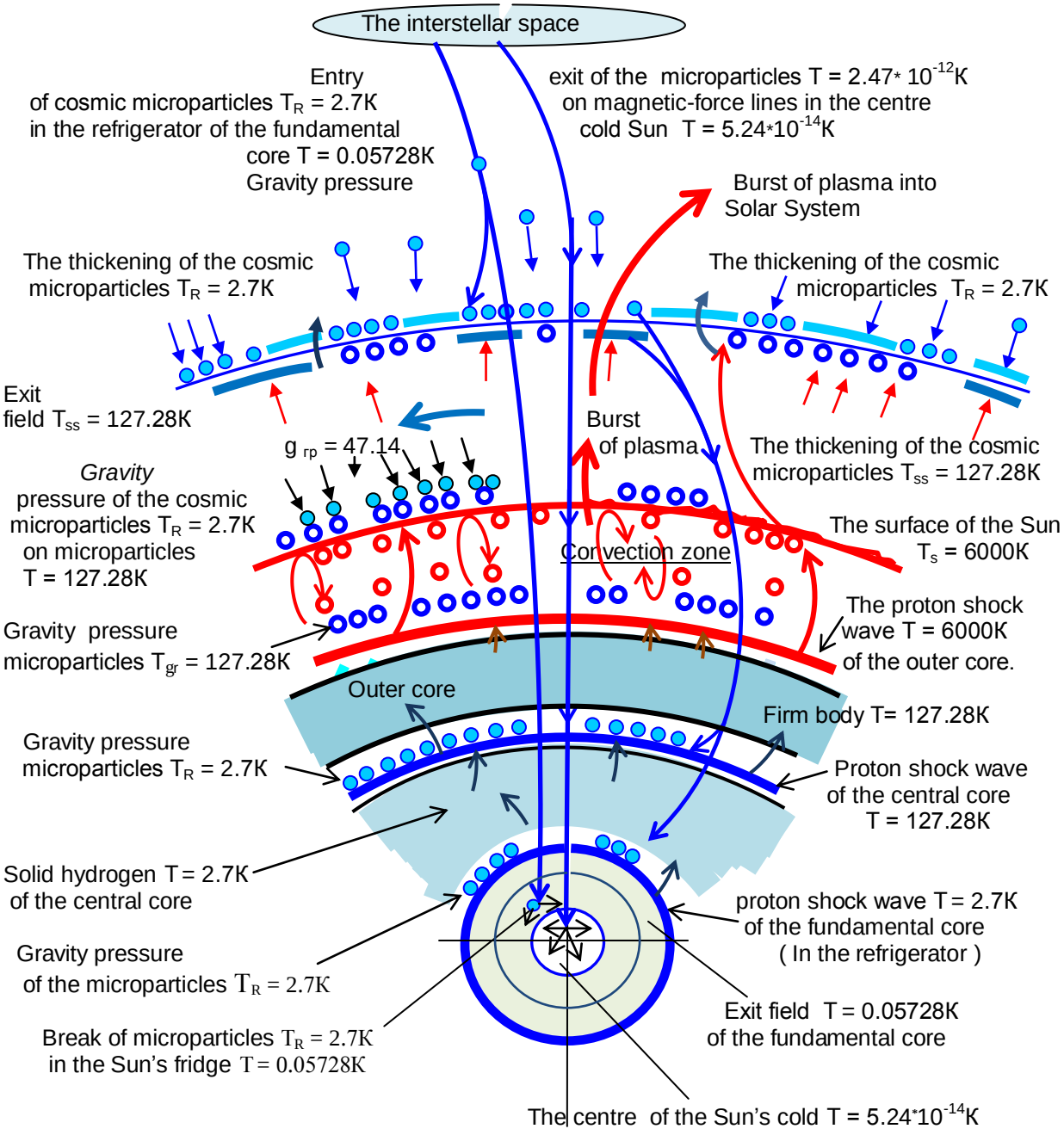
Part 3. The mechanism of gravity on the Sun.

"There are topics so attractive ... for a physicist of any specialization. One such topic is gravity. The first of the fundamental forces known to man, the weakest and at the same time the most powerful, all-penetrating, completely eluding research. Theoretical physicists who put a mosaic of experimental facts into a single picture of the universe hopefully await the missing fragments, which may turn out to be key. " (1)

The key to the disclosure of gravity is associated with the process of heat transfer between temperature fields, having a temperature differential. Due to the transition of microparticles from a warm to a cold field (according to the 2nd law of thermodynamics), heat ecshange processes between temperature fields are regulated.

Consequently, the gravitational pressure is carried out by microparticles, making the transition from a high temperature field to a lower temperature field.

The temperature process of gravity on the Sun.



Pic 1 - 12

The action of the gravity mechanism on the Sun is a continuous process that occurs due to the pressure of microparticles (on bodies, particles) during their thermodynamic transition from the "warm" interstellar space with temperature T_R = 2.7K to the cold region of the centre of the Sun T_{rs} = 0.05728K - the refrigerator is the output field of the fundamental core:

$g_{gr} = T_R / T_{rs} = 2.7K / 0.05728K = 47.14$; that is, with acceleration: $g_{gr} = 47.14$ m/s^2 .

Cosmic microparticles with a temperature of $T_R = 2.7K$, when moving into the refrigerator of the Sun $T_{rs} = 0.05728K$, pass through the output temperature field of the Sun, formed from microparticles with a temperature $T_{ss} = 127.28K$.

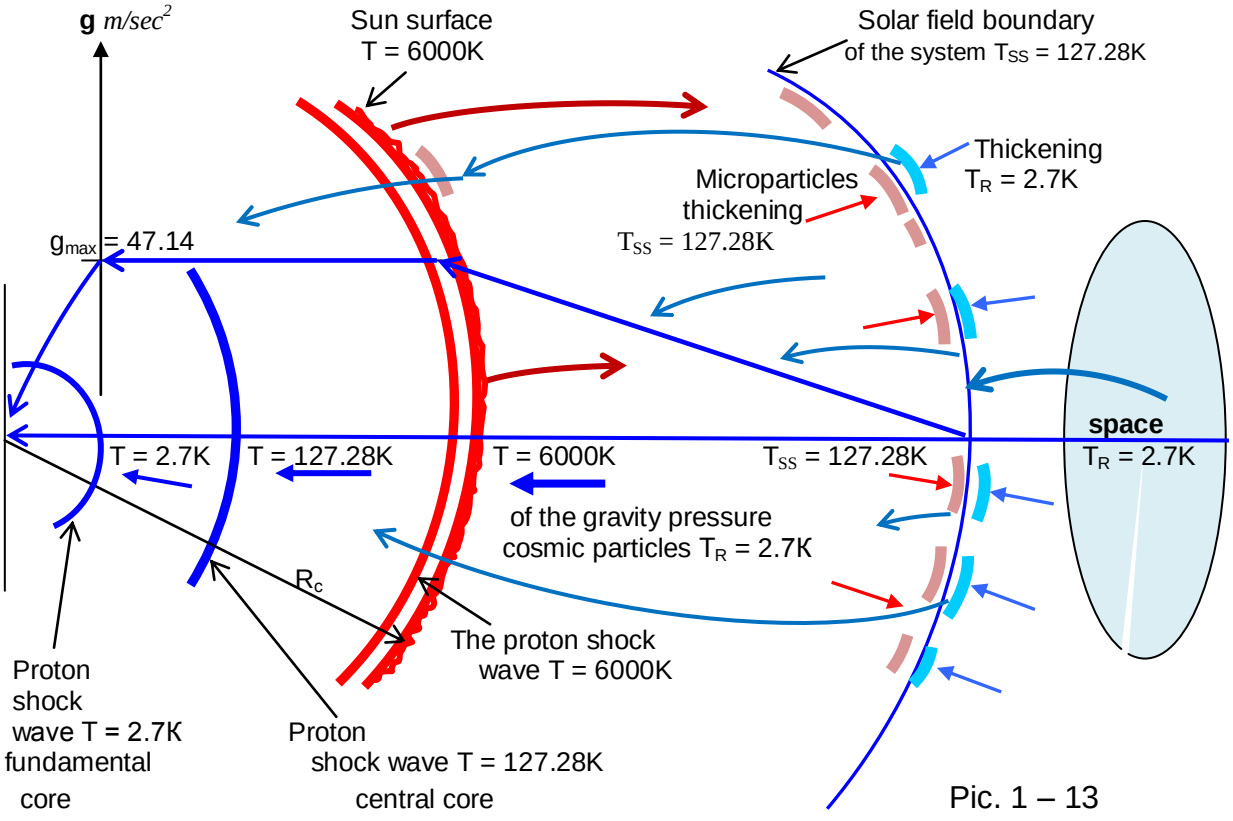
The gravitational pressure of cosmic microparticles $T_R = 2.7K$ on the microparticles of the output field of the Sun occurs, which creates a separation of the temperature zone $T = 127.28K$: at the top of the output temperature field $T_{ss} = 127.28K$; down to the surface of the Sun, moving with gravitational acceleration of the microparticle $T_{gr} = 127.28K$, which are under gravitational pressure from cosmic microparticles $T_R = 2.7K$ with a temperature differential coefficient:

$g_{gr} = T_{gr} / T_R = 127.28K / 2.7K = 47.14$. See pic. 1 - 12

The tandem of microparticles exerts gravitational pressure on the surface of the Sun: $T_{gr} / T_R = 127.28K / 2.7K = 47.14$; then we get:

$g = T_{ss} / T = 6000K / 127.28K = 47.14$; $g_{gr} = 47.14$ m/s^2 - acceleration on the surface of the Sun and the proton shock wave of the outer core.

When moving to the fundamental core of the Sun, the gravitational pressure of the microparticles remains constant. Gravitational acceleration only in the centre of the Sun goes to zero $g_g = 0$



Pic. 1 – 13

Gravity is created by cosmic microparticles with a temperature $T_R = 2.7K$, moving due to pulsating energy (quantum energy) into a cold temperature field T_{rs} .

The temperature difference creates a gravitationally pulsating (quantum) acceleration of $g_{gr} = T_R / T_{rs}$ microparticles in the microworld system.

Part 4. The temperature modes of the Earth.

It is known that our planet, together with the thermal energy of the Sun, maintains a constant temperature of the Earth's surface $T_{es} = 260K$. (3)

The planets of the Solar System are objects of interstellar space and have heat ecshange both with the interstellar space $T_R = 2.7K$ and the Sun: heat comes from its surface $T_S = 6000K$ and the output field $T_{ss} = 127.28K$.

1. The temperature of the output field of the Earth.

According to the formula (2*), we determine the temperature of the output field of the Earth:

$$T^2_{eo} = T_{es} * T_R ; \quad T^2_{eo} = 260K * 2.7K ; \quad T_{eo} = 26{,}5K .$$

The process of the heat of the Earth in interstellar space comes with a coefficient of thermal heat transfer:

$$g = T_{es} / T_{eo} / T_R = 260K / 26.5K / 2{,}7K = 9{,}81 .$$

2. **The output temperature field of the centre of the Earth is the planet's fridge**.

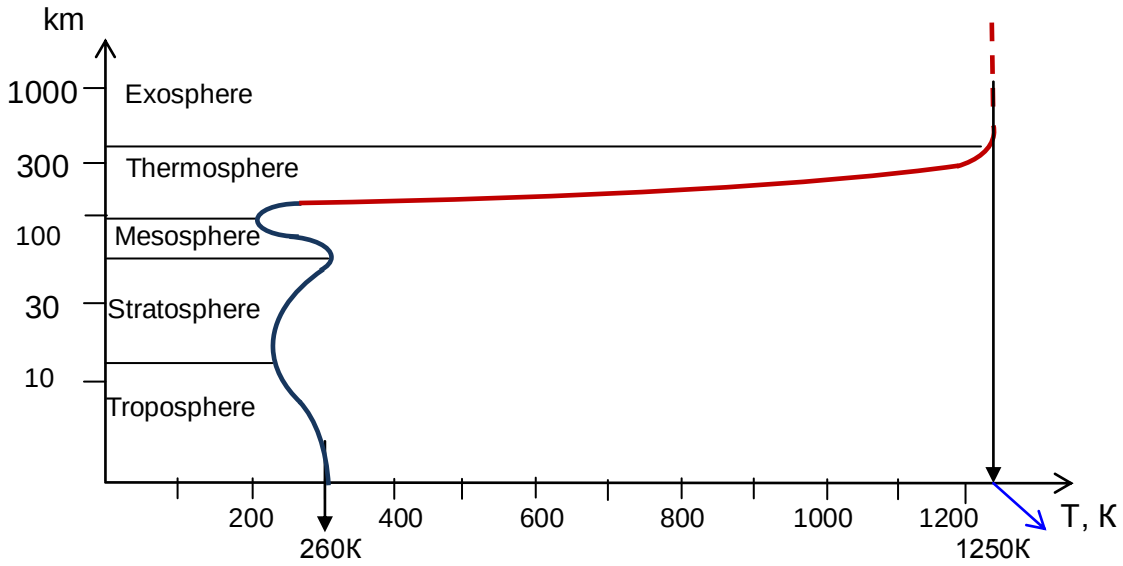
How much heat the planet throws into cosmic spaces with a coefficient of temperature heat transfer $g = 9{,}81$, so much heat the Earth should receive. Heat ecshange with the interstellar space - with the temperature field $T_R = 2.7K$ goes through the output temperature field of the Earth $T_{eo} = 26.5K$.

The cosmic microparticles $T_R = 2.7K$ are transferred to the Earth's fridge T_{er} - to the output field of the fundamental core, the numerical value of which is determined by the formula: $T_{eo} / T_R = T_R / T_{er}$, we get:

$$T_{er} = (T_R)^2 / T_{eo} = (2.7\ K)^2 / 26.5K = 0.275K .$$

3**. Thermofield of the Earth.**

It is known that in the Earth's atmosphere beyond the stratosphere, the mesosphere (altitude 85-90*km* temperature minus 85^0C (188K) - the thermosphere and the exosphere are located. In these zones, from a height of 400 km, the temperature rises to ~ 1200K. (3), Pic. 1 - 14.



Pic. 1 – 14 Temperature versus altitude in the atmosphere of the Earth

Sun $T_S = 6000K$ transfers heat to the Earth's surface through the thermofield of the planet T_{et} . Excess solar heat from the Earth's surface is radiated into the thermosphere, and the heat of the thermal field maintains the temperature of the Earth's surface at a constant $T_{es} = 260K$.

According to the formula $T_s / T_{et} = T_{et} / T_{es}$, we determine the temperature of the thermal field of the Earth:

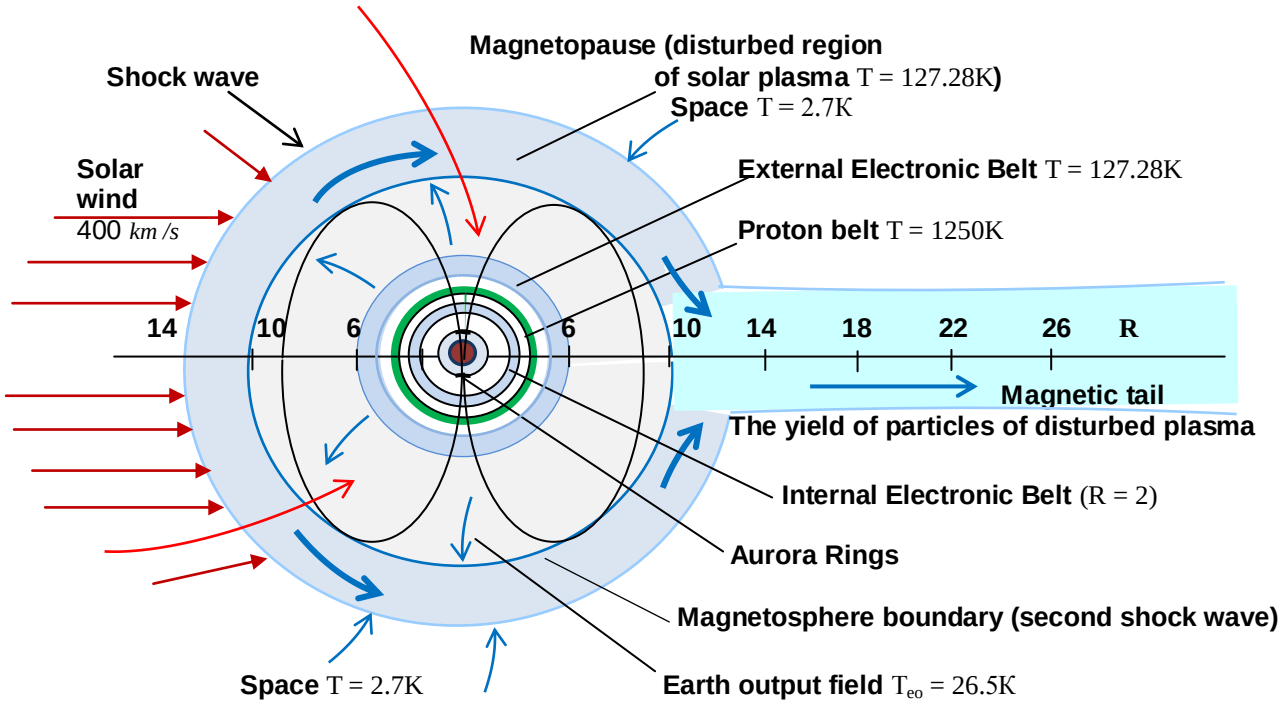
$T^2_{et} = T_s * T_{es}$; $T^2_{et} = 6000K * 260K$; $T_{et} = \sim 1250K$.

Heat transfer from the Sun to the Earth through a thermofield comes with a coefficient of temperature heat transfer: $g = 6000K / 1250K / 260K = 4,8$

The system of heating the particles of the solar plasma of the thermal field of the Earth.

"Since the solar wind is a highly ionized gas, it cannot overcome the Earth's magnetic field, which is an obstacle to the supersonic flow of solar plasma. Since the velocity of propagation of a disturbance in a solar wind flow is less than its own velocity, a shock wave is generated when this obstacle flows around (disturbance of the solar plasma).The solar plasma, passing through the shock wave, condenses and slows its movement. Solar plasma, passing through the shock wave, compacts and slows down its movement. It puts pressure on the geomagnetic field, which is compressed. The distance between the shock wave front and the boundary of the magnetosphere, in the direction from the Earth to the Sun, is 2 - 4R.

Calculations show that with a solar wind speed of 500 *km/s* and a density of 2.5 particles /cm³, the boundary of the magnetosphere at the frontal point will be 10R from the centre of the Earth. " (14). See Pic. 1 - 15



Pic. 1 - 15

"The composition of the solar plasma is not yet reliably determined. Nevertheless, using the American spacecraft Pioneer-6, it was found that protons make up 91,3%, once ionized helium atoms 0,1% and α-particles, i.e. double-ionized helium atoms – 8,6%. Plasma consists of both positive and negative particles - in general, it is neutral. " (14)

Consequently, the particles of the solar plasma are more than 90% neutral protons — neutrons moving in interplanetary space. Solar particles - neutrons have a temperature of the shock wave of the nucleus $T_1 = 6000K$ and a shell around the nucleus - of microparticles with a temperature $T_2 = 127.28K$.

When a compacted solar plasma meets the output temperature field of the Earth, $T_{eo} = 26.5K$, a new shock wave is created at the boundary of the magnetosphere, which finally determines the boundary of the magnetosphere, through which solar plasma particles penetrate to the Earth.

"Two clearly separated zones of radiation were discovered, which in the form of huge rings covered the Earth around the geomagnetic equator.
External electronic belt - located in the equatorial regions at a distance of 4 to 6 Earth radii R from the centre of the Earth. Electrons with energies from tens of kV to several MeV prevail.
The inner electronic belt is located near the inner boundary of the region of trapped radiation at a distance of $2R$. Electrons with energies from tens of kV to several hundreds prevail.
Between the inner and outer electronic belts at a distance of $3 - 4R$ from the centre of the Earth is the proton belt. Here protons with energies from 150 kV to 4,5 MeV prevail. "(14) See fig. 1 - 15
Consequently, the nuclei - the protons of the solar plasma from the magnetopause break through the shock wave into the radiation zones of the Earth: or due to the appearance of powerful plasma flows in the interplanetary space during flares on the sun, or are dragged by meteorites. At the same time, a shell of microparticles with a temperature T_2 = 127.28K , from which electrons are formed, breaks off from the proton nucleus of the solar plasma with a temperature T_1 = 6000K.
Since the coefficient of solar heat transfer to the Earth is g = 4.8 , the temperature of the proton nuclei of the solar plasma is cooled to
$T = 6000K / 4.8 = 1250K$ - during the formation of the proton belt;
and solar electrons with temperature T = 127.28K saturate the outer and inner electron belts of the Earth.

4. **Internal temperature and the structure of the Earth.**

What is currently known about the science of temperature and the structure of the Earth? "The internal structure of the Earth, according to currently available data, is: the crust (average thickness of 30 km); beneath it is the mantle, which extends to a depth of ~ 2900 km; even deeper is the liquid outer core, within which there is a smaller — a solid inner core. " (14)
"According to seismology data, from 2885 km - 4980 km - a liquid external core; from 4980 km - 5120 km - the transition zone of the core; from 5120 km - 6371 km - the solid inner core of the Earth ". (9)
Then, the radius of the solid core is $R = \sim 1250$ km. Transition zone ~ 140 km.
The inner radius of the liquid core is $R = \sim 1390$ km. The thickness of the liquid core ~ 2080 km. The outer radius of the liquid core is R = ~ 3470 km.
"On the basis of laboratory data, the melting temperature at a depth of 100 km is assumed to be ~ 1500^0C (or 1800K) ... It can be assumed that the temperature of the mantle on the border with the liquid core is ~ 3500K. It is believed that the temperature at the mantle-core interface is in the range ~ (4-5)*10^3K, and this leads to a temperature in the centre of the Earth ~ $6*10^3$K ». (9)
Consequently, in the centre of the Earth is a solid core with a temperature $T = 6000K$, from where heat passes to the surface of the planet. Since 6000K is the maximum temperature that the proton shock wave of the outer core of the Sun creates, the internal structure of the Earth's core is identical to that *of the Sun*. The solid core of the Earth is *the mini sun* of the interstellar space of the Galaxy, limited by the shock proton wave $T = 6000K$.

b). The entrance and exit of heat of the Earth is regulated by the Sun.

Heat from the surface of the Sun T_s = 6000K creates a thermal field of the Earth $T_{et} = 1250K$, from which solar heat heats the surface of the planet to a temperature $T_{es} = 260K$. The process of transfer of solar heat to the Earth comes with a coefficient of temperature heat transfer: $g = T_s / T_{et} / T_{es} = 6000K / 1250K / 260K = \sim 4,8$

Thermal processes inside the planet also regulate the Sun, therefore - the heat output from the proton shock wave with the temperature $T_{ep} = 6000K$ - the solid core of the Earth comes with temperature heat ecshange $g = 4.8$. Consequently, the internal temperature field of the Earth's interior: $T_{ei} = T_{ep} / g = 6000K / 4.8 = 1250K$.
Since the melting points of lavas are known and equal to $\sim 1200^0$ C (or 1500K), the internal temperature field $T_{ei} = 1250K$ is located in the solid part; from this field is the output of heat to the surface of the Earth: $T_{es} = T_{ei} / g = 1250K / 4.8 = 260K$.

The transfer of heat from the fridge of the solid core of the Earth to the output temperature field - to the fridge of the Sun comes with a coefficient of temperature heat transfer:

$g = T_{er} / T_{sr} = 0.275K / 0.05728K = 4,8$.

c). **The input of cosmic heat and the output of heat of the Earth.**

The entrance of cosmic heat to the Earth comes from interstellar space:
space microparticles with a temperature of $T_R = 2.7K$ are sent to the temperature field - to the Earth's fridge $Ter = 0.275K$ solid core.
Temperature ratio of heat input: $g = T_R / T_{er} = 2.7K / 0.275K = 9.81$

Heat leaves from the surface of the planet $T_{es} = 260K$ to outer space through the output temperature field of the Earth $T_{eo} = 26.5K$. The full cycle of heat release from the Earth to outer space comes with a coefficient of temperature heat transfer:

$g = T_{es} / T_{eo} / T_R = 260K / 26.5K / 2.7K = 9.81$

The Earth receives from the Sun and transfers heat to the Solar System with a temperature ratio of $g = 4.8$. The total heat transfer coefficient of the solid core of the Earth with interstellar space and the Sun: $g = 9.81 * 4.8 = \sim 47,14$ - coincides with the heat transfer coefficient of the Sun with the space of the Galaxy.
Consequently, the solid core of the Earth is the *Earth sun* with the temperature of the proton shock wave $T = 6000K$

The solid core of the Earth.

From the stellar space of the Galaxy micro particles with temperature $T_R = 2.7K$ along move in the temperature field - refrigerator of the Earth $T_{er} = 0.275K$ with acceleration $g = 9.81$ m/s^2, where the beginning of the formation of the solid core of the Earth - the *mini-sun* with a proton shock wave with a temperature $T = 6000K$ is carried out.

The design of the solid core of the Earth and its temperature regimes are almost similar to the structure and temperature processes occurring inside the Sun, with a coefficient of temperature heat transfer $g = 47.14$.

We calculate the radius of the proton shock wave of the solid core of the Earth using the formula: **Mvn = m_pCk**, where **m_p** is the mass of the proton; **k** = S / s_p - ratio: the area of the sphere of the proton shock wave of the nucleus $S = 4 \pi R^2$ to the area of the proton $s_p = \pi r^2 = 1.39*10^{-31} m^2$, where $r = 2.1*10^{-16}$ *m* the radius of the proton.
v = $1.65*10^{-1} m/s$ is the proton velocity at the exit temperature of the nucleus T = 6000K.
n = g = 47.14 m/s^2 - acceleration of ejection of particles from the proton shock wave of the *Earth's Sun.*
M = $M_з = 8.31*10^{24}$ *kg*, the mass of the proton shock wave of the nucleus is equal to the mass of the Earth. Mass of the Earth in section «The dynamics of the movement of the Earth».

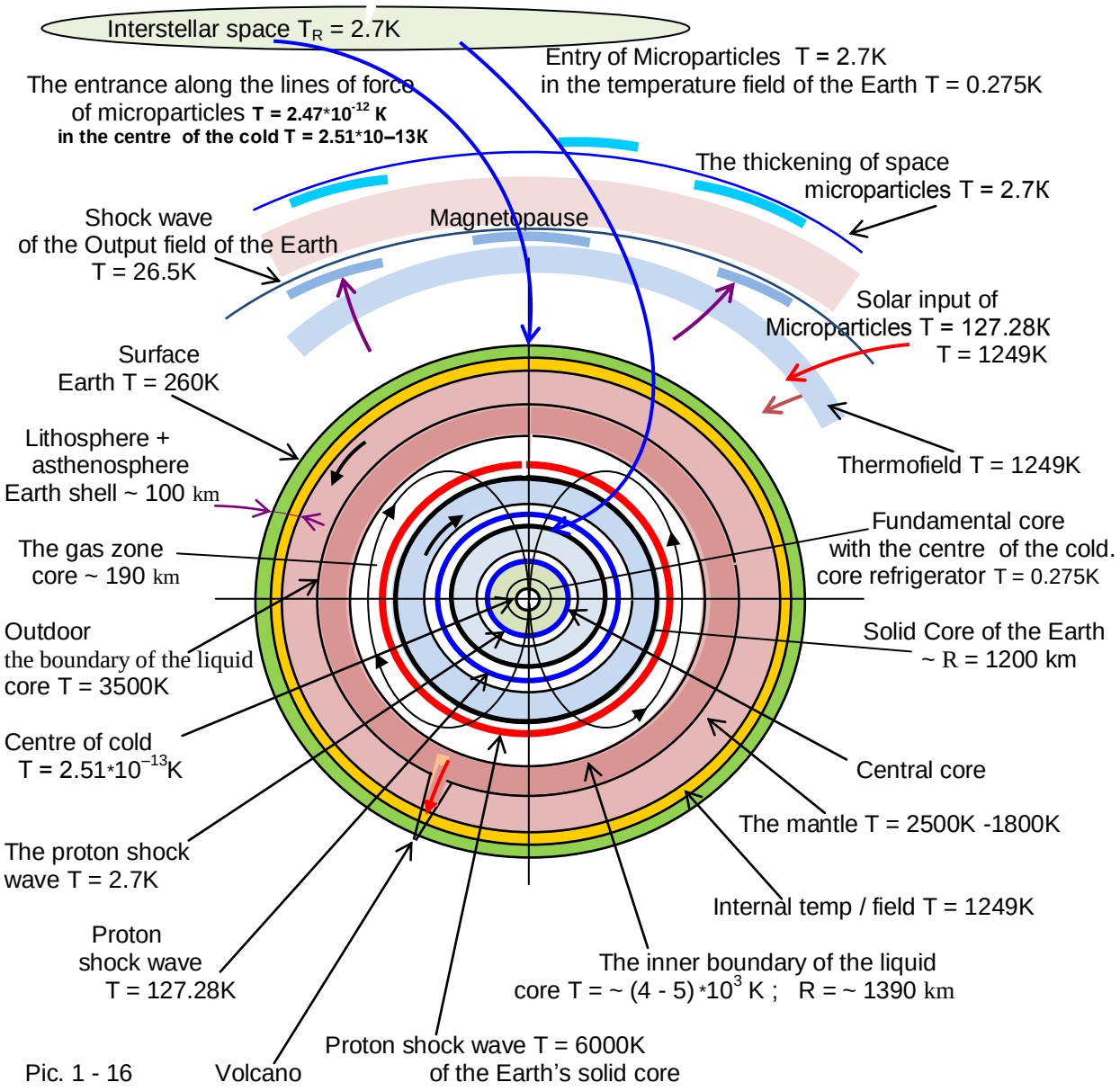
The radius R of the proton shock wave of the solid core of the Earth:

$R^2 = 8.31*10^{24} kg * 1.65*10^{-1} m/sec * 47.14\ m/sec^2 * 1.39*10^{-31} m^2 / 1.673*10^{-27} kg * 2.9979*10^8 m/sec * 4\pi$;

The radius of the solid core is: $R = 1.2*10^6\ m = 1200\ km$.

The result obtained almost coincides with seismic data:
According to these data, the radius of the solid core of the Earth is $R = \sim 1250\ km$.

The complete design of the thermal regime of the Earth



Pic. 1 - 16

Pic. 1 –16a

Earth from space from the North Pole.
/ Photos of the spacecraft "ESSA - 7" (USA) 11/23/1968 /
At this time of year at the North Pole night, northern lights. But the photo is almost the same view of both the night and day sides of the Earth. Therefore, there is ultraviolet and x-rays of the Earth, because Our planet is in ultraviolet and soft X-rays coming from the rarefied corona of the Sun, with temperatures up to 2 mil. degrees

The ratio of the diameter of the Earth to the diameter of a dark disk d in the centre of the pole, in size with a photo: $D_E / d_c = 5.3$. This value is equal to the ratio of the real diameter of the Earth D_E to the diameter of the solid core d_c in the centre of the planet:

$$D_E / d_c = 12.74*10^3\ km / 2.4*10^3\ km = 5.3$$

Consequently, a dark disk is a solid core of the Earth with a proton shock wave T = 6000K - the *earthly sun*, on a light temperature background T = 260K of the Earth's surface.

The mechanism of gravity on Earth.

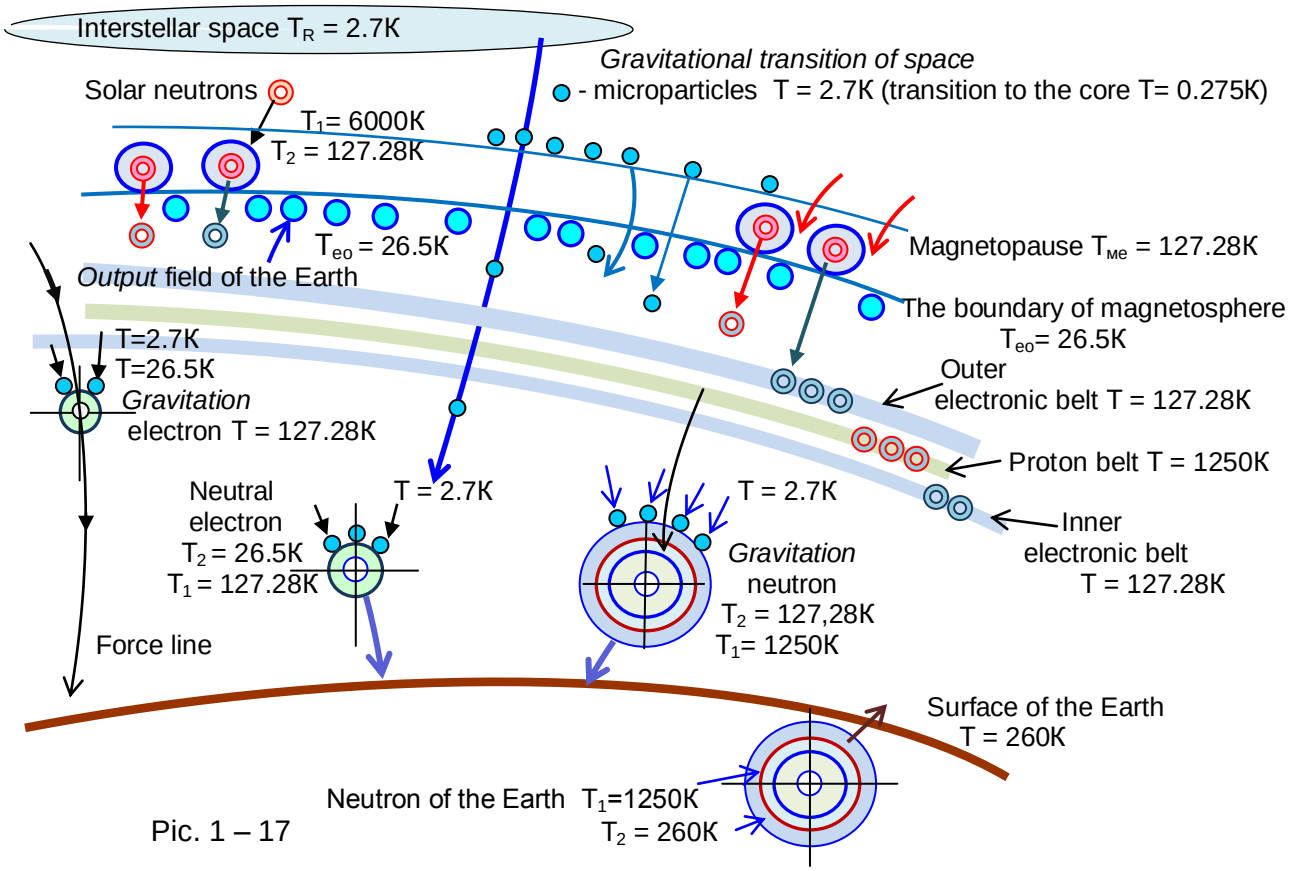
Gravity is carried out on Earth by cosmic microparticles *(with pulsating quantum energy)* with a temperature of $T_R = 2.7K$, and when moving from interstellar space to the output temperature field $T_{er} = 0.275K$ of the fundamental core, into the cooler of the core of the Earth. The cosmic *quantum particles* $T_R = 2.7K$ capture particles with $T_{eo} = 26.5K$ of the output field of the Earth and create with them a gravitational acceleration $g_{gr} = 9.81 m/s^2$ and pressure on the bodies, pressing them to the surface of the Earth, the temperature of which $T_{es} = 260K$. Full range of temperature transitions:

$g_{gr} = T_{es} / T_{eo} / T_R / T_{er} = 260K / 26.6K / 2.7K / 0.275K = 9.81\ (m/s^2)$ See pic. 1 - 17

The flux of cosmic *quantum particles* $T_R = 2.7K$ creates *quantum gravity* on Earth.

When going to Earth, microparticles with temperature $T_R = 2.7K$ and $T = 26.5K$ drag electrons with $T = 127.28K$ from the internal electron belt (2R) and create a temperature shell around the electrons — an external temperature field $T_2 = 26.5K$, neutralizing the core of an aggressive electron with a temperature of $T_1 = 127.28K$.

The temperature lines of force are gathering above the Earth's magnetic poles: with neutral electrons during friction, temperature shells break off and the released electrons create light discharges - the northern lights.



Pic. 1 – 17

From the proton belt around the Earth (at a height of 3R), under the gravitational pressure of miprticles $T_R = 2.7K$ and $T = 26.5K$, particles protons move to the Earth with a temperature $T = 1250K$. Consequently, protons create a certain temperature rise to $1200K$ in the exosphere zone, starting from an altitude of $400\ km$ of the thermosphere.

But neutrons with a temperature difference move to the surface of the Earth:

$g_{gr} = 1250K / 127.28K = 9.81$; particle pressure $g_{gr} = 26.5K / 2.7K = 9.81$;

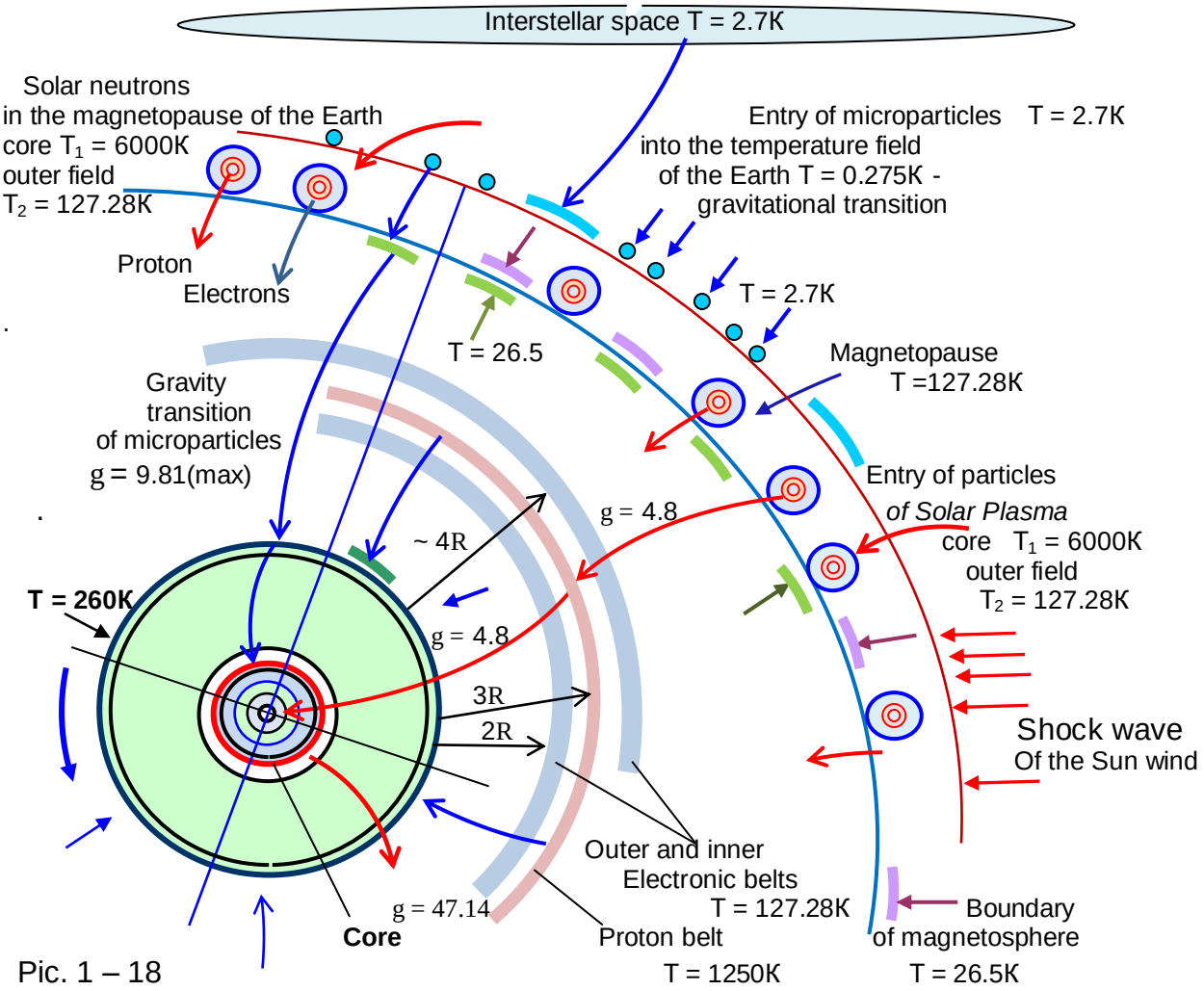
with acceleration $g_{gr} = 9.81\ m/s^2$

Heat comes from the Earth's surface to the boundary of the magnetosphere with a temperature difference: $g = 260K / 26.5K = 9.81$ with acceleration $g_{gr} = 9.81\ m/s^2$

With what acceleration is the gravitation of cosmic energy towards the Earth, with such acceleration is the heat of the Earth coming out.

Maximum and minimum gravitational action on Earth

Cosmic microparticles begin gravitational movement to the Earth from a huge spherical area - from the shock wave of the planet's magnetosphere, from a distance of ~ 10R - from the Earth's heat output field with T = 26.5K .



Pic. 1 – 18

When approaching the surface of the planet with a radius R_{es}, the lines of force, along which cosmic microparticles move to the centre of the Earth, thicken to the maximum value of the gravitational acceleration $g = 9.81\ m/s^2$. See pic. 1 - 18.

But solar gravity goes to the Earth with a coefficient:

$g = T_{ss} / T_{et} / T_{es} = 6000K / 1250K / 260K = \sim 4.8$

Consequently, from the proton shock wave of the terrestrial sun, plasma particles are released with acceleration: $g_{rp} = 9.81\ m/sec^2 * 4.8 = \sim 47.14\ m/sec^2$ with the temperature of exit to the solar system: $T_{ss} = 6000K / 47.14 = 127.28K$ - how much energy the earth receives from the sun - so much it gives to the solar system.

Magnetic force - temperature lines of the Earth.

Of microparticles $T = 2.47 * 10^{-12}K$, creating magnetic force, i.e. temperature lines - gravitational field, connect the Earth with the Sun and the cosmos.

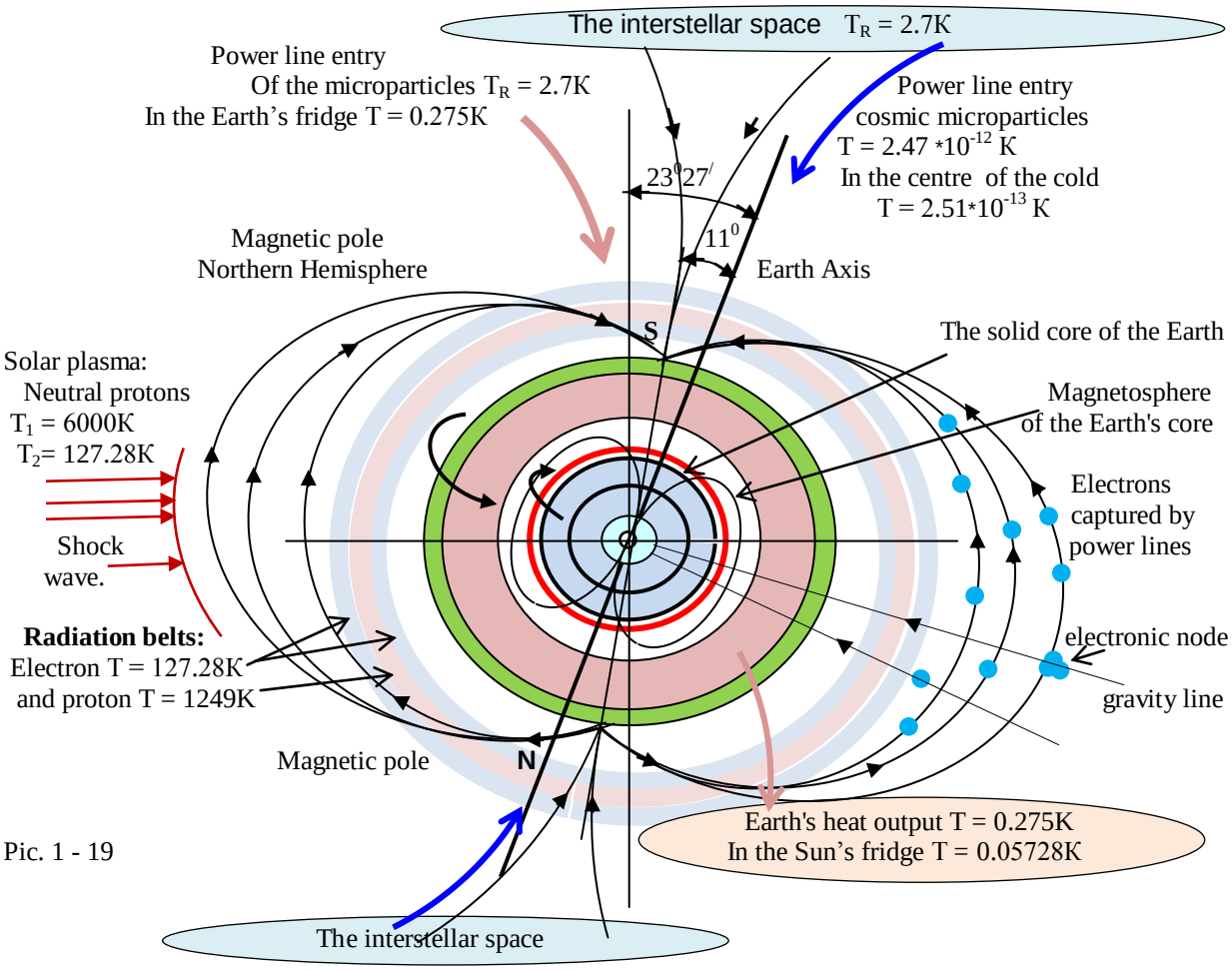
Cosmic microparticles of the Galaxy with temperature $T = 2.47 * 10^{-12}K$, by force lines through the axis of the Earth, enter the centre of the cold of the planet with the heat transfer coefficient $g_1 = 9.81$. Then the temperature of the centre of the cold planet will be equal to:

$T_{centre\ of\ cold} = 2.47 * 10^{-12}\ K / 9.81 = 2.51 * 10^{-13}K$

Currently, the magnetic axis of the Earth is at an angle of 11^0 relative to the axis of rotation of the Earth. The process of shifting the axis of the Earth's magnetic field continues. The angle between the axis of rotation of the Earth and the direction to the pole of the ecliptic (the plane of the earth's orbit) is $23^0 27'$.

Along the lines of force connecting the magnetic poles of the Earth, the solar particles captured from the radiation belt move from the south magnetic pole to the north. Solar electrons, like protons, transfer heat to the Earth with temperature differences:
$g_2 = 127.28K / 26.5K = 4.8$

At the same time, the heat from the Earth's cooler is $T_{er} = 0.275K$, through the magnetic pole along the temperature lines it goes into the Sun's fridge $T_{sr} = 0{,}05728K$ with the same coefficient: $g_2 = T_{er} / T_{sr} = 0.275K / 0.05728K = 4.8$
The total amount of heat entering the core of the Earth from space and the Sun:
$g = g_1 g_2 = \sim 9.81 * 4.8 = 47.14$ See pic. 1 - 19.



Pic. 1 - 19

Electrons captured from the radiation belt under the pressure of cosmic microparticles with a temperature $T = 2.7K$ make a gravitational transition with acceleration $g = 9.81\ m/s^2$ to Earth.

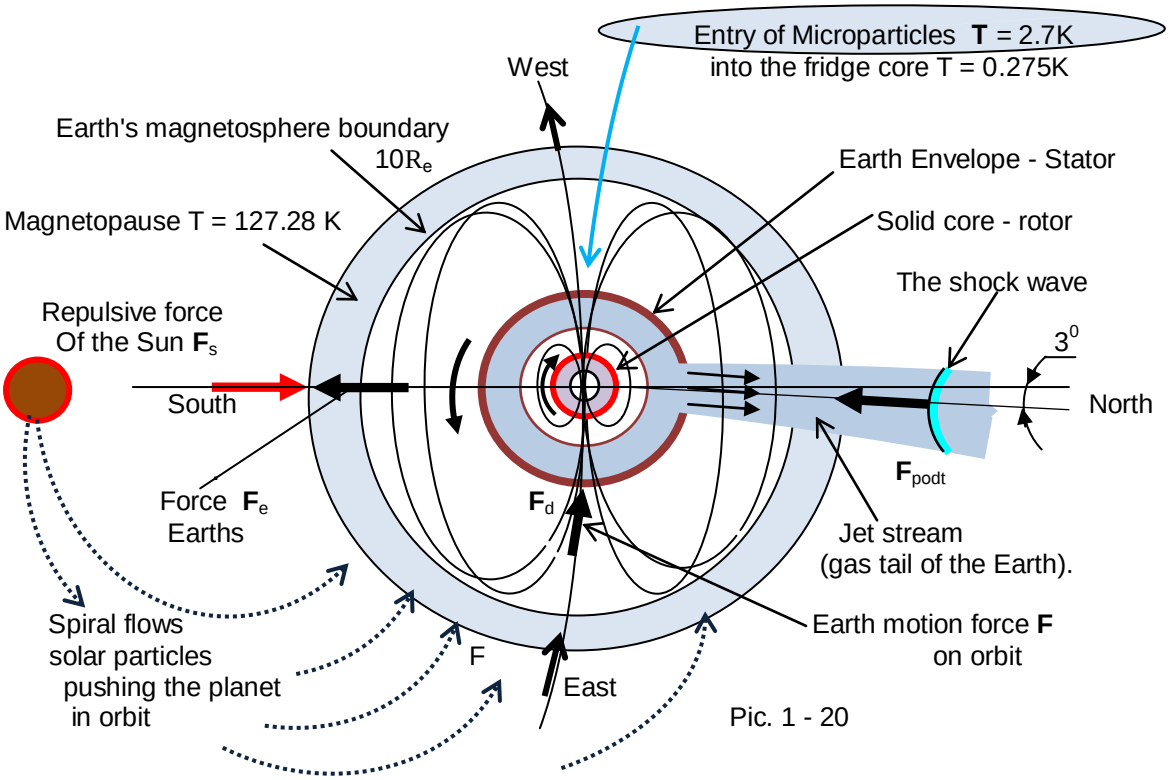
At the intersection of gravitational and force lines, a node is formed of charged particles - electrons. It is known that the power electromagnetic lines create a grid on the surface of the Earth. If a powerful electronic node with a $g = g_1 g_2$ differential is created, this will have a negative effect on health.

The dynamics of the movement of the Earth.

The temperature of the cooler of the core of the Earth is $T_{er} = 0.275K$, and in the Sun, the temperature of the cooler of the fundamental core is $T_{sr} = 0.05728K$.
The Earth tends to the cold region of the Sun, but streams of solar particles repel our planet. Due to solar and cosmic energy, a *proton shock wave* is created with a temperature $T = 6000K$ of the solid core of the Earth.

With the proton shock wave, there is a continuous ejection of the proton mass of particles, whose energy creates a jet tail of the planet.

It is known that the jet gas tail of the Earth was discovered due to the anti-glare, which is observed in the starry sky at a distance of $20R_e$. (10)



Pic. 1 - 20

A shock wave arises in the reactive gas flow of the Earth. Condensation of particles in the flow - the anti-glare - is the shock wave of the Earth's jet tail. The jet stream, resting on the shock wave, becomes a force stream. A force appears - the centripetal force F_{fc} , which pushes the planet toward the Sun with the power F_{podt}. Then we have the following: $F_{podt} = F_{fc} = ma$, where $a = 5.932*10^{-3}\ m/s^2$ is the acceleration of the Earth; m - is the output proton mass of the Earth.

To determine the output proton mass m, coming from the proton shock wave of the Earth's core, we use the equation $m_1 g = G\, m_1 m / r^2$, then we get: $m = g\, r^2 / G$, where r is the radius of the Earth; $G = 4.79924*10^{-11}\ nm^2/kg^2$ - gravitational constant; $g = 9.81\ m/s^2$.

The output proton mass of the Earth is:

$m = 9.81\ m/s^2 * (6{,}375*10^6\ m)^2 / 4.79924*10^{-11}\ nm^2/kg^2 = 8.307*10^{24}\ kg = \sim 8{,}31*10^{24}\ kg$

Determine the force pushing F_{podt} of Earth to the Sun:

$F_{podt} = 5.932*10^{-3}\ m/sec^2 * 8.31*10^{24}\ kg = 4.93*10^{22}\ n$.

But the forces act in pairs - it means that the repulsive force appears also. . This force is created by the Sun - solar temperature particles, moving in jet streams, create shock waves that repel the planet.

The force of repulsion of the planet from the Sun is determined from Newton's formula:

$F_{ottal} = GMs\, m / R^2$, where $Ms = 2.766*10^{30}\ kg$ is the output mass of the proton shock wave of the Sun; $R = 14.96*10^{10} m$ - the distance to the Earth from the Sun;

m is the output mass of the proton shock wave of the Earth's core;

$F_{ottal} = 4.7993*10^{-11} nm^2/kg^2 * 2.766*10^{30} kg * 8.31*10^{24}\ kg / (14.96*10^{10} m)^2 = 4.93*10^{22}\ n$.

The force pushing the Earth toward the Sun is equal to the force pushing the planet away by the Sun: $F_{podt} = F_{ottal} = 4.93*10^{22}\ n$.

“The lines of force of the interplanetary magnetic field, along which plasma flows move, have the form of Archimedes spirals. Power lines serve as “rails” along which plasma flows move ”(14).

Reactive streams of particles of solar plasma, twisted in the interplanetary field in the spiral of Archimedes, meeting with the Earth’s magnetosphere, when braking and thickening, create: the magnetopause is the solar field and the force of movement of the planet $\mathbf{F}_d$ in an orbit. Since the gas tail deviates 3^0 degrees to the east, the stable movement of the Earth in a westerly direction, with the same acceleration, is also controlled by the output proton mass of the planet, which “complements and aligns” the solar force of the Earth's motion $\mathbf{F}_d$ because solar plasma flows are not stable.

The envelope of the Earth rotates at the expense of energy - the action of the magnetic field of the solid core of the Earth. A solid core, like a rotor, creates a torque of M_c in one direction, and the shell of the Earth, like a stator ring, rotates in the magnetic field of the rotor in the opposite direction with equal torque $M_e = M_c$, thus there is a gyroscopic effect of a stable position of the Earth’s axis in space. Pic. 1 – 20

Part 5. The temperature modes of the Moon.

The temperature of the Moon's surface is $T_{ms} \sim 100K$. (3)

1. ***The heat output of the moon - the temperature of the output field*** .

$(T_{mo})^2 = T_{ms} * T_R = 100K * 2{,}7K$; then $T_{mo} = 16.4K$

2. ***The coefficient of temperature difference between the heat of the Moon*** and interstellar space is equal to: $g = T_{mo} / T_R = 16.4K / 2.7 = 6$

3. ***The entry of heat into the refrigerator - the centre of the Moon's core*** from outer space $T_R = 2.7K$ with a temperature differential coefficient equal to the temperature coefficient of heat dissipation into interstellar space $g = 6$.

Then, the temperature of the refrigerator - the core of the moon:

$T_{mr} = T_R / g = 2.7K / 6 = 0.45K$

4. ***Heat exchange between the moon and the sun; thermal field of the Moon.***

Coefficient of temperature difference: $g = T_{mr} / T_{sr} = 0.45K / 0.05728K = 7.85$

The temperature of the thermal field of the moon created by the sun:

$T_{mt} = Ts / g = 6000K / 7.85 = 764K$

5. ***Specification of the surface temperature and the output field of the Moon.***

Since the Sun’s uniform heating of the Moon’s surface comes from its thermofield with the coefficient $g = 7{,}85$, it is possible to specify the temperature of the Moon’s surface:

$T_{ms} = T_{mt} / g = 764K / 7.85 = 97.3K$

Then, the refined temperature of the output field of the Moon:

$(T_{mo})^2 = T_{ms} * T_R = 97.3K * 2.7K$ we get $T_{mo} = 16.2K$

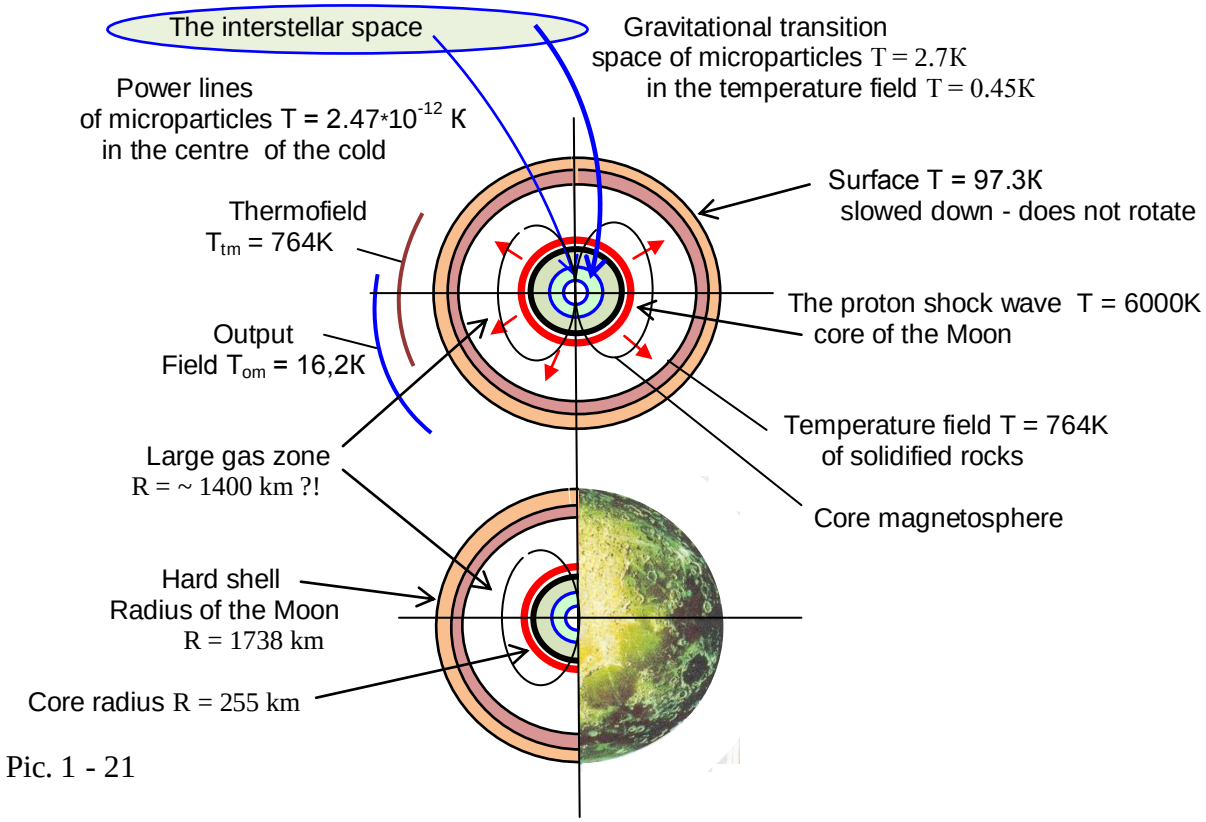
The output of the heat of the Moon comes with a temperature difference:

$g = 97.3K / 16.2K / 2.7K = 6$

6. The internal structure of the Moon.

The moon has a solar core structure: the *fundamental core* with the centre of cold and the exit temperature of the core is $T_{mr} = 0.45K$, limited by a proton shock wave with a temperature $T = 2.7K$; *central core* with a proton shock wave with $T = 127.28K$; *outer solid core* with a proton shock wave with $T = 6000K$ is a *mini sun.*

Calculate the radius of the proton shock wave of the *solid core* of the moon with a temperature T = 6000K according to the formula: **Mvn = m_pCk**, where **M** = $3.77*10^{23} kg$ is the proton mass of the lunar core (the calculation is given below);
n = g = 7.85 * 6 = ~ 47.14 - the formation of a proton shock wave T = 6000K.
$R^2 = 3.77*10^{23} kg * 1.65*10^{-1} m/s * 47.14 * 1.39*10^{-31} m^2 / 1.673*10^{-27} kg * 2{,}9979*10^8 m/s * 4\pi$;
The radius of the *solid core* of the Moon is: $R = 255\ km$.
"The Texas group of seismologists identifies in the centre of the moon a core with a radius $170 - 360\ km$. (9) Consequently, the obtained calculated result - the radius of the solid core of the Moon is comparable with the result of seismologists from Texas.
Heat output from a solid core - mini sun to the surface of the Moon:
g = 6000K / 764K / 97.3K = 7.85
The moon has no molten rock, because no active volcanoes. The proton shock wave of the outer core with a temperature T = 6000K and the solid rocks of the Moon's core with a temperature T = 764K are separated by a large gas envelope, see fig. 1 - 21.

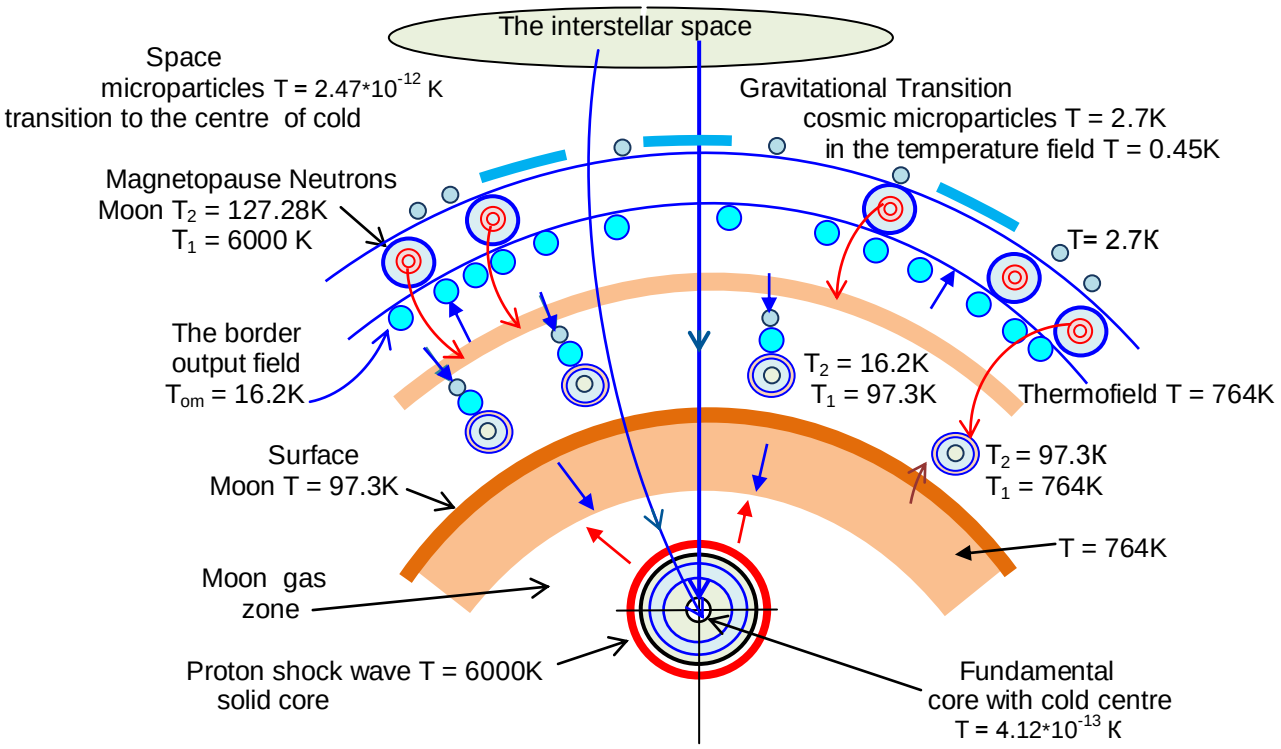


Pic. 1 - 21

Part 2. Gravity on the Moon.

Gravity with acceleration $g_{gr} = 6\ m/s^2$.
Gravity (*guantum gravity*) is carried out by cosmic *quantum particles* with a temperature $T_R = 2.7K$ during their transition from interstellar space to the low-temperature zone $T_{mr} = 0.45K$ - a cooler of the Moon's core:
$g_{gr} = T_R / T_{mr} = 2.7K / 0.45K = 6\ m/s^2$
During the transition, cosmic *quantum particles* $T_R = 2.7K$ meet the output temperature field $T_{mo} = 16.2K$ and with the field of the Moon's surface $T_{ms} = 97.3K$
The gravity coefficient on the Moon's surface: $g_{gr} = 97.3K / 16.2K / 2.7K = 6\ m/s^2$

Diagram of the gravitational process on the Moon.



Pic. 1 - 22

The interaction of the moon with the sun, earth and space.

a). Of microparticles $T = 2.47*10^{-12}K$, creating magnetic force, i.e. temperature lines connect the moon with the sun, the earth and cosmic expanses.

Cosmic microparticles of the Galaxy with temperature $T = 2.47*10^{-12}K$, by force lines, enter the centre of the cold moon of the Moon $T = 2.47*10^{-12}\ K / 6 = 4.11*10^{-13}\ K$

The coefficient of temperature difference is equal to gravity on the Moon $g = 6\ m/s^2$.

b). The input heat flux from the thermodynamic field created by solar particles goes to the surface of the Moon with the difference $g = T_{mt} / T_{ms} = 764K / 97.3K = 7.85$; and the heat output from the fridge of the Moon core to the fridge of the Sun comes with the same temperature difference: $g = T_{mr} / Tsr = 0.45K / 0.05728K = 7.85$

c). The transfer of heat from the refrigerator of the Moon to the Earth:

$g = T_{mr} / T_{er} = 0.45K / 0.275K = 1.635$

The heat of the Earth's output field passes into the orbital field of the Moon.

$g = T_{eo} / T_{mo} = 26.5K / 16.2K = 1.635$

The dynamics of the motion of the Moon.

The proton shock wave of the outer core of the Moon with a certain cycle ejects the output proton mass, due to the energy of which:

1. Heat exchange with space.
2. There is a powerful jet ejection of particles, which create:

- the force of the motion of the moon in orbits both around the sun and around the earth;
- the force pushing to the Sun and the force pushing away from the Earth.

From the shock wave of the jet tail, there is a force pushing F_{podt} the Moon to the Sun, equal to the centrifugal force F_{cf} ; with the same force, the solar stream of particles repels F_{ottal} of the Moon: $F_{podt} = F_{ottal} = F_{cf} = ma$

The moon moves around the sun in the Earth's orbit with acceleration $a = 5{,}93*10^{-3} m/s^2$

To determine the output proton mass of the Moon's core **m** , i.e. the mass of the moon, we use the equation $m_1 g = G m_1 m / r^2$, then we get: $m = g\, r^2 / G$, where r is the radius of the moon; $G = 4.79924 \cdot 10^{-11}\ nm^2 / kg^2$ is the gravitational constant; $g = 6\ m/s^2$ is the acceleration of gravity; it is with this acceleration that the Moon receives energy from space to operate its core.

Output proton mass of the lunar core:

$m = 6\ m/s^2 \cdot (1.738 \cdot 10^6\ m)^2 / 4.79924 \cdot 10^{-11}\ nm^2/kg^2 = 3.77 \cdot 10^{23}\ kg$

Output proton mass of the lunar core: $F_{podt} = 3.77 \cdot 10^{23}\ kg \cdot 5.93 \cdot 10^{-3} m/s^2 = 2.2 \cdot 10^{21} n$.

But the forces act in pairs - it means that the repulsive force appears also. which is created by solar particles and is determined from Newton's formula:

$F = G\, M_S\, m / R^2$, where M_S is the output proton mass of the Sun;

$R = 14.96 \cdot 10^{10} m$ - the distance from the Earth to the Sun.

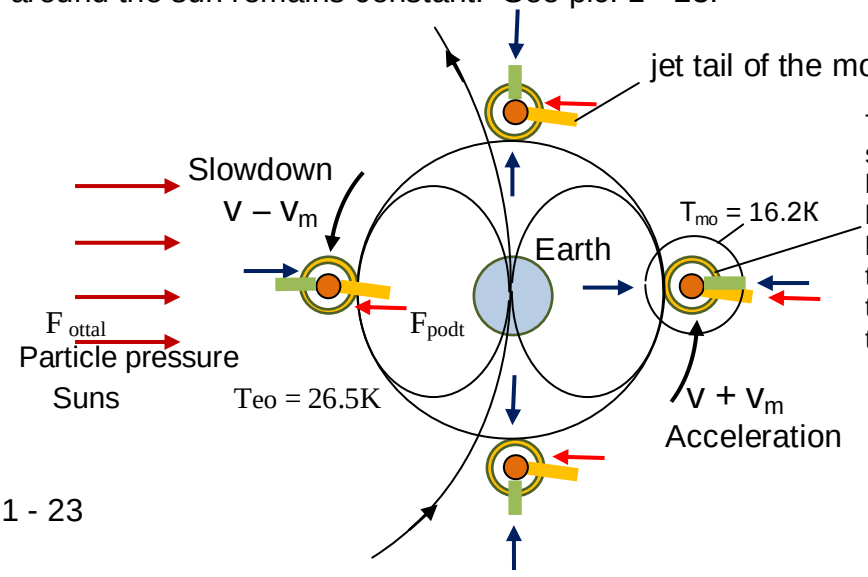
$F_{ottal} = 4.79924 \cdot 10^{-11} nm^2 / kg^2 \cdot 2.766 \cdot 10^{30} kg \cdot 3.77 \cdot 10^{23}\ kg / (14.96 \cdot 10^{10} m)^2 = 2.2 \cdot 10^{21} n$

We obtain the equality of forces: $F_{podt} = F_{ottal} = 2{,}2 \cdot 10^{21} n$.

The Moon moves with the Earth around the Sun at a speed of $v = 30\ km/s$.

At the same time, the Moon rotates around the Earth at a speed of $v_m = 1{,}03\ km/s$.

Therefore, the Moon relative to the Sun, then increases the speed $v + v_m$ (the Moon is accelerating), since the satellite moves in the direction of the planet's motion in the Earth's orbital field $T_{eo} = 26.5K$. This reduces the speed $v - v_m$, if the Moon moves in the opposite direction of the planet in its orbit. Consequently, the average speed of the moon around the sun remains constant. See pic. 1 - 23.



Pic. 1 - 23

Using the heat transfer coefficient $g = 1249K / 764K = 1.635$ between the Earth and the Moon, one can calculate the strength of the interaction of the temperature field of the satellite $F = ma$ with the planet. In this case, only part of the output proton mass of the Moon will be involved:

$m_m = g\, r^2 / G = 1.635\ m/sec^2 \cdot (1.738 \cdot 10^6 m)^2 / 4.79924 \cdot 10^{-11}\ nm^2/kg^2 = 1.02 \cdot 10^{23}\ kg$.

Centrifugal acceleration of the Moon - rotation around the Earth: $a = 2.72 \cdot 10^{-3}\ m/sec^2$.

The force interaction of the temperature field of the Moon with the earth is:

$F^m = m_m a = 1.02 \cdot 10^{23}\ kg \cdot 2.72 \cdot 10^{-3}\ m/sec^2 = 2.7 \cdot 10^{20} n$.

The force with which the Earth pushes the satellite away from the temperature of the T output field using the Newton formula: $F = G\, M_e\, m_m / R^2$, where

$M_e = 8.31 \cdot 10^{24}\ kg$ - output mass of the proton shock wave of the Earth;

$R = 3.844 \cdot 10^8 m$ - the distance from the Moon to the Earth.

$F^e_{ottal} = 4.79924 \cdot 10^{-11}\ nm^2/kg^2 \cdot 8.31 \cdot 10^{24} kg \cdot 1.02 \cdot 10^{23}\ kg / (3.844 \cdot 10^8 m)^2 = 2.7 \cdot 10^{20} n$.

Force action - counteraction of temperature fields of the Moon and the Earth are equal: $F^{m} = F^{e}_{ottal} = 2.7*10^{20}$ n, which is significantly less than the force interaction between the Moon and the Sun. Logically, it turns out that the Moon has two jet tails, then the forces of action from the tails at different points on the surface naturally create a moment of deceleration of the surface of the Moon.

Once there was a moonless epoch in the history of the Earth, as reported by ancient Greek philosophers.

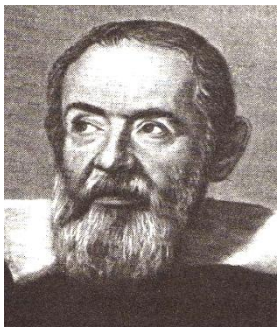
According to the theory of the Nobel laureate Harold Urey, the Moon was a planet in the past, because it is too large for an ordinary satellite, and fell into “earthly captivity” as a result of some grand cosmic catastrophe that occurred about 11–12 thousand years ago.

Most likely, the Moon once was with its output temperature field $T_{mo} = 16{,}2K$ in orbit between Jupiter, which has an output field $T_{iuo} = 19{,}44K$, and Saturn, where $T_{sao} = 14.7K$. In all likelihood, in this orbit in the depths of the Moon, there were stormy thermal processes. The Moon, throwing out a powerful jet tail, moved to the Earth's orbit.

The Moon gradually moves away from the Earth by $3{,}8\ cm$ per year. Earth, in turn, moves away from the Sun by 1 cm per year. Consequently, the boundaries of the outer temperature fields of the Sun, Earth, and Moon expand. From this we can conclude that there are no one-sided forces of the cosmic bodies of the Earth and the Moon, which would create rush and tide.

Rushs and tides on Earth.

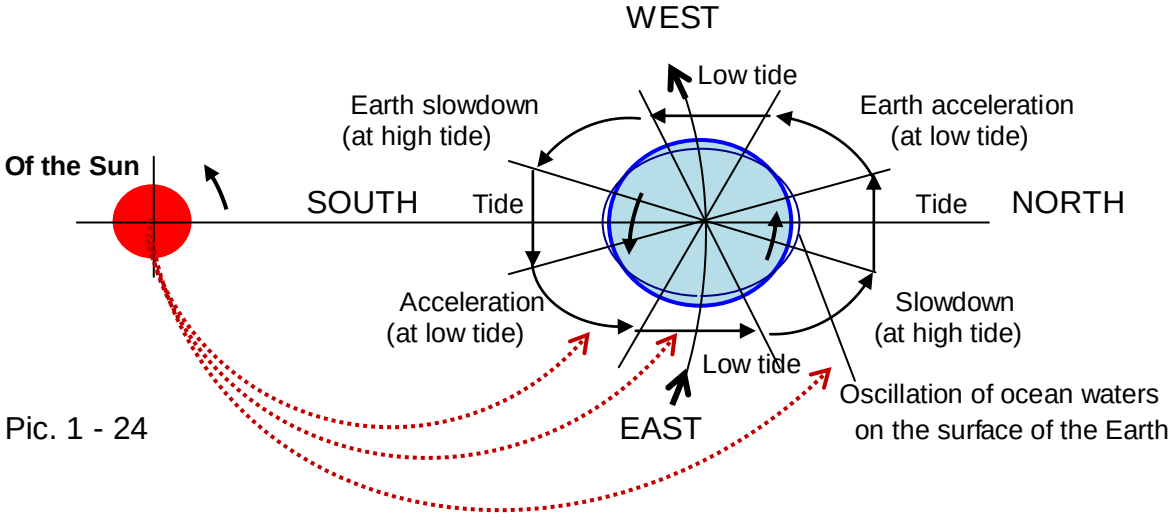
Four hundred years ago an amazing event happened - the astrological idea was taken as a basis: a natural phenomenon - ebbs and flows twice a day occur on the surface of the earth due to the influence of the Moon !?



Galileo Galilei

But even earlier, Galileo sharply spoke out against the lunar influence on the ebb and flow. In the Dialogues on the Two Systems of the World, the great scientist says: : “To recognize that the Moon and the Sun are acting here and that they cause similar phenomena - all this hurt my mind completely.” (11) Galileo proposed his own “purely mechanical” theory of tides and ebbs, which occur due to the addition of the Earth’s daily and annual motions creating periodic acceleration and deceleration of ocean waters.

Galileo's theory of high and low tides is the discovery of a continuously operating structure on a planetary scale.



Pic. 1 - 24

Powerful swirling streams of solar plasma emitted by the sun, pushing all the planets of the solar system in the course of the rotation of the sun.

When the Earth moves in orbit around the Sun on the surface of the planet, the ebb and flow occur strictly in the following directions: in the West and the East of the planet - ocean water goes from the coast: ebb processes are underway; and in the South and North the water comes: there is a rise - the tide of the ocean.

The Earth rotates around its axis - the tides, like ebb, occur twice a day, after 12 hours: in the West and the East of the planet - ocean water descends - the ebb process always takes place; and in the South (from the side of the Sun) and the North (from the night side) - the ocean water rises - the tide goes; see fig. 1 - 24

In addition, temperature fields, the boundaries of which are shock waves, are created by solar particles around the Earth and the Moon. Temperature fields separate the Earth and the Moon from each other in outer space.

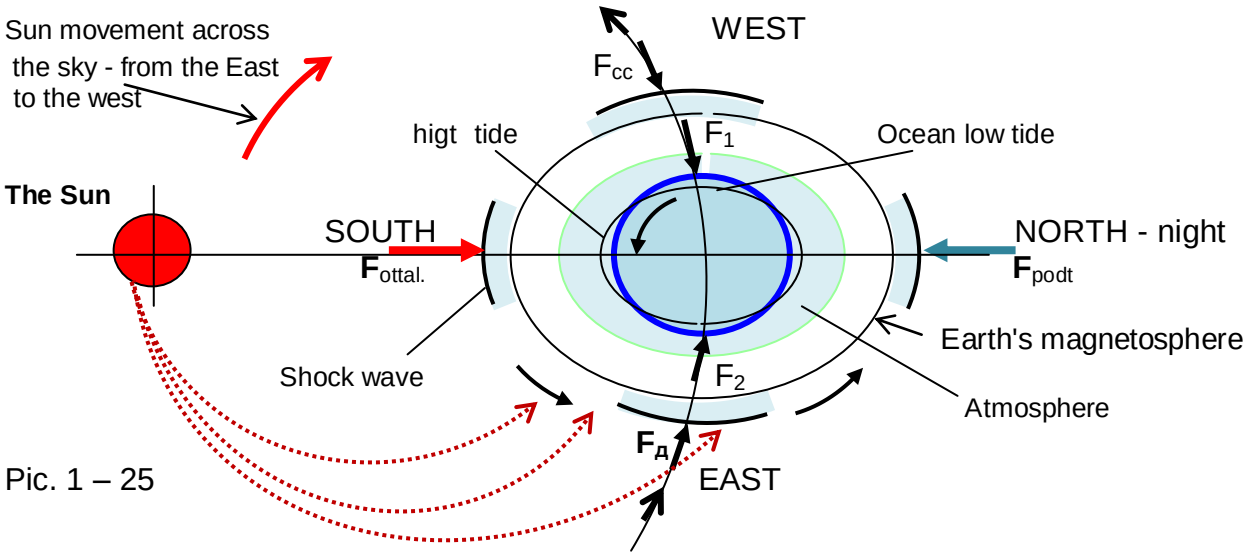
Then it turns out that the effect of ebbs and flows is completely independent of the influence of the moon! This implies: There is not a single point on the surface of the earth that is experiencing the force of gravity of the moon. *The Moon does not exert any gravitational-deforming force on the Earth.*

Poincare wave.

Then where is the key to proving Galileo's theory?

And it turns out, he is in the postulate of the French physicist Poincaré: "The bodies are compressed along the movement." About this postulate, Poincaré himself says: "The body undergoes a deformation in the direction of movement when moving ... we have to admit that this hypothesis is perfectly confirmed. "(10) Then, the occurrence of ebbs and flows on the planet can be explained as follows.

When moving forward in orbit, according to the theory of Poincare, the body is compressed; This means that the temperature fields of the Earth are compressed when moving in orbit with a force F_d due to the pressure of the swirling streams of solar particles. To the force of motion F_d, the particles of the surrounding space of the solar system correspond to the forces of compression F_{cc}. Compression pressure is transmitted to the magnetosphere, the atmosphere and to the surface of the Earth F_1 and F_2. See. rice 1 - 25.



Pic. 1 – 25

As the planet moves in orbit around the Sun, under the pressure of F_1 and F_2 forces on the Earth's surface, the water of the oceans, like a mobile body, is displaced from the surface, both from the West and the East - ebb occurs. At this moment in the South and the North (on the day and night sides) of the surface of the Earth the ocean water arrives, the water level rises - here comes the tide.

Earth rotates counterclockwise: a quarter turn — from West to South, toward the bright Sun — tide is happening; another quarter of the time — from the South to the East — the ocean's water is receding from the surface — it is ebbing; turn on the night side, North - tide; turn to the West - low tide, see fig. 1 - 25.

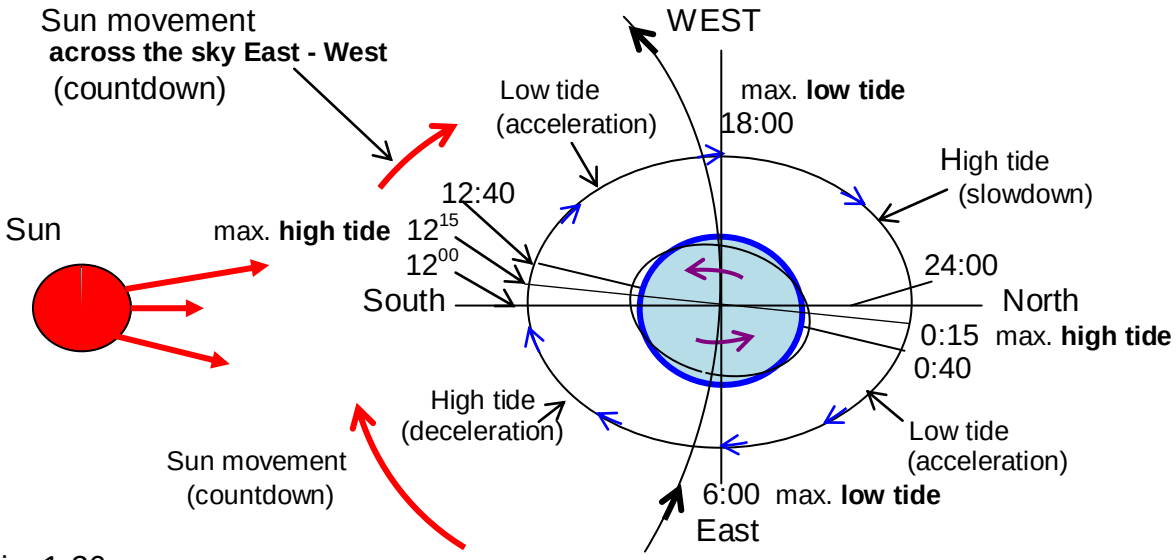
The Earth rotates and on its surface the water of the oceans, experiencing pressure as the planet moves along an orbit, goes down, and at that time the water of the oceans rises on the day and night sides; the wave of the oceans actually runs across the planet - the "Poincare wave"!

The cycles of ebbs and flows in time.

We determine the time of all points of the physical process of high tide and low tide. Known points: 6 pm - max. low tide is the West; therefore, in the East at 18 pm – max. low tide. Since at 12 hours 15 min – max. high tide; then, at 0,15 pm - max. high tide

Every 12 hours 25 min level from max. the rise of water begins to recede, then at 0 hours 40 min - the beginning of the outflow; thus, 25 min - so much time lasts max. water rise; then at 12:40 p.m. - the beginning of low tide. See fig. 1 - 26.

On Earth, there are two cycles of daily tides: day-night; night-day.



Pic. 1-26

The maximum water rise time is shifted from the South-North line by 15 minutes.

The maximum pressure of the repulsive force of the Sun F_{trtal} - acts on the south side, and the forces pushing the Earth F_{podt} - acts on the north side of the planet, which affects the height of the tides: at the equator - less, and in the southern and northern latitudes - more.

Chapter 2. The terrestrial planets and the giant planets.

Surface temperature: Mercury T_{mes} = 400 K; Venus T_{vs} = 290 K; Mars T_{mas} = 200K; Jupiter T_{ius} = 140K; Saturn T_{sas} = 80K; Uranium T_{us} = 55K; Neptune T_{ns} = 45K (3)

1. The temperature of the output field of the planets.

Determined by the formula: $T_1 / T_2 = T_2 / T_3$ (1*) , T_R = 2.7K .

Mercury: $T_{mes} / T_{meo} = T_{meo} / T_R$; $T_{meo}^2 = T_{mes} * T_R$ = 400 K * 2.7K ; T_{meo} = 32.86K.

Venus T_{vo} = 28K ; Mars T_{mao} = 23.24K ; Jupiter T_{iuo} = 19.44K ;

Saturn T_{sao} = 14.7K ; Uran T_{uo} = 12.2K ; Neptune T_{no} = 11.02K .

2. Thermofield planets.

The surface of the sun transfers heat to the thermofield of the planet T_s / T_{pt}, the same heat thermofield transmits the surface of the planet T_{pt} / T_{ps}.

Mercury T_s / T_{met} = T_{met} / T_{mes} ; $T_{met}^2 = T_s * T_{mes}$ = 6000K * 400K; T_{met} = 1550K.

Venus T_{vt} = 1319K ; Mars T_{mat} = 1095K ; Jupiter T_{iut} = 916.5K ;

Saturn T_{sat} = 692.8K ; Uran T_{ut} = 574.45K ; Neptune T_{nt} = 519.6K.

3. **Planets' fridge temperature:**

Gravity microparticles T = $2.47*10^{-12}$ K launch a cold thermonuclear process in the centre of the cold of the fundamental core of the planet. Space microparticles T_R = 2.7K enter the formed output field of the fundamental core - a refrigerator.

The temperature of the refrigerator - the output field of the fundamental core:

Mercury $T_{mer} = T_R^2 / T_{meo}$ = $2.7K^2$ / 32.86K = 0.2218K ; Venus T_{vr} = 0.26K ;

Mars T_{mar} = 0.314K ; Jupiter T_{iur} = 0.375K ; Saturn T_{sat} = 0.496K .

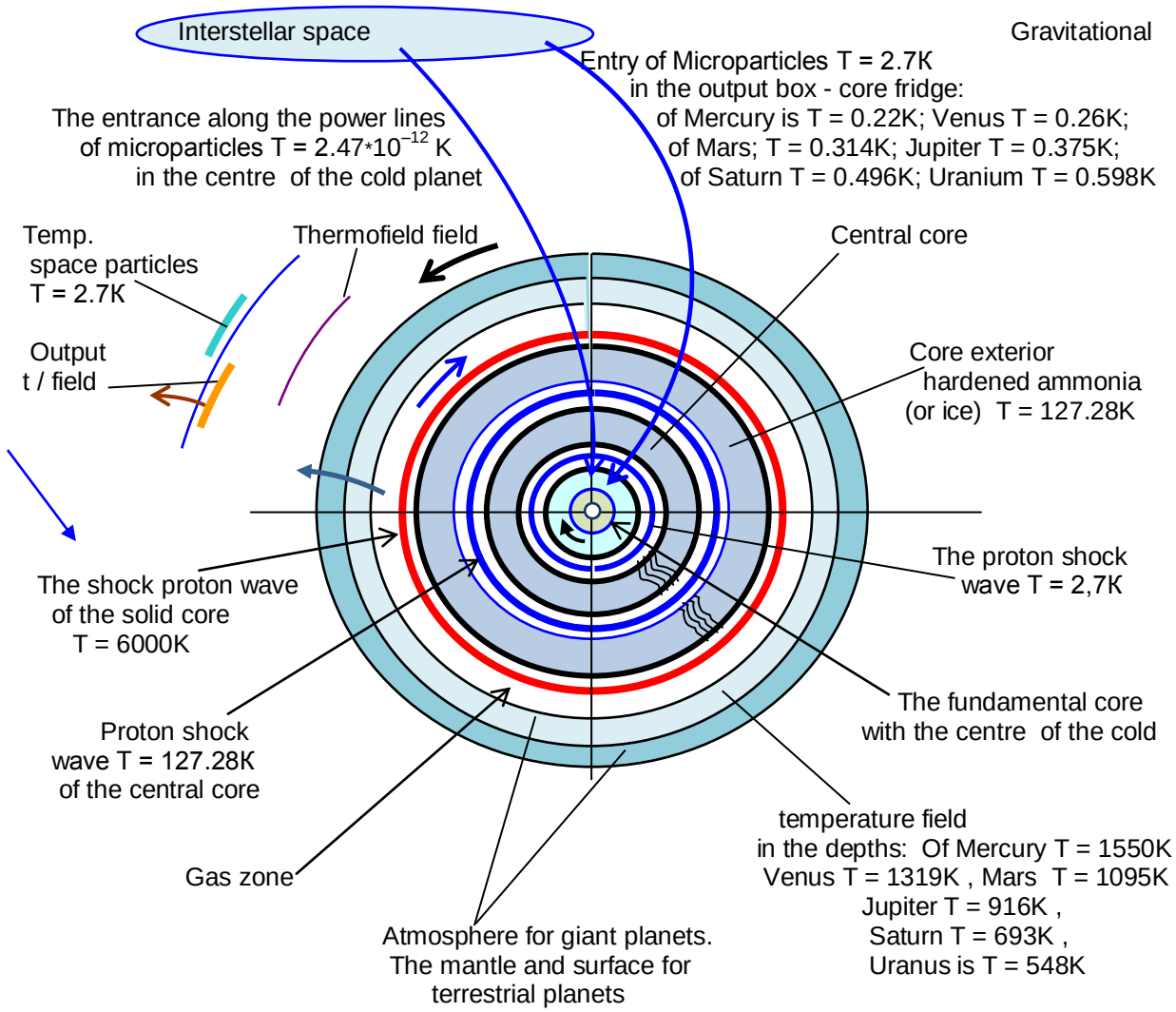
4. **The coefficient of temperature connection of the planets with the Sun.**

The surface of the sun transfers heat to the thermofield of the planet T_s / T_{pt} , the same heat the refrigerator of the Sun "pumps out" from the refrigerator of the planet T_{pf} / T_{sf}.

Mercury T_s / T_{met} = T_{mef} / T_{sf}, g = 6000K / 1550K = 0.2218K / 0.05728K = 3.873

Venus g = 4.55 ; Mars g = 5.48 ; Jupiter g = 6.55 ; Saturn g = 8.66 .

Internal temperature regime of the planets: terrestrial group and giants.



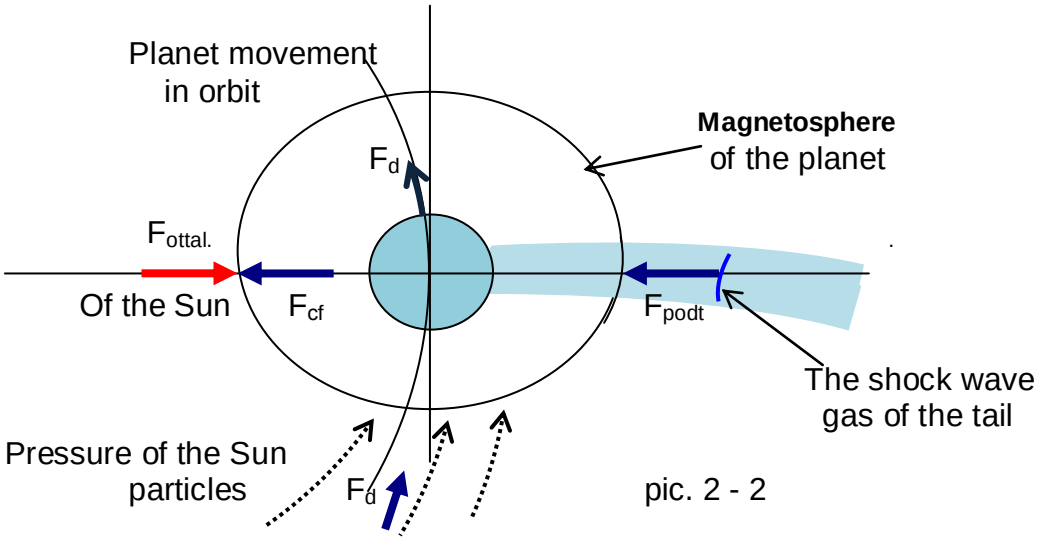
Pic. 2 - 1

6. Gravity on the planets.

a). **Cosmic gravity** (*guantum gravity*).
The gravitational pressure of cosmic *guantum particles* with a temperature $T_R = 2.7K$ is carried out when they pass into the planet's fridge - the output temperature field of the fundamental core.
The coefficient of temperature difference between the fields is equal in magnitude to the *gravitational acceleration*:
Mercury $g_{gr} = T_R / T_{mer} = 2.7K / 0.2218K = 12.17$, where $g_{gr} = 12.17\ m/s^2$
Venus $g_{gr} = 10.38\ m/s^2$; Mars $g_{gr} = 8.6\ m/s^2$; Jupiter $g_{gr} = 7.2\ m/s^2$;
Saturn $g_{gr} = 5.44\ m/s^2$; Uran $g_{gr} = 4.5\ m/s^2$; Neptune $g_{ur} = 4.08\ m/s^2$

7. The dynamics of the motion of the planets.

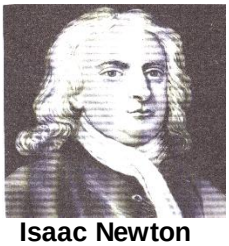
a). **Determination of the force pushing the planet to the Sun.**
The planet is continuously striving towards the cold centre of the Sun, towards the temperature field T = 0.05728K. But the Sun continuously pushes the planet away with its powerful, external high-temperature field. See pic. 2 - 1



pic. 2 - 2

The energy of the *proton shock wave* of the *solid core of the planet* creates the *force* pushing the planet toward the Sun due to the jet release of particles from the surface of the planet. The force pushing the planet F_{podt} to the Sun equal to the product of the ejected reactive proton mass m by the acceleration of the planet {a} $F_{podt} = ma$
If **r** – is the average radius of the planet, $\mathbf{g}_{gr}$ – is the coefficient of temperature differences of particle ejection from the surface of the planet equal to the cosmic or solar acceleration of gravitational pressure, then it is possible to calculate what proton mass is ejected by the proton shock wave of the solid core of the planet to create a force opposing the solar pressure — forces pushing towards the Sun according to the formula: $m = g_{gr} r^2 / G$:
Mercury $m = 12.17\ m/s^2 \cdot (2.44*10^6 m)^2 / 4.79924*10^{-11} nm^2/kg^2 = 1.57*10^{24}\ kg$;
Venus $m = 7.9*10^{24}\ kg$; Mars $m = 2.06*10^{24}\ kg$; Jupiter $m = 7.35*10^{26}\ kg$;
Saturn $m = 3.81*10^{26}\ kg$.
Acceleration of the planets:
Mercury $a = 3.96*10^{-2}\ m/s^2$, Venus $a = 1.135*10^{-2}\ m/s^2$, Mars $a = 2.55*10^{-3}\ m/s^2$,
Jupiter $a = 2.2*10^{-4}\ m/s^2$, Saturn $a = 6.52*10^{-5}\ m/s^2$.
Force pushing to the Sun:
Mercury $F_{podt} = 1.57*10^{24} kg * 3.96*10^{-2} m/s^2 = 6.2*10^{22} n$; Venus $F_{podt} = 8.9*10^{22} n$;
Mars $F_{podt} = 5.2*10^{21} n$; Jupiter $F_{podt} = 1.6*10^{23} n$; Saturn $F_{podt} = 2.48*10^{22} n$

But forces act in pairs: with what force does the Sun repel planet F_{ottal}.
With the same force F_{podt} , the planet should be pushed to the Sun in order to remain constantly in its orbit.


Isaac Newton

According to the formula of Newton $F = G M_S m / R^2$, where
m - is the ejected mass of the proton shock wave of the core of the planet, whose energy is expended in pushing the planet toward the Sun;
M_S - is the ejected mass of the proton shock wave of the Sun;
R - distance of the planet from the Sun

Then the force of repulsion of the planets by the Sun:
Mercury $F_{ottal} = 4.79924*10^{-11} nm^2/kg^2 * 2.766*10^{30} kg * 1.57*10^{24} kg / (5.8*10^{10} m)^2 = 6.2*10^{22} n$.
Jupiter $F_{ottal} = 4.79924*10^{-11} nm^2/kg^2 * 2.766*10^{30} kg * 7.35*10^{26} kg / (77.7*10^{10} m)^2 = 1.6*10^{23} n$.
The results of the forces are the same: with what force the sun pushes the planets. With the same force, the planet is being pushed towards the Sun by $F_{ottal.} = F_{podt}$

b). **Determination of the force of motion of the planet in orbit.**

The farther the planet is from the Sun, the less the force of the solar particles pushing the planet in orbit. Therefore, the planet ejects its proton mass to create a stable motion in orbit. According to the generalized by Newton 3-rd Kepler's law - the movement of planets in orbits, it is calculated that the mass of the planet is from the mass of the Earth: Mercury – 0.056 part ; Venus – 0.817 ; Mars – 0.107 part ; Jupiter is equal to 318 Earth masses ; Saturn – 95.2

The output mass of the proton shock wave of the Earth's core is $m_e = 8.31*10^{24} kg$.

Consequently, the output proton mass of the shock wave of the planet's core to create the force of motion F_d of the planet in orbit is:
Mercury $m_d = 4.6*10^{23} kg$; Venus $m_d = 6.78*10^{24} kg$; Mars $m_d = 8.9*10^{23} kg$;
Jupiter $m_d = 2.64*10^{27} kg$; Saturn $m_d = 7.9*10^{26} kg$.
This output mass of the proton shock wave of the planet's core creates a jet of particles from the planet with an acceleration $g_c = G m / r^2$:
Mercury $g_c = 4.79924*10^{-11} nm^2/kg^2 * 4.6*10^{23} kg / (2.44*10^6 m)^2 = 3.7\ m/s^2$
Venus $g_c = 8.9\ m/s^2$; Mars $g_c = 3.72\ m/s^2$; Jupiter $g_c = 25.8\ m/s^2$; Saturn $g_c = 11.3\ m/s^2$

The exit coefficient of Jupiter and Saturn significantly ecseeds the gravitational coefficient of entry. As a result of the unobstructed exit of particles from the planets, a powerful atmosphere. The force required when the planet moves around the orbit F_d is equal to the product of the proton mass ejected to accelerate the planet $F_d = má$, where m is the proton mass ejected, whose energy goes to create the force of the planet's motion around the Sun:
Mercury $F_d = 4.6*10^{23} kg * 3.96*10^{-2} m/s^2 = 1.82*10^{22} n$; Venus $F_d = 7.7*10^{22} n$;
Mars $F_d = 2.27*10^{21} n$; Jupiter $F_d = 5.8*10^{23} n$; Saturn $F_d = 5.15*10^{22} n$.

8. The atmosphere of the sun and planets.

The Sun has a powerful atmosphere, because the average coefficient of solar particle escape into interstellar space is $g_c = 274$, significantly higher the gravitational coefficient on the Sun $g_{gr} = 47.14$

Mercury has almost no atmosphere, because gravity factor $g_{gr} = 12.17$ is greater than the coefficient $g_c = 3.7$ of particle ejection from its surface.

The powerful atmosphere of Venus, because powerful thermal processes take place in its depths. But the atmosphere of Venus is compressed by the gravitational flow of microparticles, operating with the coefficient of temperature difference $g_{gr} = 10.36$. Compressed to a pressure of $p = 90\ atm$, the atmosphere of Venus rotates at high speed around the planet, making a full turn in four days.

Mars has a weak atmosphere: the gravity factor $g_{gr} = 8.6$ ecseeds the temperature coefficient of the particle exit from the surface of the planet $g_c = 3.72$.

Jupiter has a powerful atmosphere: The temperature coefficient of the particle exit from the surface of the planet $g_c = 25.8$ is greater than the gravity coefficient $g_{gr} = 7.2$. Saturn, Uranus also have a powerful atmosphere, similar to Jupiter: $g_c > g_{gr}$

Temperature and power indicators of the Sun and planets.

Table № 1

Name	The Sun	Merkury	Venus	Earth	Mars	Jupiter	Moon *	Saturn	Uranus
Surface temperature:	6000K	400K	290K	260K	200K	140K	97.3K	80K	55K
Temperature of the orbit.	127.28K	32.86K	27.98K per/move	26.5K heat into	23.24K Solar	19.44K system	16.2K	14.7K	12.2K
The temperature of the frifge	0.05728K	0.221K	0.26K per/move	0.275K heat into	0.314K centre	0.375K Solar	0.45K	0.496K	0.598K
Gravity on the planet m/s^2	47.14	12.17	10.36	9.81	8.6	7.2	6	5.44	4.5
Coefficient of the heat ecshange with the Sun	g = T_c / $T_п$	3.873	4.55	4.8	5.48	6.55	7.85	8.66	10.44
Out proton mass of F_{podt} planets to the Sun	$2.766*10^{30}$ F_{ottal} kg	$1.5*10^{24}$	$7.9*10^{24}$	$8.3*10^{24}$	$2.1*10^{24}$	$7.3*10^{26}$	$37*10^{23}$	$3.8*10^{26}$	$6.1*10^{25}$
Exit proton Mass F in orbit (kg)	$2.766*10^{30}$	$4.6*10^{23}$	$6.7*10^{24}$	$8.3*10^{24}$	$8.9*10^{23}$	$2.6*10^{27}$	$3.7*10^{23}$	$7.9*10^{26}$	$1.2*10^{26}$
Exit ratio - movement in orbit	g = 274 pow. /atm.	3.7 Not atm.	8.9 pow/atm	9.81 atm.	3.7 not atm	25.8 pow/atm	1.635 not/atm	11.3 pow/atm	9 pow/atm
Radius (m) of tv/core with th shock wave T = 6000K	$6.89*10^{8}$	$5.1*10^{5}$	$11.6*10^{5}$	$1.2*10^{6}$	$5.95*10^{5}$	$2.13*10^{7}$	$2.5*10^{5}$	$1.17*10^{7}$	$3.23*10^{6}$
Acceleration of planets	m/s^2	$3.9*10^{-2}$	$1.1*10^{-2}$	$5.93*10^{-3}$	$2.55*10^{-3}$	$2.2*10^{-4}$	-	$6.52*10^{-5}$	$1.61*10^{-5}$

The movement of the comet around the Sun.

In the expanses of the Galaxy and in the Solar System, the comet moves due to the reactive forces created by the cometary tail - the stream of reactive particles emitted by the head part of the comet.

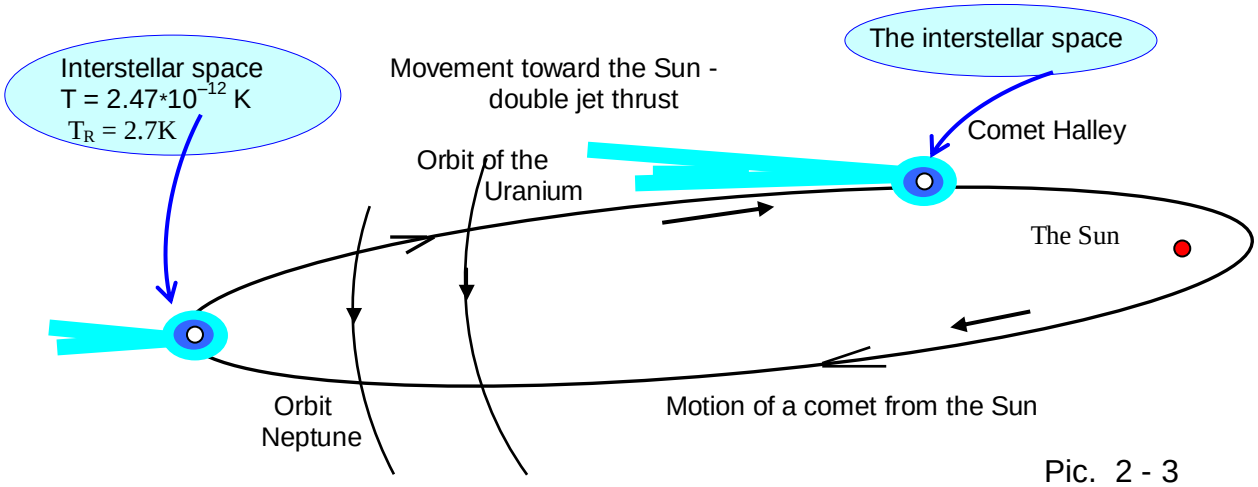
At the head of the comet there is a nucleus, in the centre of which the low-temperature zone is a refrigerator, the temperature of which is much higher than the temperature of the refrigerator of the Sun $T_{sr} = 0.05728K$. A comet is sent to the low-temperature region - to the refrigerator of the Sun (as a powerful vacuum).

The temperature of the orbital fields that the comet passes when it moves and approaches the Sun increases; there is an intensive evaporation of the ice block - the comet's head; the reactive forces pushing the comet toward the Sun increase. At the same time, as a result of intense evaporation, the return of heat, the temperature of the cometary core cooler begins to decrease as it approaches the Sun. For example, the temperature of refrigerators of planets located closer to the Sun: Mercury $T_{mr} = 0.22K$; Venus $T_{vr} = 0.26K$; Earth $T_{er} = 0.275K$.

At the moment of minimum approach to the Sun, the temperature in the fridge of the cometary core drops sharply and, finally, is compared with the temperature of the refrigerator of the Sun $T = 0.05728K$.

The process of mutual repulsion begins: the particles of the refrigerator of the sun repel particles of the refrigerator of the comet's core.

Under pressure from the repulsive forces of solar particles, the comet is pushed, from the nearest temperature fields to more distant temperature fields - farther from the Sun. In the Solar System, the comet moves to the maximum distance, which allows heat to come back into the low-temperature centre of the cometary nucleus as a result of cosmic microparticles $T_R = 2{,}7K$ from the interstellar space entering the refrigerator. Then, the nucleus of the comet again begins to emit a powerful jet stream of particles, and the comet, due to jet thrust, again begins to approach the Sun.



Pic. 2 - 3

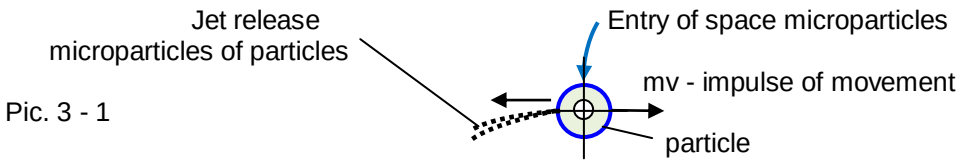
Chapter 3. Particles and microparticles of temperature fields.

1. The movement of particles and microparticles in space.

It is known that molecules are in a state of incessant random Brownian motion. For example, at $20^{o}C$ average speed of air molecules: hydrogen 1500 *m/s* ; nitrogen 450 *m/s* ; oxygen 400 *m/s* ; those, molecules move continuously in airspace at supersonic speeds!

Approximately 50% of the total mass of the atmosphere is concentrated in the lower 5 *km* layer; 75% - in the 10 *km* layer; 90% - in the 16 *km* layer. Air masses above 30 *km* make up only 1% of the total mass of the atmosphere. In addition, traces of the atmosphere - air molecules are detected at cosmic heights - more than 10 000 *km* . (14)

To move the molecule in space, with such a supersonic speed and the rise of the molecule to such a space height, it is necessary to continuously jet eject microparticles from the particle in order to ensure its continuous movement in the surrounding space. Moreover, the particle should not only be formed from microparticles, but also be constantly replenished with microparticles from outer space. Pic. 3-1



Pic. 3 - 1

Since the particle is continuously replenished with cosmic microparticles, the particle has: the centre of the cold, where the thermal energy of space enters, and the hot temperature field - the shock wave for reactive heat release,
to create momentum of particle motion mv.

1. Parameters of particles and microparticles.

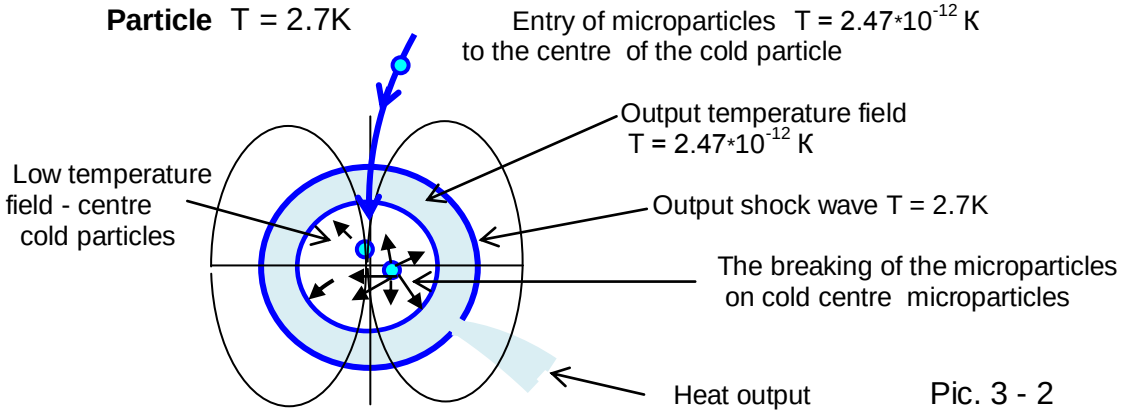
The parameters of particles, microparticles are determined by the formulas:
Energy radiate: $E = h\nu$; $E = Tk$; $E = mC^2$.
$h = 6.62607015*10^{-34}\ Js$ — is Planck's constant;
$k = 1.38066*10^{-23}\ J/K$ — is the Boltzmann constant.
The field temperature constant: $\chi = h/k = 4.799243*10^{-11}\ Ks$
The particle frequency, microparticles $\nu = T/\chi$, where $T = \nu\chi$ is the field temperature;
The wavelength of the particle microparticles $\lambda = C/\nu$; $\lambda = h/mC$; C - light speed.
Particle mass, microparticles $m = h\nu/C^2$; $m = Tk/C^2$; $m = h/\lambda C$
The particle energy, microparticles $E = kT/1\ eV = kT/1.6*10^{-19}\ J$.
The temperature radiate: $T = mC^2/k$, where C_l - light speed longitudinal; C_t – transverse .
The momentum of a particle is equal to the momentum of a force in a shock wave: $mC = ft$
Friction force of particles in a shock wave: $F = Gm^2/\lambda^2$, where $\chi \sim G = 4.799243*10^{-11} nm^2/kg^2$
$b = T\lambda max = 2.8978*10^{-3}\ mK$ — is the Wien constant.
Temperature constant of the wave $f = \lambda T = 1.439*10^{-2}\ mK$.

The particle is a proton.
$\lambda = h/m_p C = 6.62607*10^{-34}\ Js / 1.6726*10^{-27}\ kg * 2.9979*10^8\ m/s = 1.3214*10^{-15} m$.
Frequency: $\nu_p = C/\lambda_p = 2.2687*10^{23}\ 1/s$. Proton radius: $r_p = \lambda_p/2\pi = 2.105*10^{-16}\ m$.
Proton shock wave temperature at max. the frequency:
$T_p = \nu_p * \chi = 2.2687*10^{23}\ 1/s * 4.79924*10^{-11}\ Ks = 1.0888*10^{13}\ K$.
But such a temperature in Nature does not exist, which means that protons do not move at the speed of light.

Particles: electron and neutrino.
Electron wavelength: $\lambda_e = h/m_e C = 2.427*10^{-12} m$, where
$m_e = 9{,}109*10^{-31} kg$ is the electron mass; the electron frequency $\nu_e = 1.235*10^{20}\ 1/s$.
Electron shock wave temperature at max. frequency
$Te = \nu_e h/k = \nu_e \chi = 1.235*10^{20}\ 1/s \cdot 4.79924*10^{-11}\ Ks = 5.93*10^9\ K$.
"Comparing the electron energy distribution predicted by Fermi with experimental data, we can conclude that the neutrino mass must be very small — much less than the electron mass. Now it is known that the neutrino mass does not ecseed 10^{-4} electron masses "(5). This means that the neutrino mass is $m = \sim 9.1*10^{-35} kg$.
All parameters of the neutrino are presented in Table № 2

3. Particles and microparticles of interstellar space.

a). Particle of interstellar space - temperature field $T_R = 2.7K$.
The frequency of the particle is $\nu = T/\chi = 2.7K / 4.79924*10^{-11}\ Ks = 5.63*10^{10}\ 1/s$.
The wavelength $\lambda = C/\nu = 2.9979*10^8\ m/s / 5.625*10^{10}\ 1/s = 5.33*10^{-3} m$.
Mass $m = h/\lambda C = 6.62607*10^{-34}\ J.s / 5.33*10^{-3} m \cdot 2.9979*10^8\ m/s = 4.15*10^{-40}\ kg$.
Particle radius: $r_p/r = T_p/T_R$; $r = r_p T_R/T_p$; $r = 4{,}77 \cdot 10^{-41}\ m$
{Using these formulas, we determine the particles with the temperature of the Sun $T = 6000K$:
$\nu = 1.25*10^{14}\ 1/s$; $\lambda = 2.4*10^{-6} m$; $m = 9.217*10^{-37} kg$; $r = 1{,}26 \cdot 10^{-25}\ m$
Temperature Earth $T = 260K$: $\nu = 5.42*10^{12}\ 1/s$; $\lambda = 5.53*10^{-5} m$; $m = 3.99*10^{-38} kg$; $r = 5{,}02 \cdot 10^{-27} m$ }
The results of the calculation of the parameters of the particles are reduced to the formula № 2
Since the particle works as a heat engine, therefore in the centre of the particle $T_R = 2.7K$; $T = 6000K$; $T = 260K$ should be the centre of the cold - a low-temperature field where the cosmic "heat" of the Galaxy enters along the lines of force - microparticles - "fuel" for the cold thermonuclear process. Part of the heat, in the form of a jet stream, is ejected — the particle moves in the right direction — into the cold region, thereby making a gravitational movement.



Pic. 3 - 2

b). **Microparticle magnetic field lines.**

Having determined the temperature parameters of a cosmic microparticle acting in interstellar space, one can calculate the temperature of the low-temperature field of the centre of cold of stars, planets, particles, microparticles.

Comparison of the forces of electric and gravitational interactions of an electron.

Electric field strength:

$F_{el} = q_1 q_2 / 4\pi\varepsilon_0\varepsilon r^2$ (4*) , где $q_1 = q_2 = 1.6*10^{-19}\ Cl$ - electron charge;

$\varepsilon_0 = 1 / 36\pi*10^9\ F/m$ is the electric constant; $\varepsilon = 1$ is the dielectric constant of the medium compared to vacuum ($\varepsilon = 1$, because the medium where the electron is located is the vacuum); $\varepsilon_0 = 1 / 4\pi k_o$, where $k_o = 9*10^9\ nm^2 / cl^2$.

Power (gravitational) actions in a temperature field are carried out by microparticles that move along magnetic lines of force.

Gravitational force of microparticles in a temperature field:

$F_{gr} = Gm_1 m_2 / r^2$ (5 *), where $G = 4.79924*10^{-11}\ nm^2/kg^2$ is the gravitational constant;

$m_1 = m_2 = 9.11*10^{-31}\ kg$ is the electron mass.

The ratio of electric and gravitational forces: $F_{el} / F_{gr} = q^2 k_o / Gm^2$

$F_{el} / F_{gr} = (1.6*10^{-19}\ Cl)^2 * 9*10^9\ nm^2/cl^2 / 4.79924*10^{-11}\ nm^2/kg^2 * (9.11*10^{-31}\ kg)^2$

$F_{el} / F_{gr} = 5.78*10^{42}$.

The parameters of the particle magnetic field lines.

Since the ratio of forces is equal to the square of the mass and temperature ratio $F_1 / F_2 = (m_1 / m_2)^2 = (T_1 / T_2)^2$, then you can determine the mass of the desired microparticles and temperature.

Since $(m_e / m)^2 = F_{el} / F_{gr} = 5.78*10^{42}$, then $m = m_e / 2.4*10^{21}$

Then the mass of the microparticle: $m = 9.11*10^{-31}\ kg / 2.4*10^{21} = 3.8*10^{-52}\ kg$

Since the ratio of electric and gravitational forces is equal to the square of the temperatures of the electric and temperature fields: $F_{el} / F_{gr} = (T_{el} / T)^2 = 5.78*10^{42}$, where $T_{el} = 5.93*10^9$ K - is the electron temperature from table No. 2 .

Then the temperature of the microparticles of magnetic force lines:

$T = 5.93*10^9\ K / 2.4*10^{21} = 2.47*10^{-12}$ K .

Microparticle frequency: $\nu = T / \chi = 2.47*10^{-12}\ K / 4.79924*10^{-11}\ Ks = 5.14*10^{-2}\ 1/s$

The wavelength $\lambda = C / \nu = 2.9979*10^8\ m/s / 5.14*10^{-2}\ 1/s = 5.83*10^9\ m$.

Of microparticles $T = 2.47*10^{-12}$K along the lines of force come into the low-temperature centre of cold of particles, stars and planets.

In the centre s of cold microparticles $T = 2.47*10^{-12}$K are broken, the pressure in the centre of the cold rises, microparticles emerge through the output field and the shock wave, and create magnetic lines of force around the stars, planets, particles - the magnetic field. Due to the magnetic lines of force acting on huge distances, and the centre s of cold, the Galaxy is held together as a whole four.

4. The temperature of the cold centre of the Sun, Earth and Galaxy.

Cosmic microparticles of a gravitational field with a temperature $T = 2.47*10^{-12}K$ long magnetic force lines rush from the output field of the Galaxy into the cold centre s of stars and planets.

a). Cosmic heat sets at the centre of the sun, with a transmission coefficient $g = 47.14$, then the centre of cold of the Sun will have a temperature:

$T_{centre\ of\ cold} = 2.47*10^{-12}\ K / 47.14 = 5.24*10^{-14}\ K$

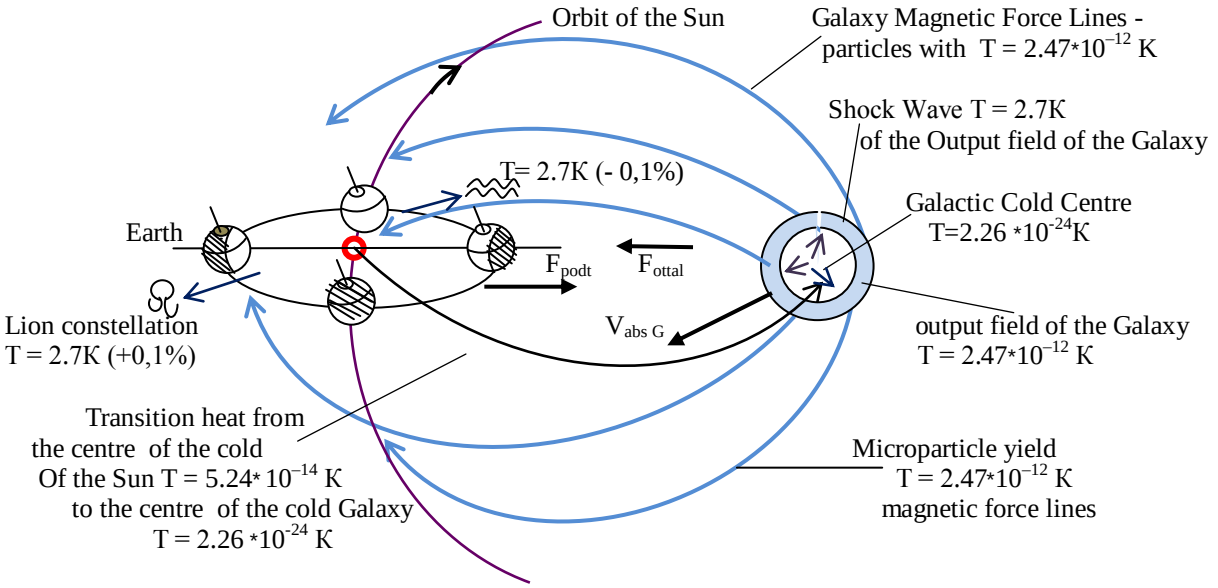
b). The heat transfer coefficient of the Earth is $g = 9.81$, then the centre of cold of the Earth has a temperature: $T_{centre\ of\ cold} = 2.47*10^{-12}\ K / 9.81 = 2.51*10^{-13}K$

c). Since the output temperature from the centre of the Galaxy $T_{vts} = 2.47*10^{-12}K$ into interstellar space with temperature $T_R = 2.7K$, then using the temperature ratio formula for ideal thermal systems $T_{centre\ of\ cold} / T_{vts} = T_{vts} / T_R$, we find that the temperature of the cold centre of the Galaxy:

$T_{centre\ of\ cold} = T_{vts}^2 / T_R = (2.47*10^{-12}\ K)^2 / 2{,}7K = 2.26*10^{-24}\ K$

The same temperature of the cold centre at the relict particle is $T_R = 2.7K$.

d) The sun continuously strives to the centre of the cold zone of the Galaxy. In turn, the nucleus of the galaxy repels the sun. See pic. 3 – 3



Pic. 3 -3 $V_{abs\ G} = 600$ *km /s* direction of movement of the absolute speed of the Galaxy

In the centre of the cold Galaxy, where the temperature is $T = 2.26*10^{-24}$ K, streams of microparticles from the centre s of cold of stars (the Sun $T = 5.24*10^{-14}$ K).

In the centre of the cold of the Galaxy, the particles are broken - the process goes on with a decrease in temperature and the formation of a huge number of microparticles.

From the centre of the cold galaxy under pressure microparticles with temperature $T = 2{,}26\cdot 10^{-24}$ K exit to the output field, where microparticles with temperature $T = 2.47*10^{-12}$ K, which are ejected by “long temperature lines” into the interstellar space of the Galaxy and are the first “building blocks of the universe”.

“The experiment showed that the temperature of thermal radiation of the Universe 2.7K is 0.1% higher if the radio telescope is directed towards the constellation Leo, and as much lower if it is directed towards the constellation Aquarius. The absolute speed of the Galaxy is 600 *km /s* "(3) ... it has a direction to the side shown in fig. 3 - 3.

The Galaxy is directed to a certain centre of cold through a field where the temperature of the thermal radiation of the Universe is 0.1% higher.

There are many such cold centre s in the Universe and the Big Bang never happened.

Centre s of cold maintain a constant $T = 2.7K$ temperature - they are thermostats of the Universe.

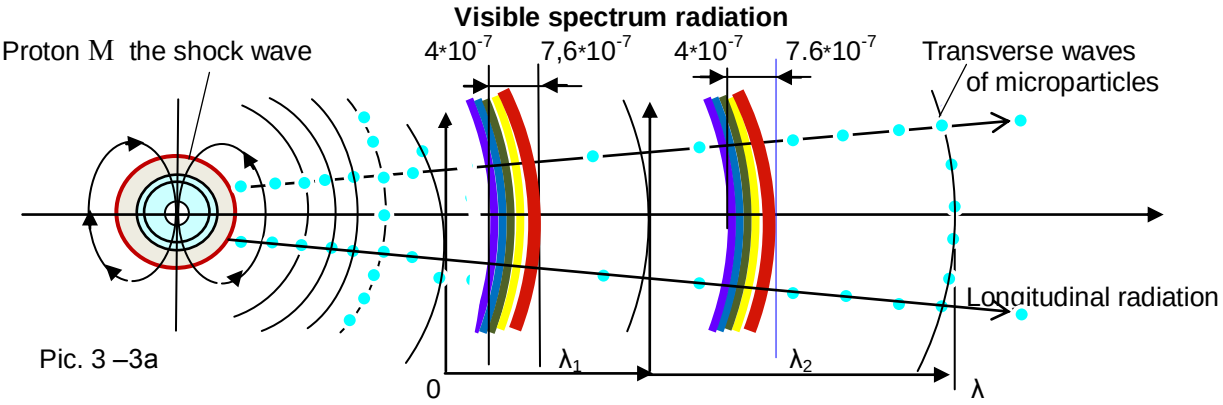
Microparticles of temperature fields Table №2

Particles and microparticles	Mass kg	Frequency 1/s	Wave length, m	radius m	Temperature K	Proton *) Speed In the shock wave *m/s*
Proton	$1.672*10^{-27}$	$2.27*10^{23}$	$1.32*10^{-15}$	$2{,}1*10^{-16}$	$1.088*10^{13}$	$2.99*10^{8}$
electron	$9.109*10^{-31}$	$1.23*10^{20}$	$2.43*10^{-12}$	$1{,}14*10^{-19}$	$5.93*10^{9}$	$1.63*10^{5}$
X-rays	$2.3*10^{-33}$	$3.12*10^{17}$	$9.6*10^{-10}$	$2{,}9*10^{-22}$	$1.5*10^{7}$	$4.13*10^{2}$
Neutrino	$\sim 9.11*10^{-35}$	$1.22*10^{16}$	$2.45*10^{-8}$	$1{,}13*10^{-23}$	$5.87*10^{5}$	16.2
Photon - Purple line	$5.387*10^{-36}$	$7.31*10^{14}$	$4.103*10^{-7}$	$6{,}78*10^{-25}$	$3.507*10^{4}$	9.65
Photon - Red Line	$3.367*10^{-36}$	$4.56*10^{14}$	$6.563*10^{-7}$	$4{,}61*10^{-25}$	$2.192*10^{4}$	$6.03*10^{-1}$
The Sun's surface	$9.217*10^{-37}$	$1.25*10^{14}$	$2.4*10^{-6}$	$1{,}26*10^{-25}$	**6000 K**	$1.65*10^{-1}$
Thermofield of the Earth.	$1.92*10^{-37}$	$2.6*10^{13}$	$1.15*10^{-5}$	$2{,}42*10^{-26}$	1250	$3.44*10^{-2}$
Earth's surface	$3.99*10^{-38}$	$5.42*10^{12}$	$5.53*10^{-5}$	$5{,}02*10^{-27}$	**260 K**	$7{,}15*10^{-3}$
Output field of the Sun	$1.955*10^{-38}$	$2.65*10^{12}$	$1.13*10^{-4}$	$2{,}42*10^{-27}$	127.28	$3.5*10^{-3}$
The orbit of the Earth	$4.07*10^{-39}$	$5.52*10^{11}$	$5.43*10^{-4}$	$5{,}02*10^{-28}$	26.5	$7.27*10^{-4}$
Relic., Gravitational particle 2,7K	$4.147*10^{-40}$	$5.62*10^{10}$	$5.33*10^{-3}$	$5{,}22*10^{-29}$	**2.7 K**	$7.41*10^{-5}$
Fridge of the Earth	$4.22*10^{-41}$	$5.73*10^{9}$	$5.23*10^{-2}$	$5{,}32*10^{-30}$	0.275	$7.56*10^{-6}$
Fridge of the Sun	$8.798*10^{-42}$	$1.19*10^{9}$	$2.52*10^{-1}$	$1{,}1*10^{-30}$	0.05728	$1.57*10^{-6}$
Magneto force field	$3.8*10^{-52}$	$5.14*10^{-2}$	$5.83*10^{9}$	$4{,}77*10^{-41}$	$2.47*10^{-12}$	-
The centre of the Earth's cold	$3.9*10^{-53}$	$5.3*10^{-3}$	$5.7*10^{10}$	$4{,}85*10^{-42}$	$2.51*10^{-13}$	-
The centre of the Of the Sun's cold	$8.17*10^{-54}$	$1.1*10^{-3}$	$2.7*10^{11}$	$1{,}01*10^{-42}$	$5.24*10^{-14}$	-
The centre of the cold Of the Galaxy	$3.46*10^{-64}$	$4.7*10^{-14}$	$6.38*10^{21}$	$4{,}37*10^{-53}$	$2.26*10^{-24}$	-

Microworld: $r_1 / r_2 = T_1 / T_2 = m_1 / m_2$; Transition from microcosm to macrocosm: $mC = Mv$

*) The proton, having its impulse Mv, the temperature of the shock wave of the nucleus, when emitted, emits a microparticle with an impulse mC from the nucleus.

The longitudinal movement of microparticles on the border of the temperature difference T_1 / T_2 is inhibited: the impulse of the wave longitudinal motion of the microparticle mC transforms into the impulse force of the microparticle ft in the transverse - shock wave: $mC = ft$. Each temperature differential has its own zero-point wavelength reference system. This explains the appearance of the spectrum of light in any temperature fields.

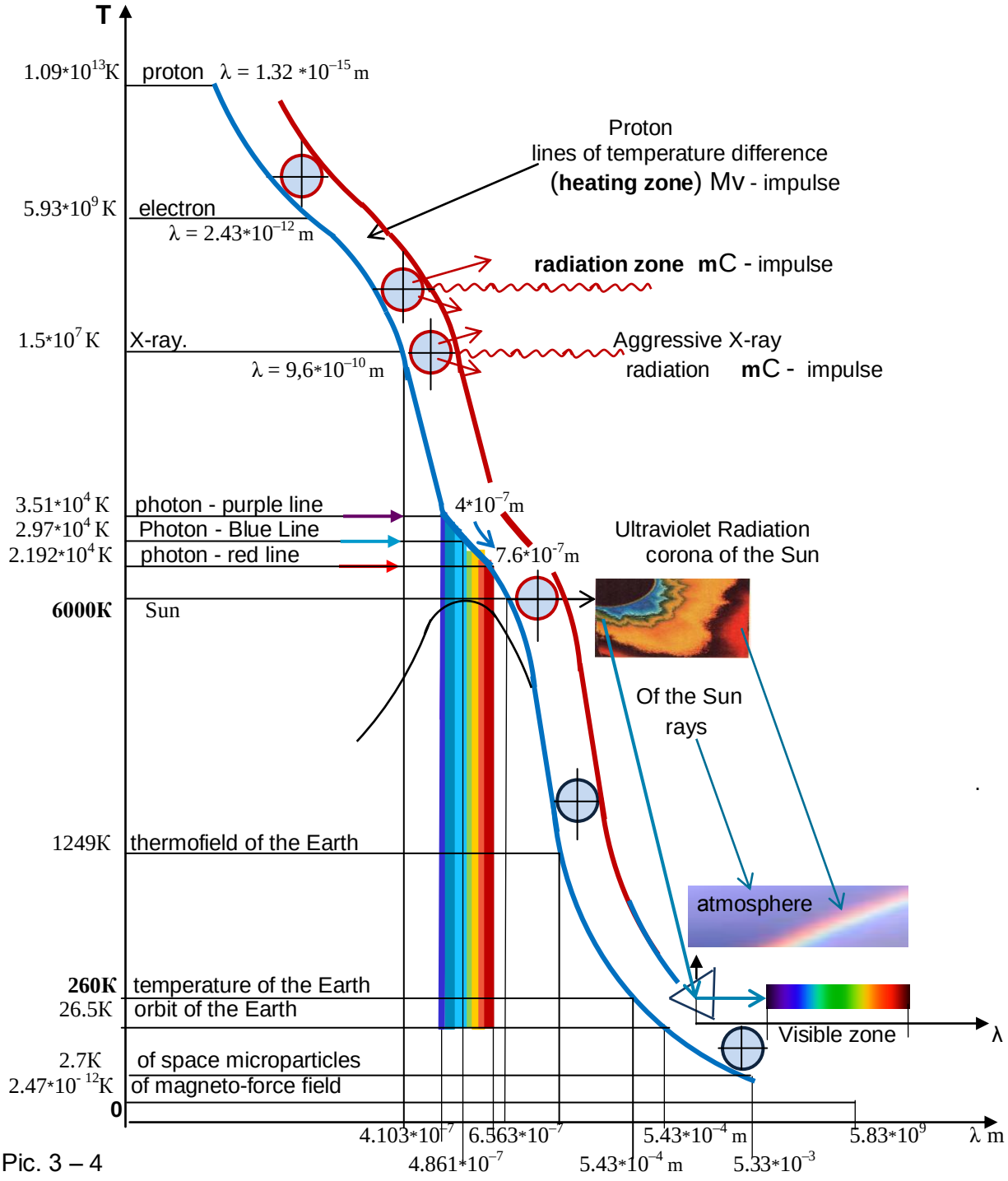


Pic. 3 –3a

The impulse of a microparticle mC is equal to the impulse of a proton with mass M and the velocity v in the transverse - shock wave: $mC = Mv$

When microparticles exit the nucleus, radiation is emitted.

Microparticle waveform and temperature difference proton line.



Pic. 3 – 4

The solar radiation spectrum is observed in the low-temperature zone: at a temperature difference, transverse shock waves are created in the visible zone, which interrupt the long-wavelength longitudinal movement of microparticles. See pic. 3 - 4.

There is a rainbow when the smallest particles of water slow down the longitudinal waves of sunlight. Transverse waves are created in the visible range: a colorful spectrum appears - from violet to red, depending on the braking length of a spherical - transverse shock wave.

The long-wave impulse was recorded at the moment of an unusual phenomenon: the appearance of cold plasma - the Holy Fire. Particles of cold plasma with a low temperature, condensing, are transferred from long-wave to short-wave radiation, i.e. cold "not burning" plasma goes into a high-temperature state.

Particle Design: neutrons, protons and electrons.

The neutron has a nucleus - a proton with a temperature of the shock wave T_1, in the centre of which there is a fundamental nucleus with a centre of cold. Around the nucleus of a proton, microparticles are grouped together, which create a shell — the outer temperature field of a neutron with a temperature T_2. During compression, neutron friction, i.e. in the case of weak interaction, the shell is disrupted from the proton nucleus — the external temperature field — microparticles with temperature T_2. It is known that "with a weak interaction the neutron turns into a proton, an electron into an antineutrino: $n = p + e + \nu_e$ » (40)

Neutron, proton are formed by cosmic microparticles and act as heat engines: how much heat energy does particles get to the fundamental core, where microparticles with temperature $T_R = 2.7K$ and to the centre of cold, where space micro particles go by force lines $T = 2.47*10^{-12}K$, they spend so much on work:

- to create temperature fields of the particle;
- on the motion of a proton, due to the jet release of microparticles from the shock wave of the nucleus. The proton energy is in the energy of microparticles "packed"; it is microparticles that, when exiting from the surface of a shock wave, create a glow of a proton, atom, star.

The impulse of the nucleus – proton Mv is equal to the impulse of the mass of the microparticle mC ejected from the nucleus, i.e. $Mv = mC$

The speed of movement of the proton depends on the temperature of the shock wave: the higher the temperature of the proton shock wave, the greater the velocity of the particle.

1. Particles-neutrons of the Sun with a temperature difference of $g = 47,14$.

a). **A particle is a neutron of the inner core of the Sun.**

The neutron, in which the nucleus is a proton with the temperature of the shock wave $T_1 = 2.7K$ and the shell of the nucleus is the field with the temperature $T_2 = 0.05728K$. The fact that the neutron nucleus is a proton is confirmed by the calculation of its mass. Determine the mass of the nucleus of a particle by the formula: $mC = Mv$, where m is the mass of a microparticle ejected at the speed of light from a proton shock wave with $T_1 = 2.7\ K$, equal to: $m = 4.147*10^{-40}kg$ (see table number 2)

v - particle velocity due to reactive emission of microparticles:

$v = T_1\ C/T_p = 2.7K * 2.9979*10^8 m/s / 1.0888*10^{13}K = 7.433*10^{-5} m/s$.

Then the mass of the particle core:

$M = mC / v = 4.147*10^{-40}kg * 2.9979*10^8\ m/s / 7.433*10^{-5}\ m/s = 1.6726*10^{-27}kg$

The mass of the nucleus of a particle is equal to the mass of a proton.

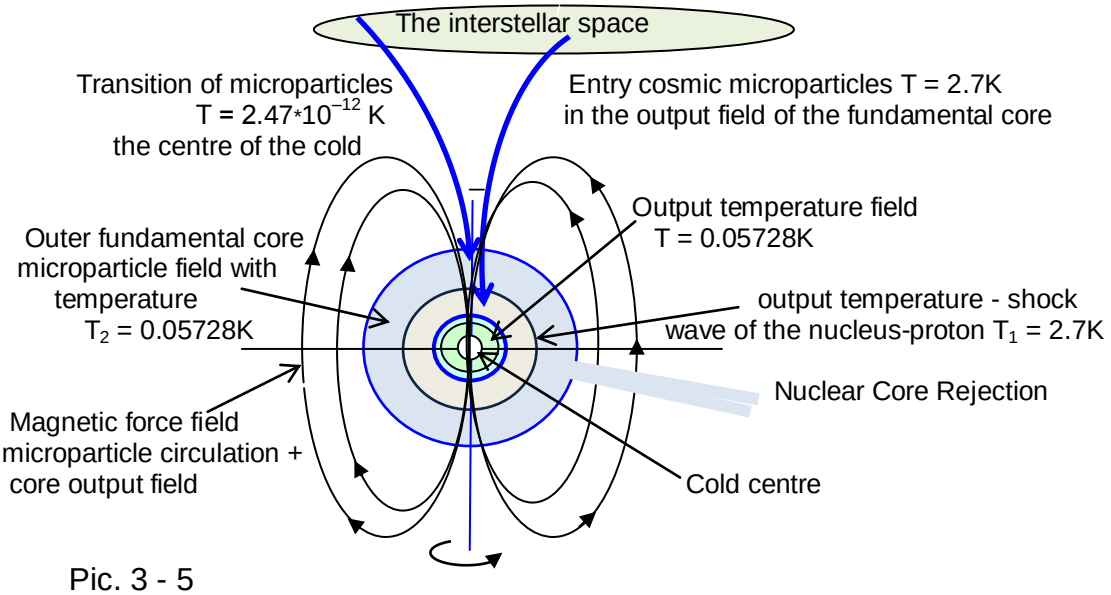
The proton radius remains constant, equal to $r_p = 2.1*10^{-16}m$, at any temperature of the shock wave of the output field of the proton nucleus, but the radius of the magnetic force field changes depending on the temperature of the shock wave: Microparticles are ejected from the proton and create not only the force of thrust, but also a magnetic force field around the proton.

Determine the radius of the magnetic force field of a microparticle on the basis of the relationship of temperature and the ratio of area with a proton:

$S/s_p = T_p / T_1$; then, $S/s_p = \pi R^2/\pi r_p^2 = R^2/ r_p^2 = T_p / T_1$.

Then we have the following: $R^2 = T_p\ r_p^2 / T_2 = 1.0888*10^{13}K * (2.1*10^{-16}m)^2 / 2.7K$;

The radius of the magnetic force field of the proton is $R = 4.2*10^{-10}\ m$



Pic. 3 - 5

b). Particle - a neutron with a temperature difference of $g = 6000K / 127.28K = 47.14$

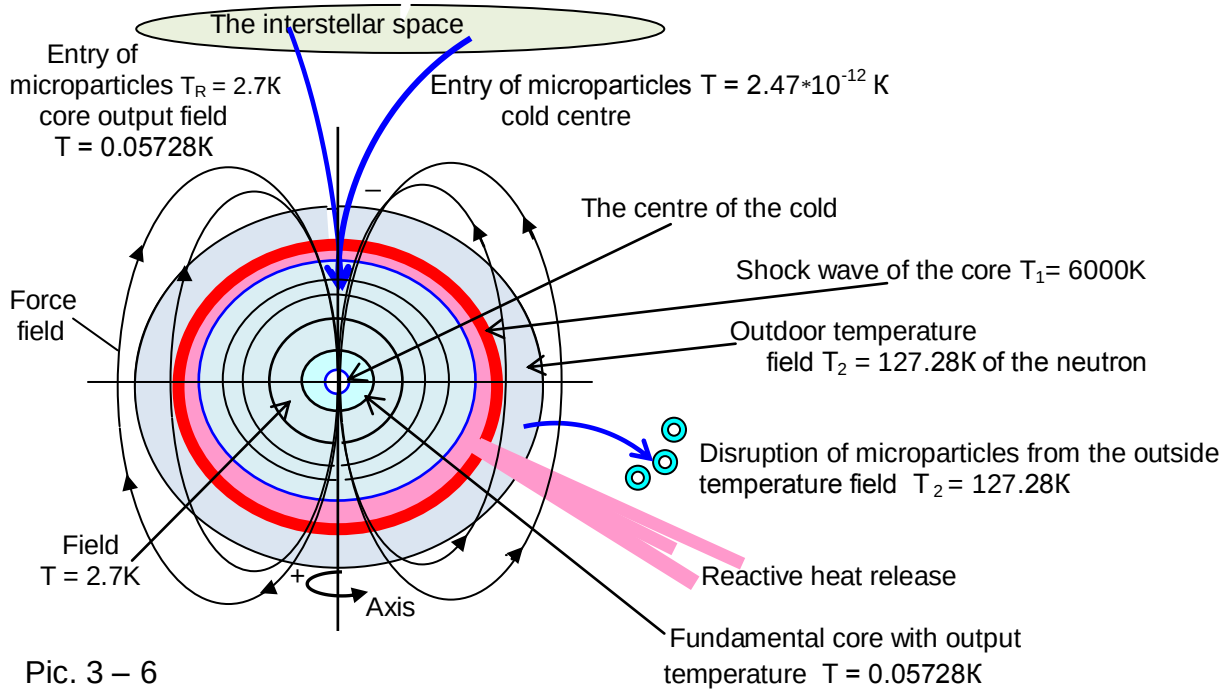
We determine the mass of the particle core by the formula $mC = Mv$, where
$m = 9.217*10^{-37}\ kg$ is the mass of a microparticle with a temperature $T_1 = 6000K$ (see table №2).
v - particle velocity due to shock wave energy with temperature $T_1 = 6000K$:

$$v = T_1\ C/T_p = 6000K * 2.9979*10^8 m/s\ /\ 1.0888*10^{13}\ K = 1.652*10^{-1} m/s\ .$$

Then the mass of the particle core:

$$M = m\,C/v = 9.217*10^{-37} kg * 2.9979*10^8 m/s\ /\ 1.652*10^{-1} m/s\ = 2.766*10^{-27} kg$$

The mass of the nucleus of a particle is equal to the mass of a proton. See pic. 3 – 6



Pic. 3 – 6

The fact that the neutron nucleus is a proton is confirmed by the calculation of its mass.
The particle velocity due to the output temperature of the neutron shell:

$$v = T_1\ C/T_n = 127.28K * 2.9979*10^8 m/s\ /\ 1.09*10^{13}\ K = 3.5*10^{-3} m/s.$$

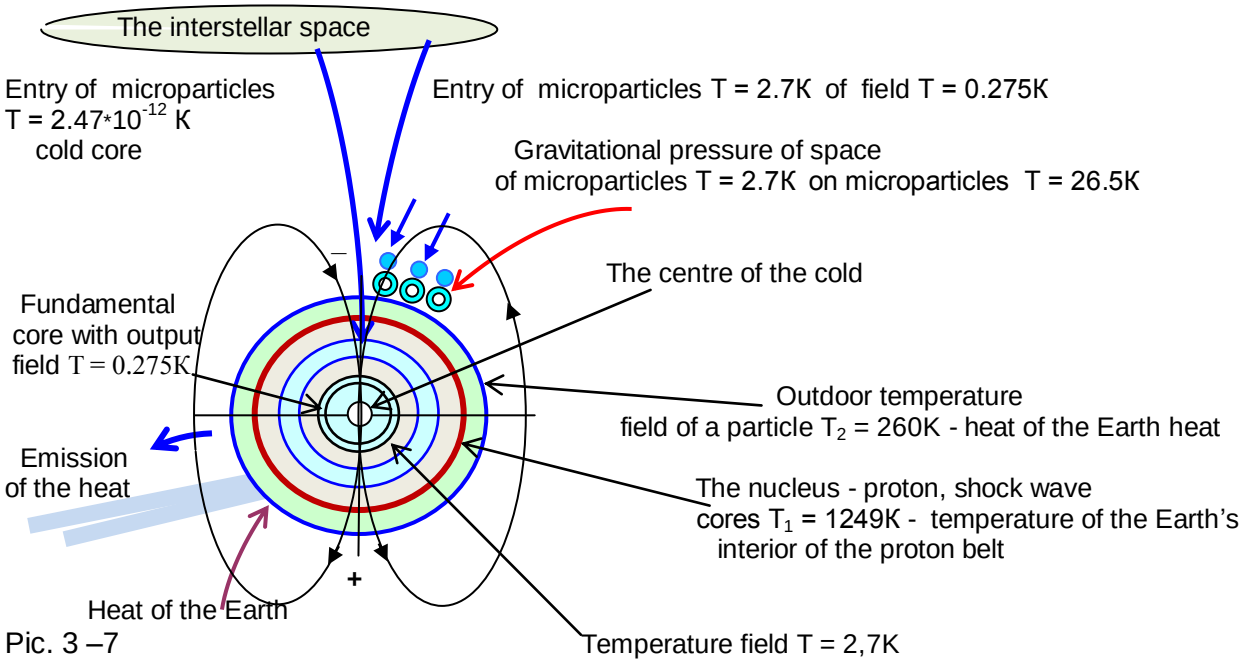
The mass of a particle is equal to the mass of a neutron:

$$M = m\,C/v = 1.955*10^{-38} kg * 2.9979*10^8 m/s\ /\ 3{,}5*10^{-3} m/s = \underline{1{,}675}*\underline{10^{-27} kg}$$

Let us determine the radius of the electromagnetic field of a proton with a shock wave temperature $T = 6000K$. $R^2 = T_p r_p^2 / T = 1.0888*10^{13}K * (2.1*10^{-16} m)^2 / 6000K$;
The radius of the magnetic force field of the proton nucleus is $R = 8.945*10^{-12}m$.
As the temperature of the shock wave of the proton nucleus increases, the radius of the magnetic force (gravitational) field is compressed.

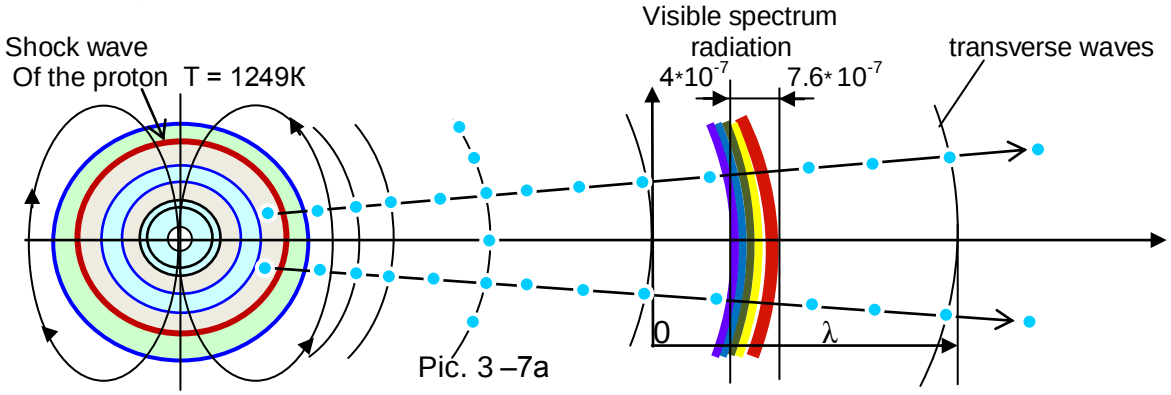
2. **Particles - Earth's neutrons.**

Particles - Earth's neutrons with a temperature difference of $g = 1249K / 260K = 4.8$
The temperature of the shock wave of the nucleus - the proton $T_1 = 1249K$ and the external temperature field $T_2 = 260K$ - the heat of the Earth's surface. Pic. 3 - 7
Then the mass of the particle core.
The mass of the microparticle with the temperature of the shock wave of the core $T_1 = 1249K$ is equal to $m = 1.92*10^{-37}\ kg$ (table. № 2)
The speed of a particle - a nucleus with a temperature $T_1 = 1249K$ is equal to:
$v = T_1 C/T_p = 1249K * 2.9979*10^8 m/s / 1.0888*10^{13}K = 3.44*10^{-2} m/s$
Then the mass of the particle core:
$M = m C/ v = 9.217*10^{-37} kg * 2.9979*10^8 m/s / 3.44*10^{-2} m/s = \underline{1.675}\ *\underline{10^{-27} kg}$
Consequently, the mass of the nucleus of a particle is equal to the mass of a proton



Pic. 3 –7

Microparticles ejected from the proton nucleus, having a longitudinal motion, meeting with a temperature difference, create a cascade of transverse waves with short-wave and long-wave radiation during braking. When creating transverse waves in the zone of visible radiation, a radiation spectrum is observed.



Pic. 3 –7a

3. A particle is an electron.

The entire heat ecshange of a particle - an electron with the surrounding space is regulated by the entrance of cosmic microparticles with a temperature $T = 2.47*10^{-12}K$ in the centre of cold core and microparticles with a temperature $T_R = 2.7K$ in the output temperature field of the fundamental core.

On pic. 3 - 8 presents a particle - an electron entering the atmosphere of the Earth along magnetic field lines from the electron belt with temperature $T = 127.28K$.

Determine the mass of a particle by the formula $mC = Mv$, where

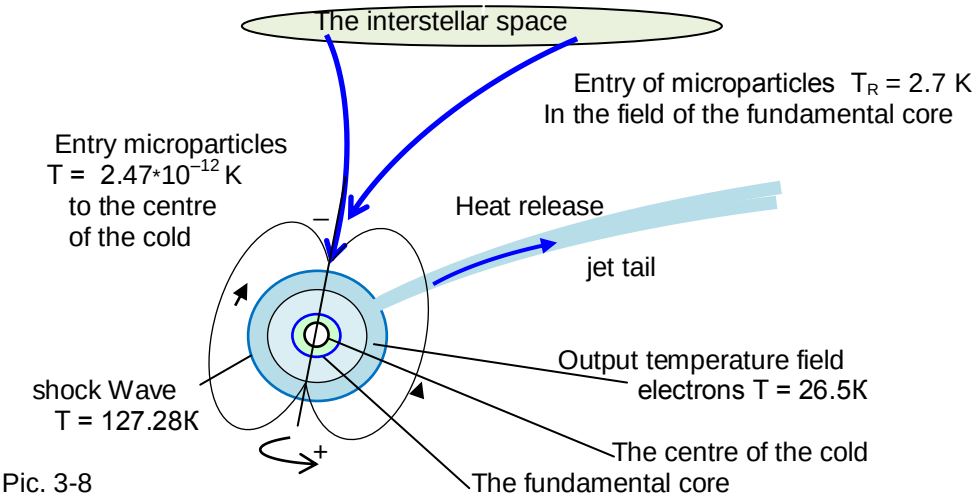
$m = 1.955*10^{-38}\ kg$ - the mass of a microparticle with a temperature $T = 127.28K$

v - particle velocity, with an output temperature $T_1 = 127.28K$, is equal to:

$v = T\ C/T_e = 127.28K * 2{,}9979*10^8 m/s / 5.93*10^9\ K = 6{,}43\ m/s$.

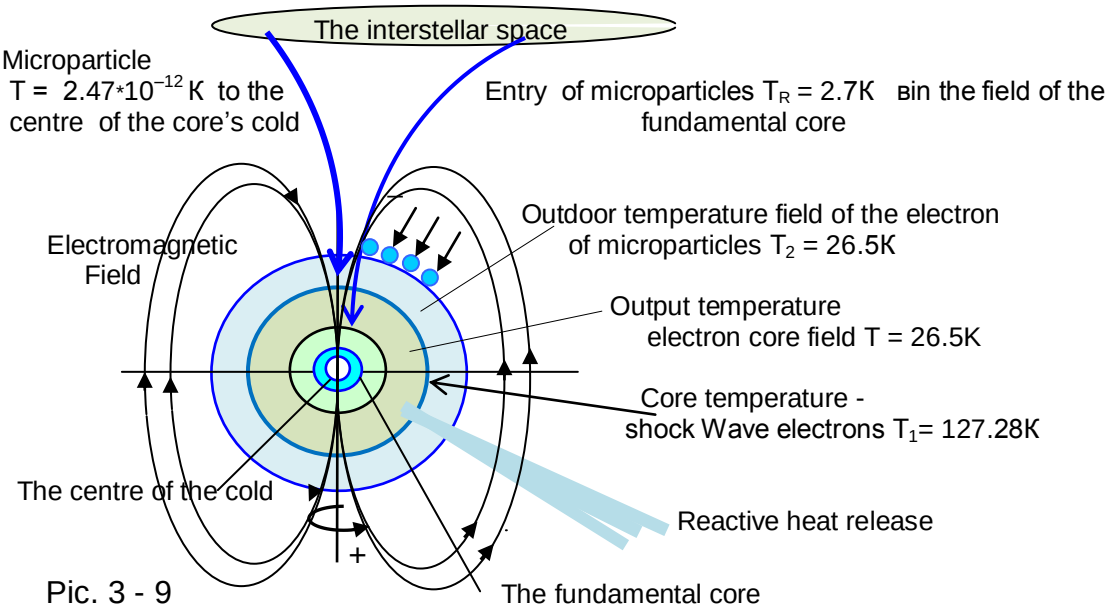
Then we find that the particle mass is equal to the electron mass:

$M = mC/v = 1.955*10^{-38}\ kg * 2.9979*10^8 m/s / 6.43\ m/s = \underline{9.11}*\underline{10^{-31}kg}$



Pic. 3-8

In the magnetosphere around the shock wave of the nucleus $T_1 = 127.28K$, a temperature field $T_2 = 26.5K$ is formed and the electron turns into a neutral electron, which along magnetic field lines continuously move under the pressure of microparticles $T = 2.7K$ to the centre of the Earth's core, fig. 3 - 9.



Pic. 3 - 9

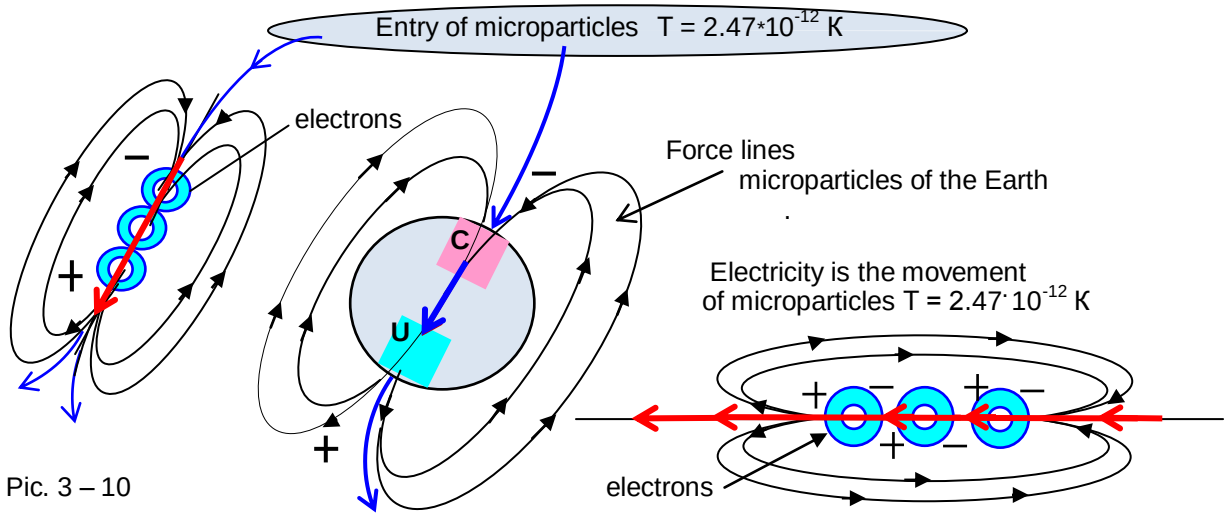
4. Electricity

Since the shock wave from electrons at light speed has a temperature $T = 5.93*10^{9}$ K , therefore, the movement of electrons with light speed in a conductor is completely ecsluded - any material will evaporate.

It is known that the temperature of lightning in the range of 25 000K - 30 000K .

This means that the transfer of electricity at the speed of light from an electron to an electron is carried out by microparticles $T = 2.47*10^{-12}$ K , creating magnetic field lines.

Moreover, the electrons line up closely along the magnetic field line: the north (negative) pole of the electron is located against the south (positive) pole of the opposite electron.

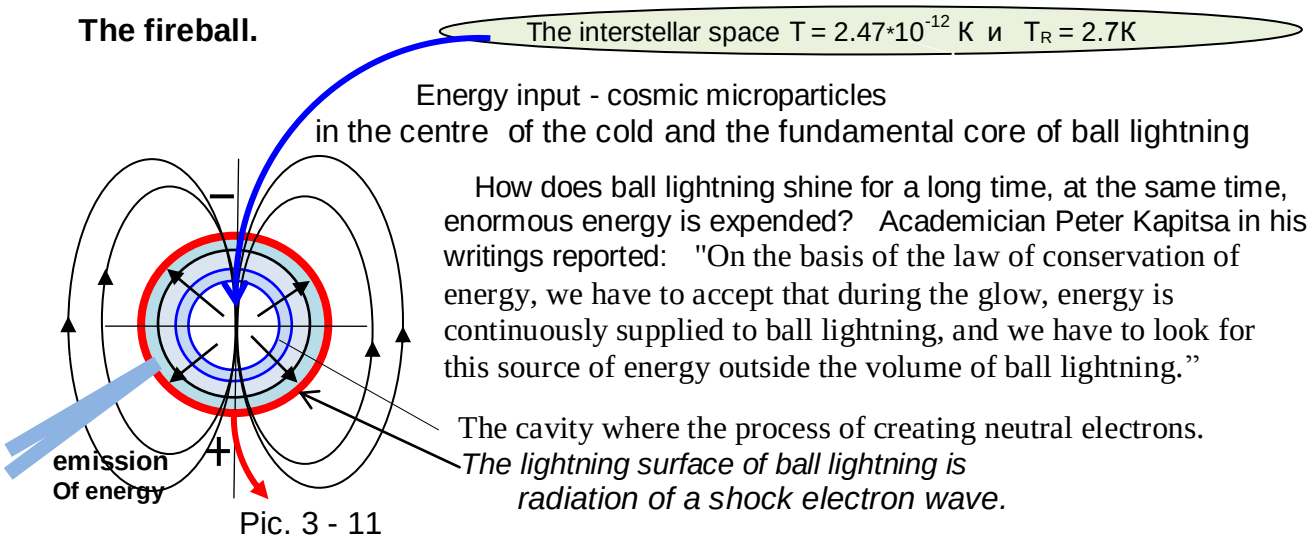


Pic. 3 – 10

Electricity is a transition at the speed of light of a stream — the charge of microparticles $T = 2{,}47*10^{-12}$K , which create magnetic field lines from the negative pole of the electron to the positive pole of the opposite electron.

Electron is a microparticle storage capacitor.

The fireball.



How does ball lightning shine for a long time, at the same time, enormous energy is expended? Academician Peter Kapitsa in his writings reported: "On the basis of the law of conservation of energy, we have to accept that during the glow, energy is continuously supplied to ball lightning, and we have to look for this source of energy outside the volume of ball lightning."

The cavity where the process of creating neutral electrons.
The lightning surface of ball lightning is radiation of a shock electron wave.

Pic. 3 - 11

The color of the ball lightning varies (from dark purple to bright yellow) depending on the temperature of its outer shell. The source of energy for ball and lightning is cosmic microparticles that enter the cold centre of ball lightning.

Cosmic microparticles - the basis of the structure of the atom.
The origins of the quantum system of gravity.

Cosmic microparticles with temperature $T = 2.7K$ and $T = 2.47*10^{-12}K$ - are not only the background - the "world ether" of the outer space, but also the basis for the construction of neutrons, protons, electrons, and therefore atoms of elements substances.

Outstanding scientist D.I. Mendeleev in his work ("An Attempt of Chemical Understanding of the World Ether". 1905) reported:

"The task of the whole energy sector cannot be represented as really solved without a real understanding of the ether as a world medium transmitting energy over distances. The real understanding of the ether cannot be achieved, ignoring its chemistry and not considering it to be an elementary substance ". (26)

D. I. Mendeleev

"The element" y "(Coronius), however, is necessary in order to mentally get close to that most important, and therefore the most rapidly moving element" x ", which can be considered ether.

I would like to preliminarily call him "Newtonium" - in honor of Newton ... (26)

1. **Genuine Table D. I. Mendeleev "Periodic system of elements by groups and rows"**

Considering the fundamentalism of the microparticles of the "world ether" in the construction of the elements of a substance, D.I. Mendeleev introduced Newton and Coronius into his Table, into the zero group.

But after the death of Mendeleev from the Table, the fundamental smallest elements in the construction of atoms are the microparticles Newtonium and the Crown were removed. (26) Thus, the connection between the finest microworld of outer space and the material macrocosm of the surrounding nature was lost.

Space microparticles - Newtonium with temperature $T = 2.47*10^{-12}K$, creating magnetic force lines and microparticles $T_R = 2.7K$ - Coronius, filling all interstellar space, create "thin matter, the world ether", are the fundamental elements in the construction of the material world: protons, neutrons, electrons, atoms, molecules - from which the wonderful surrounding world of Nature is created: stars, planets, mountains, rivers, valleys, plant and living world.

Without cosmic microparticles, Newtonia and Coronius, continuously flowing into the cold centre of the core of the Earth, the Sun, particles, "the task of the whole energy industry cannot be really solved".

They create not only gravity, but also are fundamental microparticles in the construction of chemical elements.

It is known that *quantum* is the smallest amount of energy given or absorbed by a physical quantity (microparticle). Then, the smallest cosmic microparticles Coronius and Newtonium, which for their movement emit pulsating energy flows with a certain frequency, are carriers of *quantum energy*. It turns out that Coronium microparticles create ***quantum gravity*** in temperature fields. Newtonian microparticles create lines of force for the transfer of energy (*quantum energy*) by pulsating flows between the centers of the cold: the Galaxy, the Sun, the Earth, planets, and particles.

It is known that an elementary particle (proton, electron) has a dual nature: it simultaneously exhibits the properties of both particles and waves. Perhaps this is the result of the formation of elementary particles by cosmic microparticles - Newtonium and Coronium - by sources of pulsating energy (*quantum energy*).

Genuine Table D. Mendeleev "Periodic system of elements by groups and rows"									
(D. I. Mendeleev Basics of Chemistry. VIII edition, SPb., 1906)									
	Groups of elements								
Rows	0	I	II	III	IV	V	VI	VII	
0	Newtonium								
1	Coroniun	Hydrogen H 1,008	—	—	—	—	—	—	
2	Helium He 4,0	Lithium Li 7,03	Beryllium Be 9,1	Boron B 11,0	Carbon C12,0	Nitrogen T 14,01	Oxygen O 16,00	Fluorine A 19,0	
3	Neon Ne 19,9	Sodium Na 23,05	Magnesium Mg 24,36	Aluminum Al 27,1	Silicon Si 28,2	Phosphorus P 31,0	Sulfur S 32,06	Chlorine Cl 35,45	
4	Argon Ar 38	Potassium K 39,15	Calcium Ca 40,1	Scandium Sc 44,1	Titanium Ti 48,1	Vanadium V 51,2	Chromium Cr 52,1	Manganese Mn 55,1	Iron Fe 55,9
5		Copper Cu 63.6	Zinc Zn 65.4	Gallium Ga 70.0	Germanium Ge 72.5	Arsenic As 75	Selenium Se 79.2	Bromine Br 79.95	
6	Krypton Kr 81,8	Rubidium Rb 85,5	Strontium Sr 87,6	Yttrium Y 89,0	Zirconium Zr 90,6	Niobium Nb 94,0	Molybdenum Mo 96,0	—	Ruthenium Ru 101,7
7		Argentum Ag 107,93	Cadmium Cd112,4	Indium In 115,0	Tin Sn 119,0	Antimony Sb 120,2	Tellurium Te 127	Iodine 127,1	
8	Xenon Xe 128	Cesium Cs 132,9	Barium Ba 137,4	Lanthanum La 138,9	Cerium Ce 140,2	—	—	—	—
10	—	—	—	Ytterbium Yb 173	—	Tantalum Ta 183	Tungsten W 184	—	Osmium Os 191
11									
12	—	—	Radium Ra 225	—	Thorium Th 232,5	—	Uranus U 238,5		

2. The structure of the atom.

Each atom has a centre of cold where cosmic microparticles of a gravitational field with a temperature $T = 2.47*10^{-12}\ K$ (Newtonium) and the output field of a fundamental nucleus of an atom — a refrigerator, where cosmic microparticles $T_R = 2.7K$ (Coronium) flow continuously creating gravity.

The Fundamental nucleus of the Sun

You can determine the output temperature - the fundamental nucleus of the atom of each element of a substance, for this we use the law of Gauss.

"The law of Gauss states that the entire charge of the electric field existing outside a uniformly charged ball is equal to the charge concentrated at the centre of the ball. According to Gauss's law, the number of field lines that go outside through a closed surface depends only on the charge moduli contained inside. The total number of lines of tension emerging through the surface of a uniformly charged ball is: $E = 4\pi kq$.

In the case of gravity, the charge that creates the field is mass. The total number of lines of tension passing through the surface of the ball is $E = 4\pi Gm$.

Of $4\pi k$ lines of the electric field come out of every single charge $q\,(1Cl)$, come out of each unit mass $m\,(1kg)$, then $4\pi G$ lines of the gravitational field (31).

Cosmic microparticles $T = 2.47*10^{-12}K$, which create magnetic force lines of the gravitational field, penetrate the surface area of the sphere — a shock spherical (transverse) wave and break into the centre of the cold core.

Then the total number of lines of gravitational field strength is:

$E = 4\pi Gm$, where G is the gravitational constant.

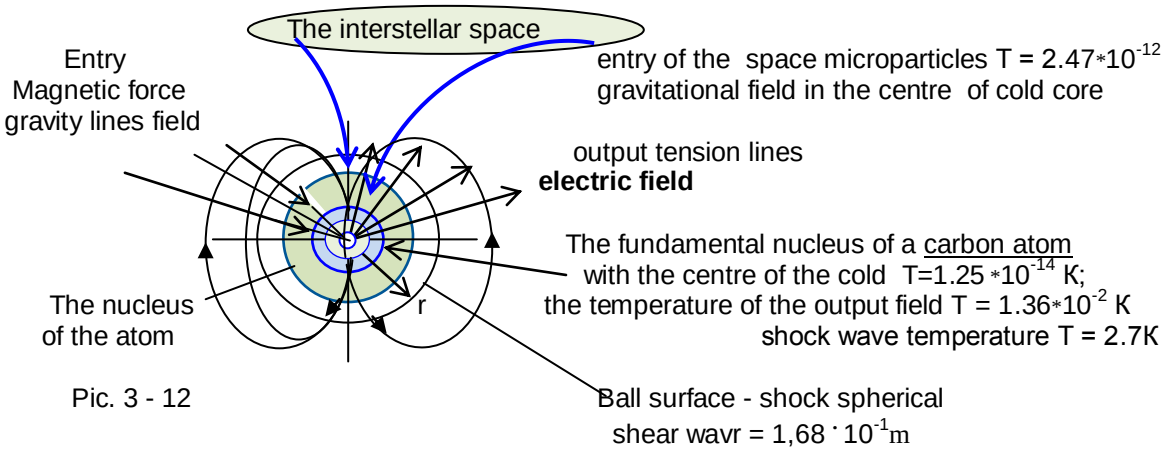
In the centre of the cold, cosmic microparticles $T = 2.47*10^{-12}K$ are broken into the smallest microparticles, which leads to an increase in pressure in the centre of the cold and release of microparticles from it, which create electric field intensity lines emerging from the ball's area - the shock wave.

The total number of lines of tension is equal to:

$E = 4\pi kq$, where $k = 9*10^9\ nm^2/Cl^2$ – electric constant;

$q = 1.6*10^{-19} Cl$ – elementary charge.

At the border of the meeting of two oppositely directed streams of microparticles - the lines of gravitational and electric field intensity, a shock (transverse) wave with a mass m - the surface of the ball - occurs. See. Pic. 3-12.



Pic. 3 - 12

The number of lines of the electric field intensity emanating from the centre of cold of the nucleus of an atom to the surface of the ball temperature charge microparticles emerging under pressure, equal to the gravitational field intensity lines entering the surface of the ball as it moves to the centre of the cold:

$4\pi Gm = 4\pi kq$, i.e. $Gm = kq$; where $m = \rho\pi r^3 4/3$ is the mass volume;

ρ - is the density of the substance element; r - is the radius of the ball - shock wave.

Using the formula $r^3 = 3kq / 4G\rho\pi$, we calculate the radius of the ball, from which we determine the wavelength $\lambda = 2\pi r$ of microparticles leaving the fundamental nucleus of an atom.

$T = \chi\nu$ - is the temperature of the output field of the fundamental nucleus of an atom, where $\chi = 4.79924*10^{-11} Ks$ - temperature constant. $\nu = C/\lambda$ - the frequency of the microparticle For example, the nucleus of a carbon atom:

a). carbon density is $\rho = 1.5*10^3\ kg/m^3$ (coal) , then

$r^3 = 3\ kq / 4\pi G\rho = 3 * 9*10^9\ nm^2/Cl^2 * 1{,}6*10^{-19}\ Cl / 4\pi * 4.79924*10^{-11} nm^2/kg^2 * 1.5*10^3 kg/m^3$;

$r^3 = 4.77*10^{-3}\ m^3$; the radius of the shock wave $r = 1.68*10^{-1} m$; wavelength $\lambda = 1.055\ m$.

Determine the temperature of the output field of the fundamental core - the carbon atom cooler:

$T = \chi C/\lambda = 4.79924*10^{-11} Ks * 2.997*10^8\ m/s / 1.055\ m = 1.36*10^{-2}$ K.

The coefficient of temperature difference of cosmic microparticles TR = 2.7K included in the fridge of the carbon atom: $g = T_R / T = 2.7K / 1.36*10^{-2}K = 1.98*10^2$

According to the coefficient of temperature difference acting in the carbon atom, we determine the temperature of the centre of cold of the fundamental nucleus of the carbon atom, where cosmic particles go $T = 2.47*10^{-12}K$:

$T_{centre\ of\ cold} = 2.47*10^{-12}K / 1.98*10^2 = 1.25*10^{-14}K$

b) The radii of the atomic nuclei are calculated through the indicators of the nucleus of the hydrogen atom - proton:

$T_c / T_{cp} = S / s_p = \pi R^2 / \pi r^2$; The radius of the carbon atom:

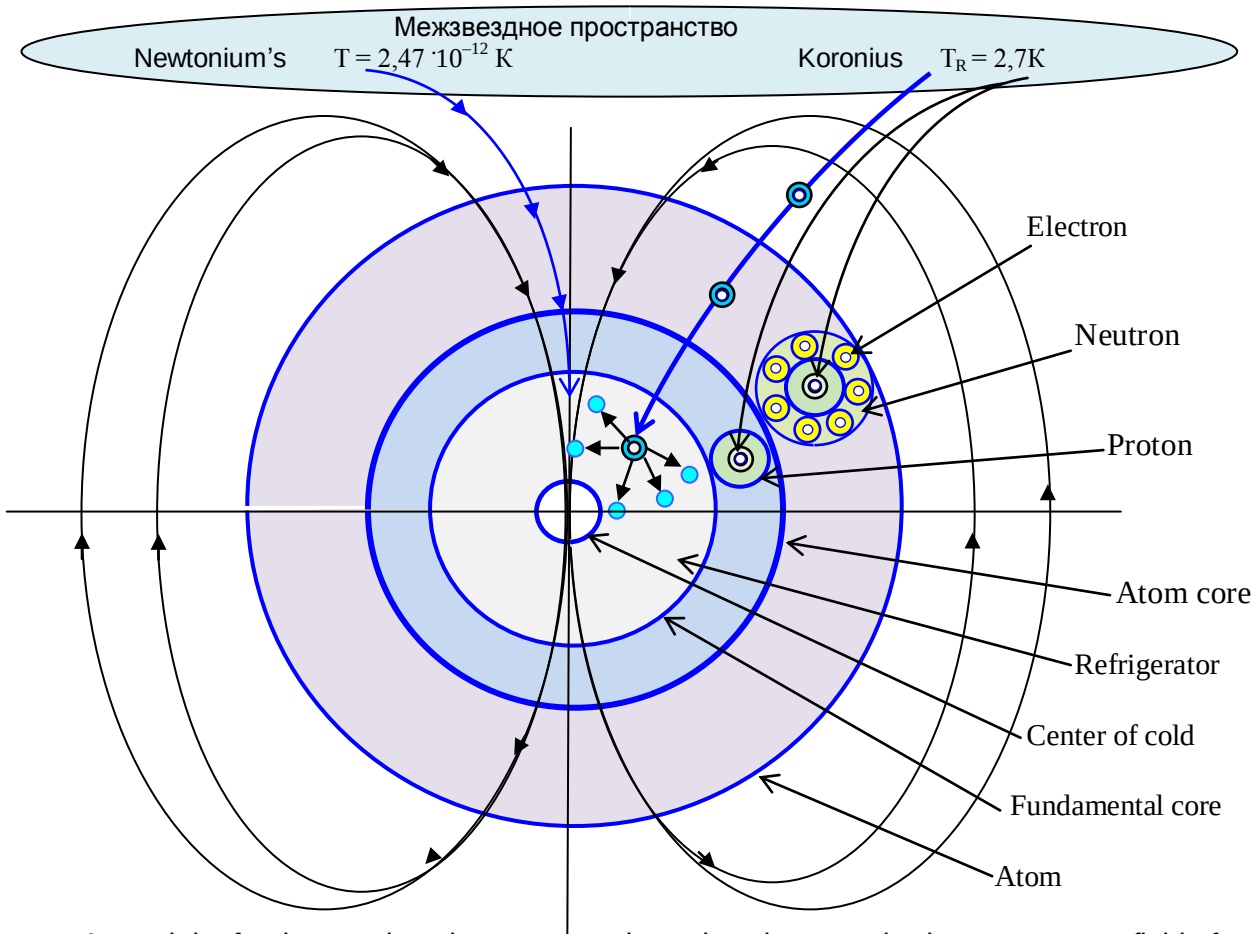
$R^2_{cc} = r^2 T_c / T_{cp} = (2.1*10^{-16})^2 * 1.36*10^{-2}$ K / $5.33*10^{-4}$K ; $R_{cc} = 1.06*10^{-15} m$

The parameters of atoms are tabulated in Table No. 4.

Atomic element	Density kg/m^3 ;	The wavelength atom m	Atomic radius m	In the temperature centre of the cold K	Temperature f / core atom nucleus – fridgerator
Hydrogen	0.08988	27 m	$2.1*10^{-16}$ m	$4.88*10^{-16}$ K	$5.33*10^{-4}$ K
Helium	0.1785	21.477 m	$2.35*10^{-16}$ m	$6.13*10^{-16}$ K	$6.7*10^{-4}$ K
Nitrogen	1.251 kg/m^3	11.24	$1.03*10^{-15}$	$1.2*10^{-15}$ K	$1.28*10^{-3}$ K
Oxygen	1.429	10.74	$1.05*10^{-15}$	$1.23*10^{-15}$	$1.34*10^{-3}$ K
Carbon	$1.5*10^3$	1.055	$1.06*10^{-15}$	$1.25*10^{-14}$	$1.36*10^{-2}$ K
Iron	$7,9*10^3$	$6.08*10^{-1}$	$1.4*10^{-15}$	$2.17*10^{-14}$	$2.36*10^{-2}$ K
Uranus	$19.1*10^3$	$4.53*10^{-1}$	$1.61*10^{-15}$	$2.9*10^{-14}$	$3.17*10^{-2}$ K
Aurum	$19.31*10^3$	$4.5*10^{-1}$	$1.63*10^{-15}$	$2.92*10^{-14}$	$3.2*10^{-2}$ K

The process of atom formation by coronium and newtonium particles

Each atom has a *fundamental core* with a center of cold, where Newtonium's cosmic microparticles ($T = 2.47*10^{-12}$K) go by magnetic lines of force, and a refrigerator in the fundamental nucleus's field, Koronius cosmic microparticles with a temperature of $T = 2.7$K



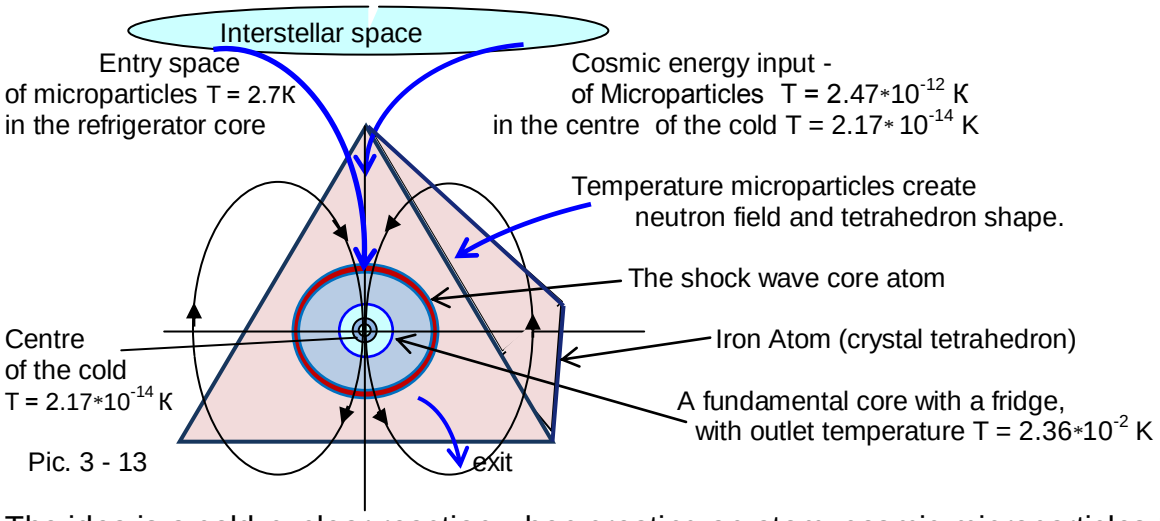
Around the fundamental nucleus, an atomic nucleus is created - the temperature field of protons - the charge of the atom. Around the nucleus - the atomic charge, the boundary of which is a shock wave - a neutron field is formed - from neutrons.

"The density of electric charge depends on the concentration of protons and neutrons in an atom." (40)

3. The structure of the iron atom.

"The atomic lattice of iron is a tetrahedron and is a crystal." (24)

The core of the iron atom has a centre of cold $T = 2.17*10^{-14}K$ and the exit field - the refrigerator $T = 2.36 *10^{-2} K$. The volume of the cold region of the atom is large enough to attract, the number of cosmic microparticles that create the nucleus of the atom and the outer temperature neutron field of the iron atom - a crystal in the shape of a tetrahedron, is the "lattice" of the atom where electrons are formed, see fig. 3 - 13.



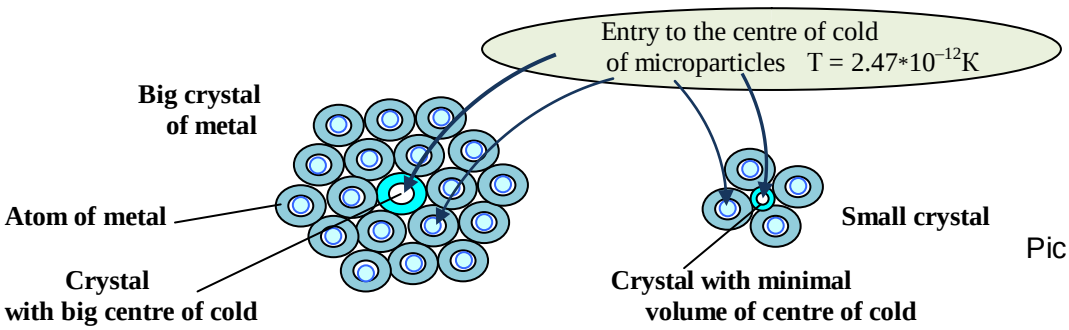
Pic. 3 - 13

The idea is a cold-nuclear reaction when creating an atom: cosmic microparticles form a nucleus - a proton field - an atomic charge; and around the nucleus temperature microparticles create a shell - a neutron field consisting of neutrons.

The electric potential of the atom is continuously maintained between the fields. The neutron field is the "keeper" of electrons that form around the positive nucleus and saturate the neutron field; and when the temperature changes, the electrons pass into magnetic field lines. In general, the atom is neutral.

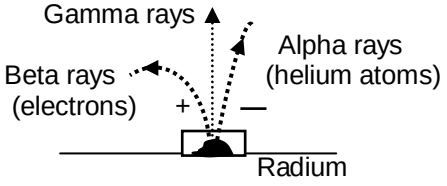
It is known that the external shape of a crystal is a reflection of the hidden internal arrangement of the molecules and atoms that make up the crystal.

Steel has a crystalline structure. Each crystal is an association of iron atoms around a common fundamental nucleus with its centre of cold. If the steel is in a crystalline state, then a large group of iron atoms cluster around the fundamental core, which has a large centre of cold. If the metal is in a fine-crystalline state, then the minimum group of iron atoms is grouped around the minimum (by volume) centre of cold.



Pic. 3 - 14

The fact that atoms are formed from incoming cosmic microparticles into their cold centre s is confirmed by the example of a continuous exit — the emission of microparticles from radioactive atoms: uranium, radium.



It is known that at the atoms of pure ura nium U^{235} neutrons easily break loose shells from neutrons. With the simultaneous disruption of shells from neutrons, a proton shock wave is created. When two proton shock waves merge, a nuclear explosion is created. Continuous emission of microparticles is observed.

The transition of the divalent iron atom Fe^{2+} to the ferric state of Fe^{3+}.

The article G.N. Petrakovich "Unknown iron" (24) reported:

"In the atomic lattices of iron spontaneously, i.e. independently, an alternating electric current of unusually high frequency is formed and, accordingly, a high-frequency electromagnetic field. And it happens in any piece of iron, if it is grounded (prikopat).

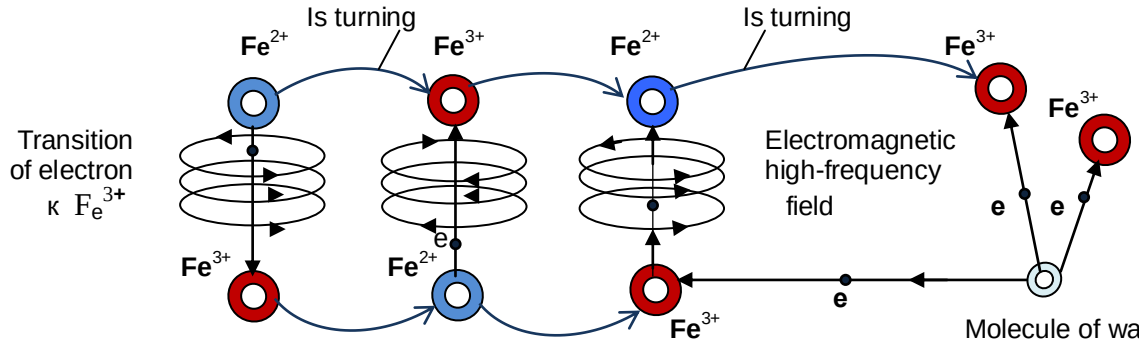
The frequency of this extraordinary electromagnetic field is $\nu = 6*10^{18}$ 1/s.

The formation of such a high-frequency electromagnetic field requires a huge number of electrons, which are selected by grounded iron atoms from the nearest other atoms and molecules of the earth and even from air molecules, thus turning them into positively charged ions. These permanently charged ions are around grounded iron and attract antipodes to themselves - electrons in the form of negatively charged lightning. " (24)

The appearance of a continuous high-frequency alternating electric current and a vortex high-frequency electromagnetic field is associated with the ecshange of electrons between the iron atoms during the redox process:

"The bivalent iron atom Fe^{2+} easily donates its electron, thereby turning into a trivalent iron atom Fe^{3+}. Such a redox potential is represented by the formula: $Fe^{2+} \rightleftarrows Fe^{3+}$

And the trivalent iron atom Fe^{3+} with a force attracts a given electron to itself, becoming Fe^{2+} - a divalent iron atom: $Fe^{3+} \rightleftarrows Fe^{2+}$ "(24). See pic. 3 - 15



Pic. 3 - 15

"Iron in the ferric state Fe^{3+} is always aggressive, unstable, because it constantly requires electrons for itself and is ready to take them away from any nearby atom or molecule. In H_2O water, when electrons are taken away from the hydrogen and oxygen atoms, the latter are converted into positively charged hydrogen ions H + (protons) and O^{2+} oxygen, which with their identical charges begin to repel each other. " (24)

Chapter 4. **Unity of interactions in the environment.**

1. The unity of the forces of fundamental interactions.

It is known that all interactions in observable natural phenomena are reduced to four fundamental forces:

strong force (radius of action 10^{-15} *m*) and *weak* (radius of action 10^{-1}*m*);

electromagnetic and *gravitational.*

The unity of the action of forces in nature is explained by the temperature equilibrium in the surrounding space, which is observed due to the action of the second law of thermodynamics - the transfer of heat to the cold zone. The primary carriers of heat are cosmic microparticles with a temperature $T = 2{,}7K$ and $T = 2{,}47 \cdot 10^{-12}$ K, creating atoms of elements of matter, magnetic force fields of stars, planets. All forces are created by particles due to temperature differences.

a) ***Weak interaction.***

An example of a weak interaction is the breakdown in friction of a neutron from a nucleus - a proton of a shell - an external temperature field of microparticles.

It is known that "with a weak interaction the neutron turns into a proton, an electron into an antineutrino: $n \longrightarrow p + e + \nu_e$ " (40) Rays with negative and positive charges and gamma rays were discovered by Ernest Rutherford, observing radioactive radiation of radium in a magnetic field.

When a radium atom leaves the neutron field, electrons create magnetic lines of force — beta rays, and released protons — alpha rays (helium nuclei).

b) ***Strong interactions have microparticles in the core***.

For example, at the hydrogen atom - the nucleus has the output field temperature $T_r = 5.33*10^{-4}$ K - the core cooler where cosmic microparticles rush $T = 2.7$K .

The boundary of the core is a shock wave with a temperature $T = 2.7$K

The ratio of adhesion forces in the core is equal to the square of the temperature:

$$F / F_r = (T / T_r)^2 = (2.7\text{K} / 5.33*10^{-4}\text{ K})^2 = 2.56*10^7$$

Such a huge temperature difference creates an enormous force of adhesion of microparticles in the core - a convincing picture of strong interaction.

b). ***Electromagnetic forces*** arise: between electrons - repulsive forces, between protons and electrons - attractive forces.

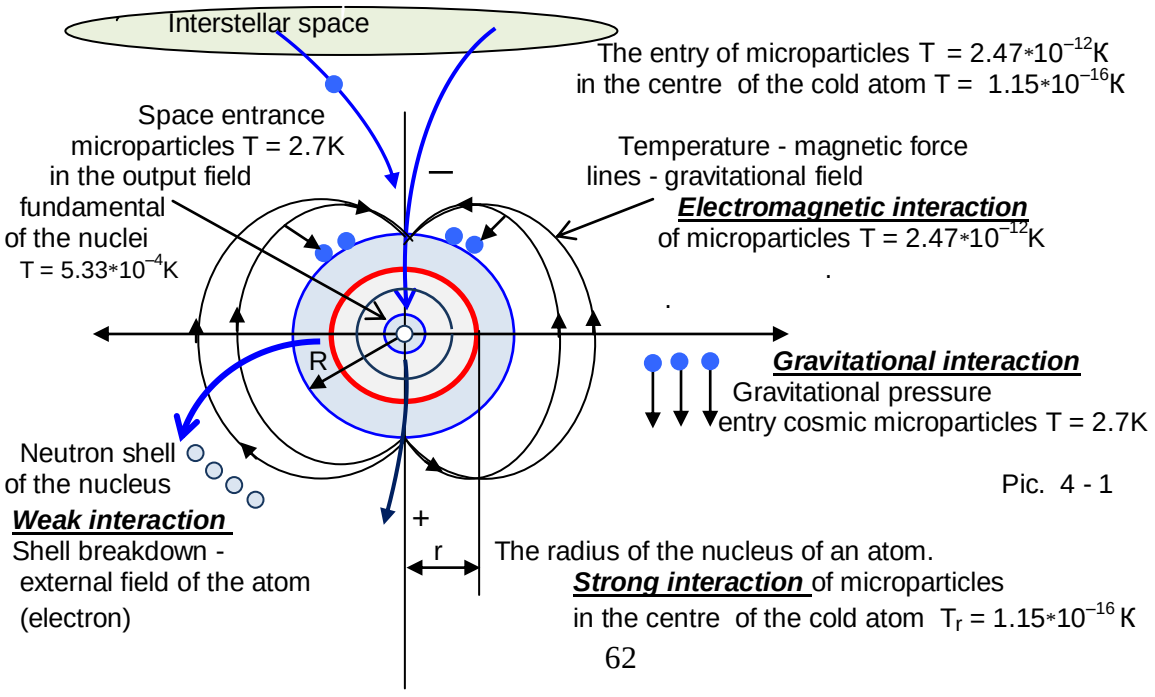
If electrons are captured and move along the magnetic field lines of the temperature field, an electromagnetic field appears.at).

c). ***The gravitational interaction*** occurs when cosmic microparticles with a temperature $T_R = 2.7$K transition from interstellar space to the cold region of the nucleus of an atom, star, planet. Being under the gravitational pressure of cosmic microparticles with temperature $T = 2.7$K - in a gravitational field, particles and bodies are pressed to the surface of a star, a planet.

Cosmic microparticles create temperature fields, i.e. magnetic force - the gravitational fields of atoms, molecules, stars, planets.

For example, cosmic microparticles with temperature $T = 2.47*10^{-12}$K rush to the centre of cold of the nucleus of the hydrogen atom $T_r = 115*10^{-16}$K. These microparticles around the nucleus of an atom create temperature - magnetic force lines, through which electrons move, an electromagnetic, gravitational field arises, where electric and gravitational forces act.

Illustration of the unity of action of the forces of the hydrogen atom.



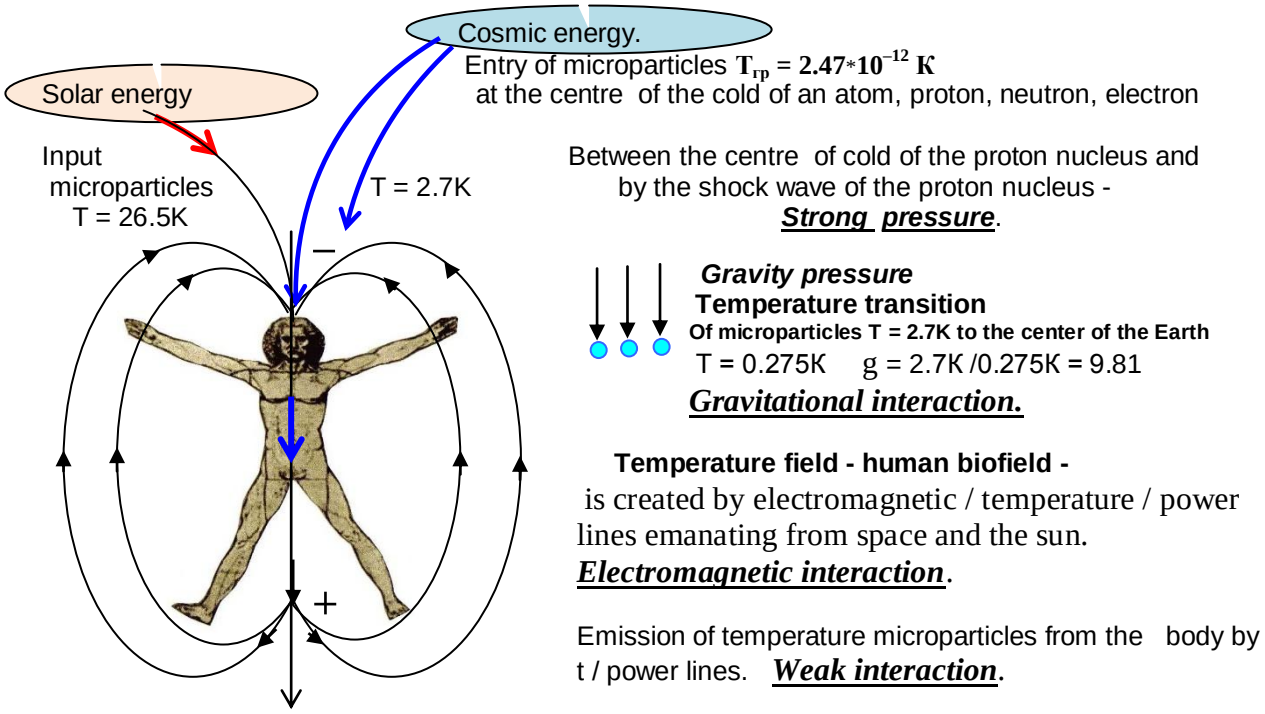
Pic. 4 - 1

2. **Interaction in nature.**

The favorable temperature regime on Earth ensures the full interaction of all forces in the formation of atoms, molecules, cells of the living and plant world on the surface of the Earth.

The biofield of a living organism is permeated by temperature - magnetic force lines, along which *cosmic energy* flows: cosmic microparticles are “pumped” into the cold centre s of protons, neutrons and electrons of each atom, each molecule, and a living cell. In fact, each molecule, the cell of the living world of nature is a microscopic thermal, temperature system operating on the gravitational principle: the transition of cosmic heat — cosmic microparticles into the cold centre of an electron, proton, atom — the basis for building a protein and plant molecule, a cell. Centre s of cold is the temperature controllers of the living and plant world of Nature.

Human interaction with nature.



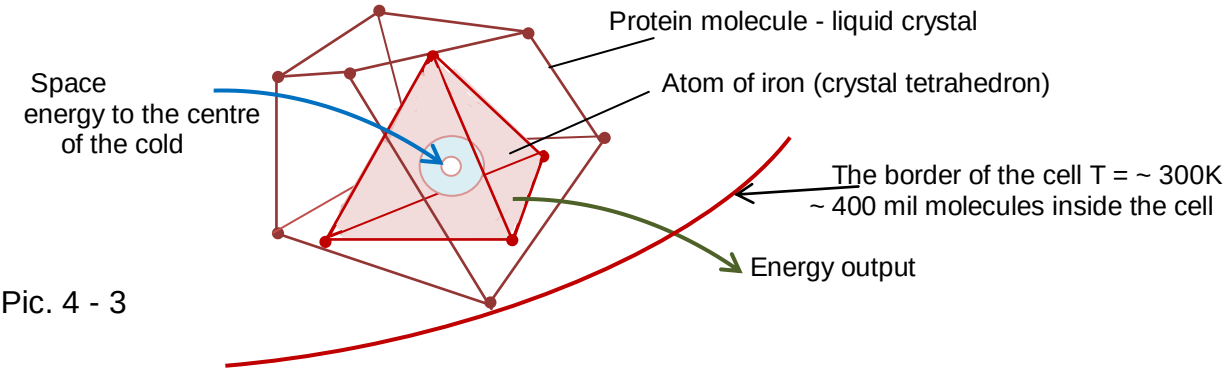
Pic. 4 – 2 T = 260K - temperature of the Earth

The cosmic transition of cosmic heat to the centre s of cold atoms of the elements of a substance, of which both the human body and the natural world are formed, makes it possible to understand the entire complex system of thermodynamic interaction of man with nature. There is a continuous cold-nuclear process of forming atoms: hydrogen, carbon, nitrogen, oxygen, magnesium, zinc, copper, iron, etc. - A huge number of elements of matter due to cosmic and solar heat in the living and plant world of nature.

Supernanotechnology in wildlife.

“In every living organism there is iron, and it is in the form of tetrahedra, but not as iron in its pure form, but chemically bound to various protein molecules. Each protein molecule is a crystal — a liquid crystal, and the atomic lattice of iron — a tetrahedron — is also a crystal, and a crystal in a crystal will already be a piezo crystal, with all the distinctive features that follow from this ” (24). Pic. 4 - 3

Piezokristall - hemoglobin molecule



Pic. 4 - 3

Piezo crystals have the property: under the influence of electricity to change the length, width, thickness. If a piezocrystal is squeezed, stretched, twisted, bent - converts mechanical energy into electrical energy.

"In the human body, for example, there are many such piezocrystals, each with its own functions: in erythrocytes, this is the well-known hemoglobin, in the liver - bilirubin, in the kidneys - urobilin, in muscles - myoglobin.

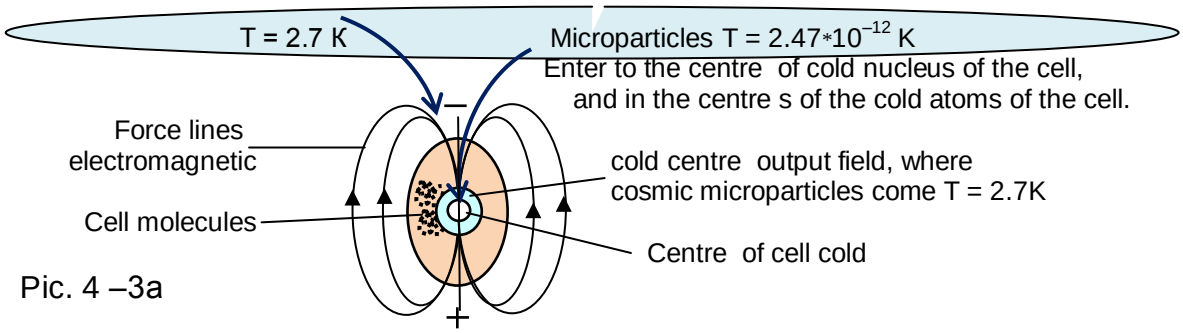
All molecules are piezocrystals having the same constituent parts in the form of iron tetrahedra and differing only in protein components, are approximately the same in size and extremely small.

It is enough t to say that in such a small blood cell as an erythrocyte, there are up to 400 million (!) hemoglobin molecules - piezoelectric molecules. And each of them is able to perform its physiological function - that is what nanotechnology is in ecsess of in nature! " (24)

In each cell, a certain size of the centre of the cold is formed, allowing to "pull" millions of atoms into a single cell, fig. 4 - 3a.

The cosmic microparticles of the gravitational field $T = 2.47*10^{-12}K$ continuously enter the centre s of cold of each atom, through the centre of cold of the nucleus of the cell. Space microparticles $T = 2,7K$ are delivered to the output field of the centre of cold.

As a result of cold-nuclear reactions, electrons and protons are formed from cosmic microparticles. Thereby, the electric potential of atoms, molecules and the cell itself is created and maintained.



Pic. 4 –3a

"But the cell lives, feeds and every second in each cell more than a million redox reactions occur. This changes the electrical potential of the molecule. When the electron recoils, the molecule of a substance is positively charged - an oxidative reaction takes place, and, when electrons are lost by molecules, it leads to a gradual "acidification" of the cell, leading to a decrease in its electrical potential, to a disease. On the contrary, receiving electrons, the cell molecules are charged negatively - there is a recovery reaction of the cell and its normal functioning. " (24)

Creating an electromagnetic field in fish.

Very detailed in the article G. Petrakovich's “Unknown Iron” (24) explained why some species of fish can swim at a speed of 140 *km/h* and even higher, and stop instantly. “There is a firm conviction that all aquatic animals breathing in the gills are draining dissolved oxygen from the water.

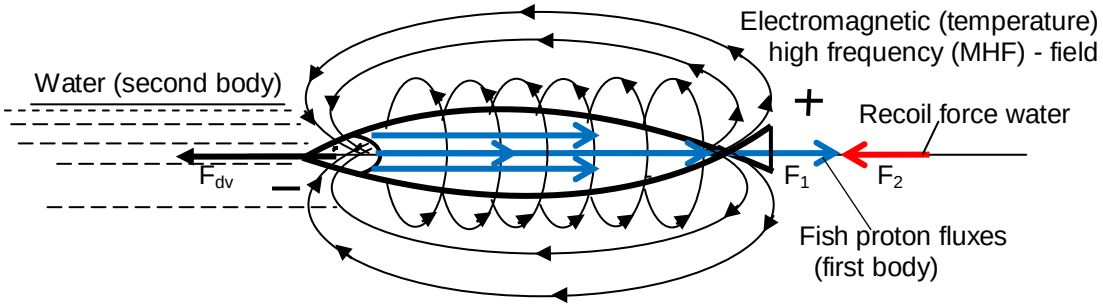
But one inventor from Israel tried using an instrument designed by him to extract oxygen from water by this method - and failed. Oxygen in a few hours of production, he received such an insignificant amount that, for example, a person would have enough of it only for one breath. ” (24) It is known that oxygen for wide use is obtained from liquid air, where liquid oxygen is contained in the amount of 54%. (8)

“No, the animals breathing through the gills receive oxygen directly from the water, decomposing the water molecule in its gills into its components in the form of ions: on two hydrogen ions (proton) H + and oxygen ion O_2 +. All the same atomic lattices — iron tetrahedra at the moment of passing water molecules through the gills — produce this action in the gills. And the gills are known to be saturated with iron - hence their reddish color in all fish.

By removing electrons from a water molecule and using them to form a high-frequency electromagnetic field in the gills, iron tetrahedra decompose the water molecule into a proton and an oxygen ion. Fish use oxygen for gill respiration, and protons “are captured by a high-frequency electromagnetic vortex (MHF - field) and become its working fluid. Simultaneously with the gills of the MHF, the field is generated in all other cells of the fish’s body along with its proton radiation. And all the electromagnetic fields, gill and intra body, together with their working bodies, in the form of proton fluxes, create a single powerful electromagnetic mechanism of fish. “ (24)

“Accelerated protons, ... passing along the fish body, ionize the nearest water molecules (H_2O + ion is formed), the result is a repulsion of homogeneous charges (H + protons of the body from H_2O + ions of the surrounding water), and the friction with water disappears with it.

A fish is capable of moving in water at a tremendous speed not only because it does not experience friction against water, but also because ... that the protons ejected from its body are for it ionic propellants. The fish are supported by the proton flux emanating from the water and flying in the water like a real torpedo. ” (24) See Pic. 4 - 4



Power recoil: the first body - the flow of protons F_1, from the second body - water F_2

Pic. 4 – 4

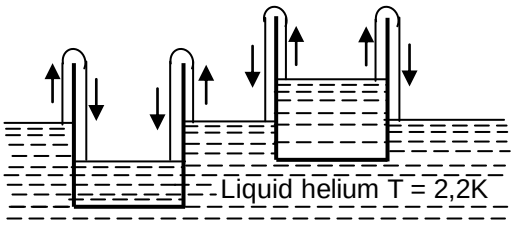
“Replacing the direction of the electromagnetic field with the opposite results in the opposite direction of the flow of protons, as a result, there is no inertial, instantaneous braking of the fish. The lateral fins of the fish are intended to guide the movement up and down, the tail to control horizontally, and the dorsal fin is the keel. These are all steering wheels. "(24)

With the help of the wave motion of the tail section, i.e. mechanics, fish can develop a speed of movement up to a certain limit, most likely, not more than the speed that modern submarines develop.

For the movement of fish with a speed of over 100 *km /h* , of course, an electronic mechanism of movement is needed, as reported by G. Petrakovich.

3. Superfluidity.

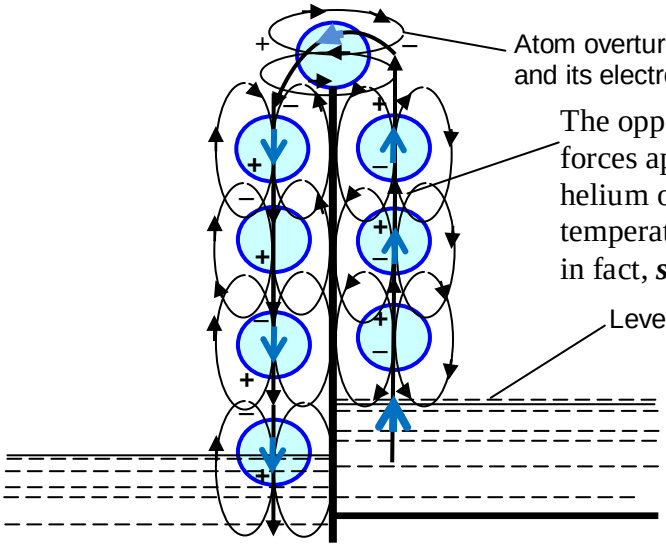
Superfluidity Experience.



Pic. 4 - 5

"In the liquid helium hung glass cup (Pic 4 - 5). It was soon noticed that the glass began to fill with liquid, the level of which increased until the levels inside and outside the glass became the same. When the glass was lifted up a little, there was a movement of fluid in the opposite direction. The emptying and filling of the glass always happened at the same speed; the liquid helium film turned out to be ... the purest example of superfluidity. " (21)

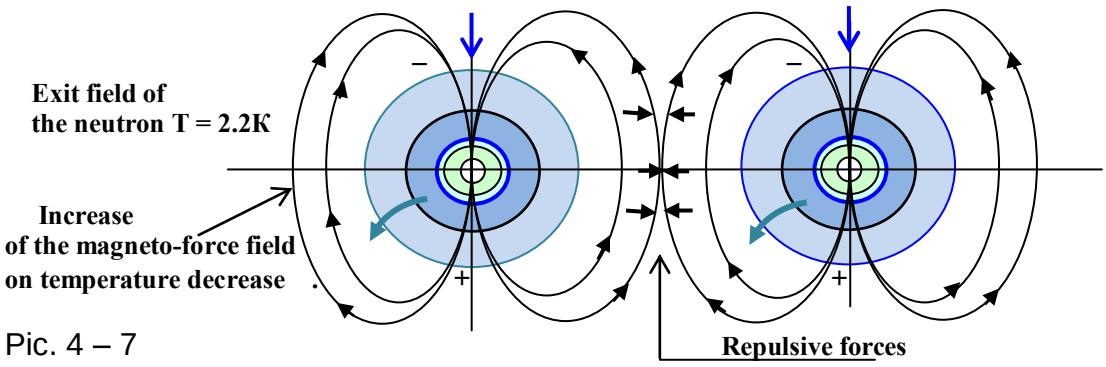
The powerful combined effect of the electromagnetic fields of atoms in the superfluidity zone is confirmed by the experiment - "mass transfer (displacement)". Helium atoms when the temperature drops below the critical point $T_{cr} = 2.2K$ create around themselves an electromagnetic (temperature) field, with opposite poles. The combined action of electromagnetic fields of atoms with opposite poles in the superfluidity zone leads to the appearance of attractive forces acting in one direction.



Pic. 4 - 6

"In many laboratories, it was noticed that sometimes the equipment with liquid helium was completely sealed, when cooled below 2.2 K, it gave a strong leak and became absolutely unsuitable." (21)

The process of breaking the capacitance and the brittleness of the metal at low temperature occurs as a result of an increase in the radius of action of the magnetic force (temperature) field at the helium atom and the appearance of repulsive forces between the magnetic force lines of atoms having directions in one direction.



Pic. 4 – 7

Chapter 5. Infinity of the Universe.

TIME ASSESSMENT TO GALAXIES THROUGH THE MODERNIZED HUBBLE LAW.

The American astronomer Hubble discovered a pattern: the radial velocities of galaxies increased in direct proportion to the distances to galaxies. This process was fixed through a certain formula: $\mathbf{v} = \mathbf{H}\,\mathbf{r}$ (6*),

$\mathbf{v}$ – is the radial velocity of galaxies distant at a distance $\mathbf{r}$;

$\mathbf{H}$ – is the Hubble constant.

"The spectral lines of distant galaxies are shifted towards the red end of the spectrum. Hence it was concluded that the farther the galaxy is, the greater its speed. There was a giant explosion, which gave rise to the development of the Universe in its modern form. Now the most probable value of the Hubble constant is $\mathbf{H} = 55\ km/(s.Mpk)$. As a result, time $\mathbf{t}_{\text{н}}$ - the age of the Universe is estimated to be 15 billion years old. " [12]

Such is the modern theory of the birth and existence of the universe.

In the modern, foreseeable space - the Metagalaxy, there are about 100 billion galaxies and most of them are weak sources of radio emission. These include our galaxy, with a constant speed of movement of $600\ km/s$, and galaxies located close to us, whose speed, as is well known, remains the same all the time.

But in order to increase the speed to light C ~ $3*10^5\ km/s$, it is necessary that the energy of the galaxy increases at least $5*10^2$ times, i.e. the temperature of its interstellar space increased by several orders of magnitude.

But as can be seen from observations, the total energy background of the Universe is not disturbed, the temperature of the whole space remains constant, equal to 2,7K. Then we can say with great confidence that most galaxies have a constant speed in the range of $300 - 600\ km/s$.

Then, it comes out of the formula $\mathbf{v} = \mathbf{H}\,\mathbf{r}$, that if the speed of the galaxy is constant, then the coefficient $\mathbf{H}$ must be variable. Therefore, the problem arises: How to determine the Hubble coefficient - a variable function at a constant speed of the object - the galaxy. To do this, in the formula (6 *) we replace the speed $\mathbf{v}$ with a constant value, and the distance $\mathbf{r}$ with a variable:

$\mathbf{v} = \lambda_{rad} / t$ – speed equal to the known wavelength of radiation per unit time.

$\mathbf{r} = \lambda_{obs}$ – is the wavelength recorded by the observer.

Substituting these values into the formula (6 *), we get: $\lambda_{rad} / t = H\,\lambda_{obs}$ (7 *)

Then, the Hubble coefficient is determined:

$H = (\lambda_{rad} / \lambda_{obs})\,(1 / t)$, or $H = (\lambda_{rad} / \lambda_{obs}) \cdot \nu$. (8 *)

The Hubble coefficient is determined by: frequency ν equal to the ratio of the known radiation wavelength to the observed wavelength emanating from the galaxy.

From the formula (8 *) it turns out that the longer the observed wave λ_{obs} , the smaller the Hubble coefficient, and the spectrum of the observed wave will increasingly shift to the red side.

And vice versa: the shorter the observed wave λ_{obs} , the greater the Hubble coefficient; at the same time, the spectrum of the observed wave shifts to the violet side.

The Hubble Coefficient gradually decreases for distant galaxies and increases accordingly for the approaching galaxies. The direct relationship of the Hubble coefficient and the Doppler effect!

Since the Hubble coefficient units of measure are taken as H - $km/(s.Mpk)$, therefore, it is possible to determine the arrival time $t_{\text{н}}$ of the observed radiation waves and the distance to a distant one remote galaxy.

1. Remote galaxy.

The further the distance to galaxies, the longer the continuous cascade of observed radiation waves λ_{obs} . Each long wave has the entire spectrum of visible radiation. The spectrum of the observed wave λ_{obs} of a distant galaxy has a redshift:

$$Z_k = (\lambda_{obs} - \lambda_{rad}) / \lambda_{rad} \quad (9^*) . \quad \text{Then} \quad \lambda_{rad} = \lambda_{obs} / (Z_k + 1) . \quad (10^*)$$

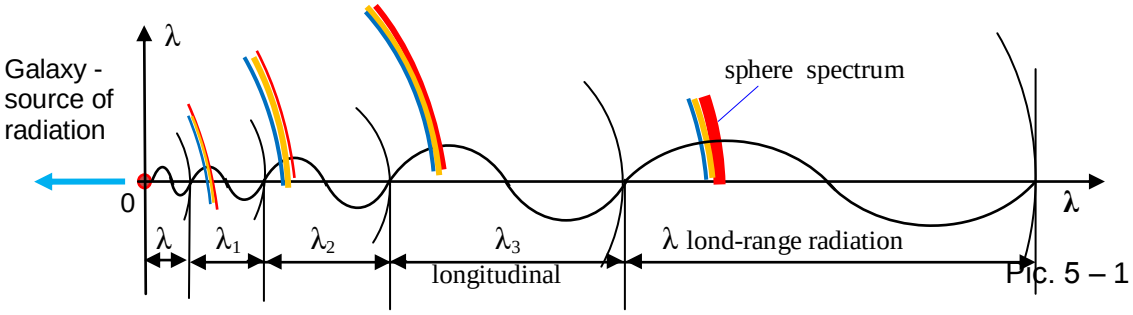


Рис. 5 – 1

Each longitudinal wavelength has a radiation spectrum created by transverse - spherical waves. The farther away the galaxy, the more long-wavelength radiation, the larger the sphere of the observed wave, the greater the redshift. The observed color of galaxies depends on the distance to galaxies: galaxies (Markarian) are blue; the Andromeda Nebula is a spectrum of yellow stars.

a). **Determination of the Hubble coefficient of distant galaxies**.

1. In fig. 5 -2 spectrum of N-galaxy 3C 171 with redshift $Z_r = 0.238$, where the hydrogen line is observed: $H_\gamma \rightarrow \lambda_{obs} = 4340\ A^0$; $H_\beta \rightarrow \lambda_{obs} = 4861\ A^0$ (30)

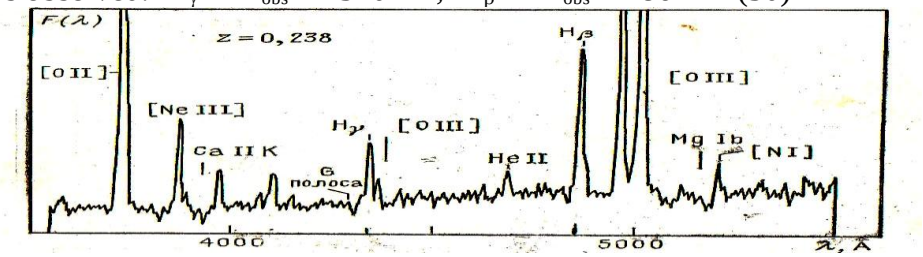


Рис 5 – 2 spectrum of N-galaxy 3C 171 with redshift $Z_r = 0.238$

Using the formula (10*), we determine the radiation wavelength of the hydrogen line:
for $H_\gamma \rightarrow \lambda_{rad} = \lambda_{obs} / (Z_r + 1) = 4340\ A^0 / (0.238 + 1) = 3505.6\ A^0$;
for $H_\beta \rightarrow \lambda_{rad} = 4861\ A^0 / (0.238 + 1) = 3926.5\ A^0$.
Using the formula (8*), we determine the Hubble coefficient:
for $H_\gamma \rightarrow H = (\lambda_{rad} / \lambda_{obs})\ (^1/_s) = 3505{,}6\ A^0 / 4340 A^0\ (^1/_s) = 0.81$ *km/(s.Mpk)*.
for $H_\beta \rightarrow H = 3926{,}5\ A^0 / 4861\ A^0\ (^1/_s) = 0.81$ *km/(s.Mpk)*.

2. In quasars with a large redshift $Z_r = 3{,}5$ along the hydrogen line Hα $\lambda_{obs} = 6563\ A^0$ determine the wavelength of radiation: $\lambda_{rad} = 1458\ A^0$.
Then, the Hubble coefficient: $H = 1458\ A^0 / 6563\ A^0\ (^1/_s) = 0.22$ *km/(s.Mpk)*.

b). **We determine the time of arrival of the observed waves of galaxies.**

1. For N-galaxy 3C 171, where the Hubble coefficient $H = 0{,}81$ *km/(s.Mpk)*.
The arrival time of the observed radiation waves from the galaxy:
$t_n = k / H = 3.086{*}10^{19}$ *km/Mpk* / 0.81 *km/(s.Mpk)* $= 3.8{*}10^{19}$ *s* ;
Where $k = 3.086{*}10^{19}$ *km/Mpk* - the number of kilometers in megaparsek.
Since $n = 3.16{*}10^7$*s* - the number of seconds in a year, we get:
$t_n = 3.8{*}10^{19}$*s* / $3.16{*}10^7$*s* $= 1.2{*}10^{12}$ years = 1 tril. 200 billion years!

2. In a quasar with a large redshift $Z_r = 3.5$, where the Hubble coefficient $H = 0.22$ *km/(s.Mpk)* , the arrival time of the observed radiation waves:
$t_n = k / Hn = 3.086{*}10^{19}$ *km/Mpk* / 0.22 *km/(s.Mpk)* $*$ $3.16{*}10^7$ *s* = 4,44 tril. years !
But there are billions of such distant galaxies in the infinite space of the Universe.
Consequently, the universe is limitless in time of existence.

2. Upcoming galaxies.

Let us determine the indices for the approaching galaxies.

Distance to galaxies: Magellan Clouds r = 0.06 *Mpk* ;

The Andromeda nebula r = 0.67 *Mpk* . The speed of the galaxy is v = 300 *km/s.*

Determined by the formula (6 *) Hubble coefficient:

- for the Magellanic Clouds H = v / r = 300 *km/s* / 0.06 *Mpk* = $5*10^3$ *km/(s.Mpk)* .
- for the Andromeda Nebula H = 300 *km/s* / 0.67 *Mpk* = 447.8 *km/(s.Mpk)*

Determine the arrival time of the observed radiation waves from Andromeda Nebulae:

t_n = k / H = $3.086*10^{19}$ *km/Mpk* / 447.8 *km/(s.Mpk)* = $6.89*10^{16}$*s* / $3.16*10^7$*s* = ~ 2,2 billion years

The results of calculations for the approaching galaxy Andromeda Nebula and distant galaxies are combined into a single coordinate graph.

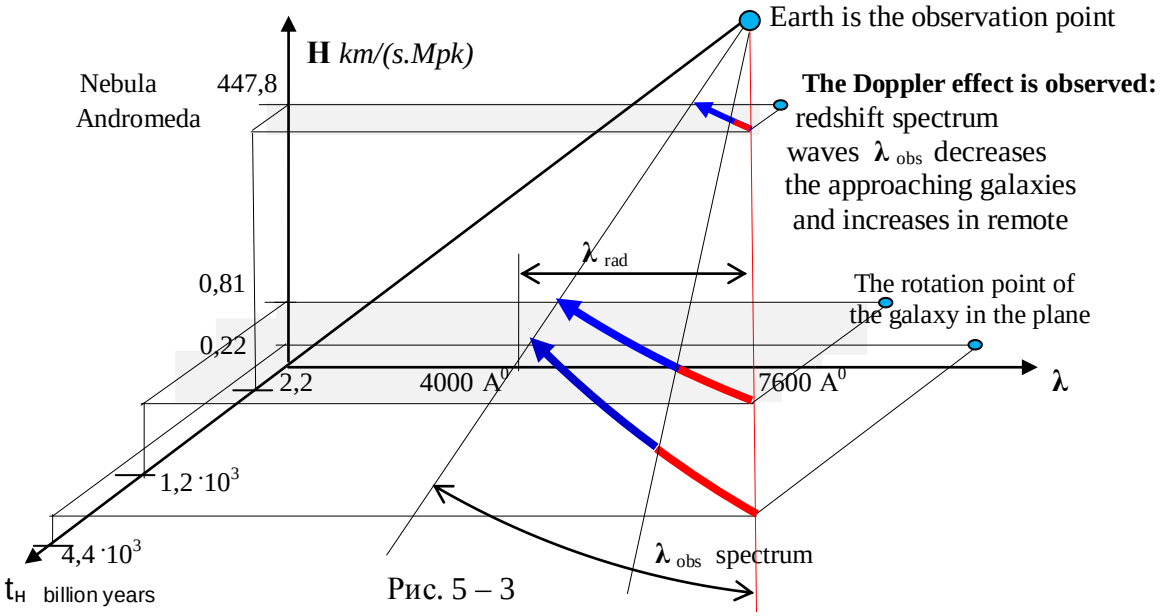


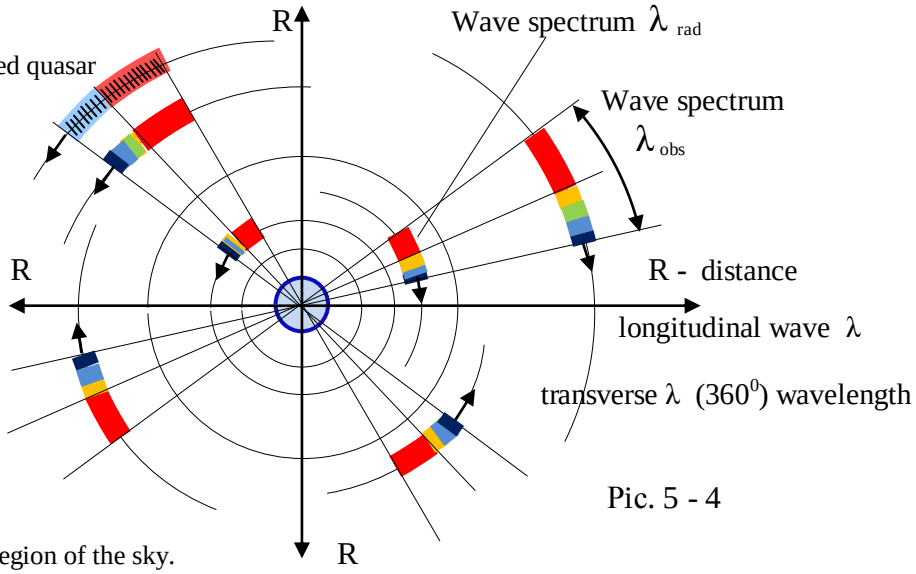
Рис. 5 – 3

But where do galaxies move at a constant speed?

There are centers with ultra-low temperatures in the Universe - galaxies move along a circular path to these cold centers.

In distant galaxies, there is movement along an increasing circular trajectory, therefore, an increase in the emission spectrum towards the red shift is observed.

Analogy with the Polar region of the sky.



Pic. 5 - 4

The universe is infinite, both in size and in terms of time of existence.

Gravity lenses.

Light from a source with a speed of light propagates due to the existence in space of cosmic microparticles: gravitational $T_R = 2.7K$ and microparticles of the gravitational field $T = 2.47*10^{-12}$ K .

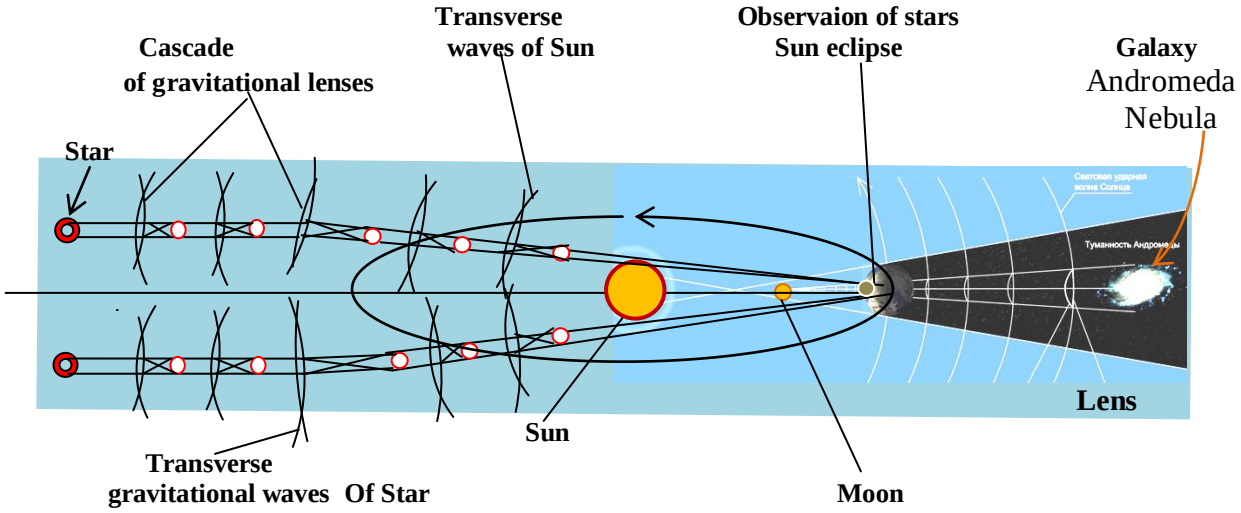
From the source - the stars, galaxies emanate energy and cosmic microparticles, moving with longitudinal radiation waves with an impulse of mC, at the boundary of the meeting with the surrounding microparticles, create a transverse wave with an impulse of force ft equal to: $mC = ft$. The transverse wave is the limiting barrier to the light speed of microparticles, beyond which the light speed is not observed - this is confirmed by Michelson's experience. Then, $mC = ft = const$.

It was established that each wave, including the longest wavelength, coming from a light source, has a full light spectrum of visible radiation, see fig. 3 - 4.

Consequently, in a star observed from the Earth, outgoing longitudinal radiation waves create transverse waves of the light spectrum, which, when they intersect with the transverse waves of the light spectrum of opposing reflection waves, from the magnetosphere and sun light, create gravitational lenses that collect the star's light into focus. A cascade of lenses created by transverse waves makes it possible to see distant stars, galaxies that are tens of hundreds of millions of light-years away from Earth. Moreover, the farther the galaxy, the more the observed sphere increases - the length of the transverse wave, the greater the redshift. We observe the color of some stars - bluish, others - yellow, and still others have a reddish tint; it all depends on where in the spectrum the transverse waves appear, which form the lens.

Only due to the presence of a cascade of gravitational lenses do we observe the stars behind the Sun during a total solar eclipse.

On pic. 5 - 5 the conditional transfer from a lens to a lens the image of stars is shown.



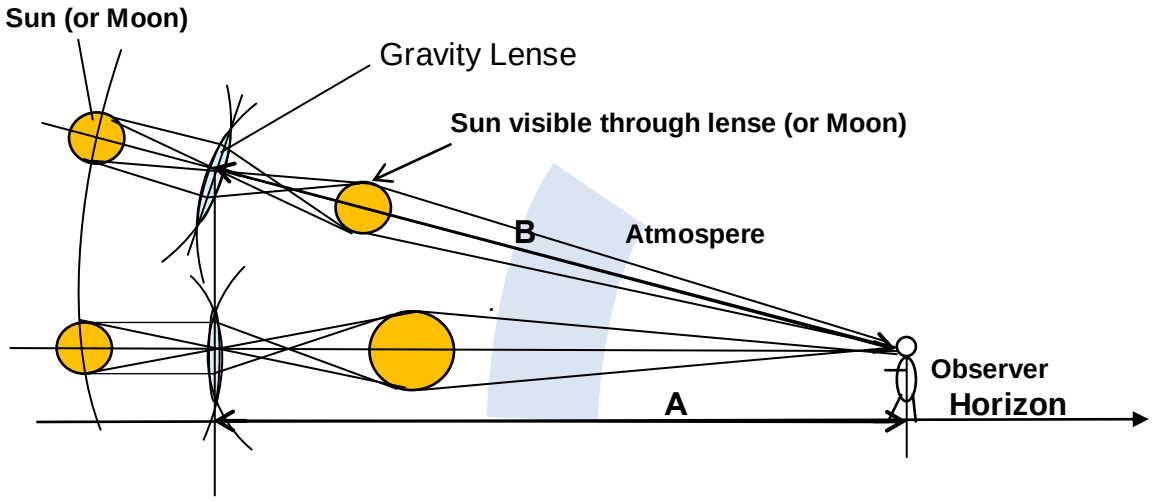
Pic. 5 – 5

Truly prophetic are the words of J. Narlikara: “The Universe itself can be a gigantic, unlimited white hole!” (23).

If there were no gravitational cosmic lenses, then the Galaxy would be white with the light emitted by billions of stars; we could not watch even the Sun!

The presence of gravitational lenses is confirmed by the following natural phenomenon: when the Sun (or the Moon) is close to the horizon, the lens formed at a distance **A** from the transverse waves of Solar (or Moon) light and light reflection from the Earth's dense atmosphere is closer to the observer, which increases the size of the Sun (or Moon).

When the Sun (or the Moon) is high enough above the horizon, the object's dimensions remain constant, since the gravitational lens is formed farther from the observer - distance **B** > **A**. See pic. 5 - 6



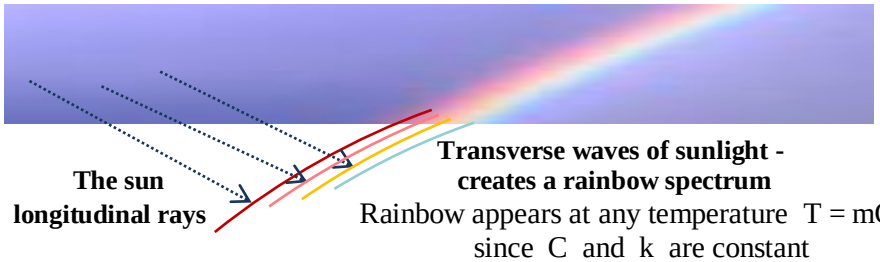
The size of the sun (or moon) increases: distance A <B

Pic. 5 – 6

But the increase in the Sun, like the moon, depends on the density of the atmosphere at certain times of the year. For example, on the Middle Volga in mid-November, it is observed that the setting sun is almost doubled.

A striking confirmation of the appearance of transverse sunlight is the appearance of a rainbow. The solar light rays from the microparticles - photons, moving in longitudinal waves, meeting with the smallest droplets of water, linger, condense, create shear waves.

The first to linger and refract long waves in water droplets - a red light of a transverse wave appears. Then shorter longitudinal wavascaded at a decreasing value. A sphere of transverse waves is created - a spectrum of a colorful rainbow appears.



Rainbow appears at any temperature $T = mC^2 / k$

since C and k are constant

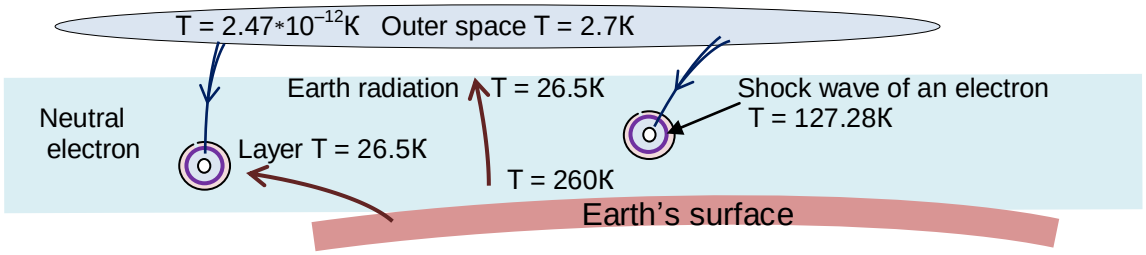
$C = C_{\text{longitudinal}} * C_{\text{lateral speed radiation}}$

$mC_{\text{lateral speed}} = m \lambda \nu$ - spectrum radiation ($4*10^{-7} – 7.6*10^{-7}$m)

Pic. 5-7

Chapter 6. Practical energy production from space.

Due to the gravitational pressure of cosmic microparticles with temperature T = 2.7K (Corony), from the Earth's internal electron belt, electrons saturate the Earth's atmosphere. Electrons are captured by the magnetic force lines of the Earth, created by cosmic microparticles T = $2.47*10^{-12}$K (Newtonium).
But in the atmosphere, under the influence of the temperature of the Earth's radiation, electrons become neutral. Therefore, friction is necessay remove the "earth" temperature shell T = 26.5K from the neutral electn - the output of the Earth's heat into space.



"The list of substances that have received the name of the triboelectric sequence is established: glass - quartz - wool - cat fur - silk - amber - metals.

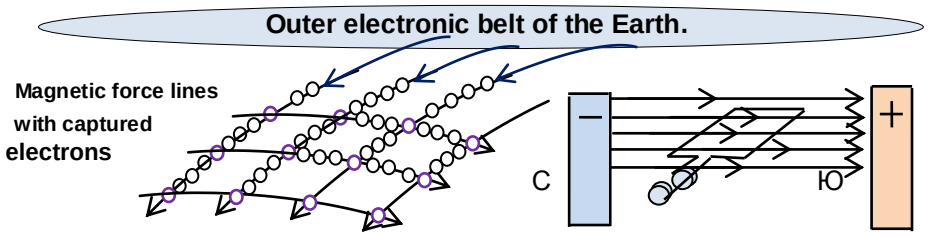
If you rub two objects against each other, one of them (located at the top of the list) will acquire a positive electric charge, and the other, which is closer to the end of the list, will be negative. "(5)

Substances after friction, losing electrons, are able to quickly restore their original state - again attract electric charge from the atmosphere.

It is known that under laboratory conditions, using an electrostatic machine with a manual drive, where electrons are removed from the disk by friction, you can charge a capacitor within 1-2 *minutes* to get a spark discharge of about 2*cm* in length.
"In the dry air between the two edges to create a sparkle with a length of 1*cm* is required 8000 volts. If a discharge occurs between two balls – 27 000 volts. " (34)

In the atmosphere, during a thunderstorm, n the border of the meeting of temperature fronts, powerful electrical discharges occur - kilometer lightning is observed.
o "Our world is immrsed in a vast ocean of energy. We are faced with a aunting task - in this energy. " (N. Tesla)

Michael Faraday - English physicist for the first time completed the task: "Turn magnetism into electricity." The appearance of electric current in the turns of the generator conductor is the intersection by the conductor of the fluxes of magnetic field lines along which electrons are continuously trapped by cosmic particles from



In fact, cosmic electricity has long been received on Earth:
it is produced by electric generators, where conductors (frames) rotate in magnetic force flows created by strong magnets. Between the poles of the magnet creates a powerful concentration of magnetic field lines saturated with electrons.

According to the Faraday formula - the change in magnetic flux creates in the conductor (frame) EMF - potential difference (v): $E = N\Phi/t$, where E - voltage (v);
N - is the number of turns of the frame; $\Phi = IS = SQ/t$ - is the magnetic flux,
where $I = Q/t$ - is the flux of electrons through the area S; Q - is the charge of electrons (*Cl*).
{1 *Cl* = $6.25*10^{18}$ (*el*) electrons}

The energy of the pyramids.

It has long been known that energy is radiated and accumulated in the pyramid. "Research Egyptologist Enel (M. Saryatin) found that the radiation of the pyramid has a complex structure. They were allocated several rays: under influence the beam, called Pi, is the destruction of tumor cells; a ray causing mummification (drying) and destruction of microorganisms; and the mysterious Omega ray, under the influence of which the products do not deteriorate for a long time and which has a beneficial effect on the human body.

The pyramids eliminate around the geopathogenic effects of zones arising from the mutual intersection of the magnetic force lines of the Earth.

Subsequent studies have shown that thanks to a wide range of frequencies, some of which are identical to the frequencies of vibrations of healthy cellular structures of biological objects, the radiation of the pyramid has an effect that adjusts to the harmonizing functioning of a living organism. " (48)

"French scientist Anthony Bovi, exploring the pyramid of Cheops, and then Czech engineer Karel Drbal on pyramid models, found that biological and physico-chemical processes inthe pyramid, oriented to the cardinal points, achieve the greatest effect 1/3 the distance from the base to the top" . (48)

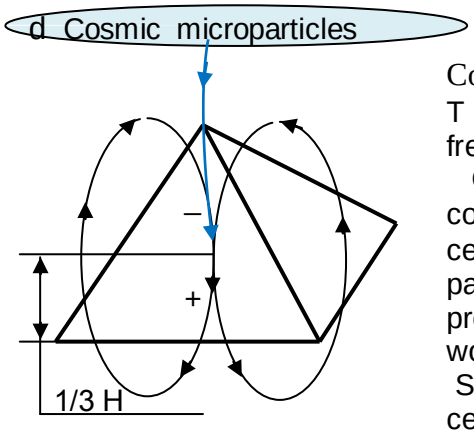
The Pyramid of Cheops: H = ~ 146.5 m , base L = 230 m. The classic size of the pyramid of Cheops: L = H x 1.57

"The pyramid of Cheops, in its geometrical form, encodes information about the structure of the universe, the solar system and man.

The crown of the pyramid, which is absent at present, was probably a miniature pyramid, repeating the entire structure of the main one. " (48)

.

"The main purpose of the Great Pyramid, built ~ 12 thousand years ago, was carefully hidden. It was not the Pharaoh's tomb or observatory, but was a powerful generator of special energy used by Pharaoh and the priests for various purposes. The Sphinx served as an entrance — the initiates entered as human beings, but emerged as transformed as the Gods, gaining a "second birth" in the pyramid. (48)



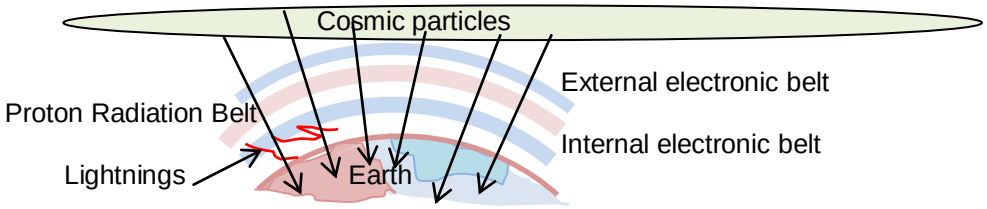
Cosmic particles T = $2.47*10^{-12}$K (Newtonium), and T = 2.7K (Corony) have "primary, relic forms" of radiation and frequency, have a beneficial effect on a living organism.

Cosmic particles enter the cells of a living organism consisting of neutrons, protons, electrons, and their cold centers. In the cells, the process of "burning out" all the pathogenic microbes by the cosmic cold takes place; the process of energy exchange is normalized, the cell starts working in a normal, healthy mode.

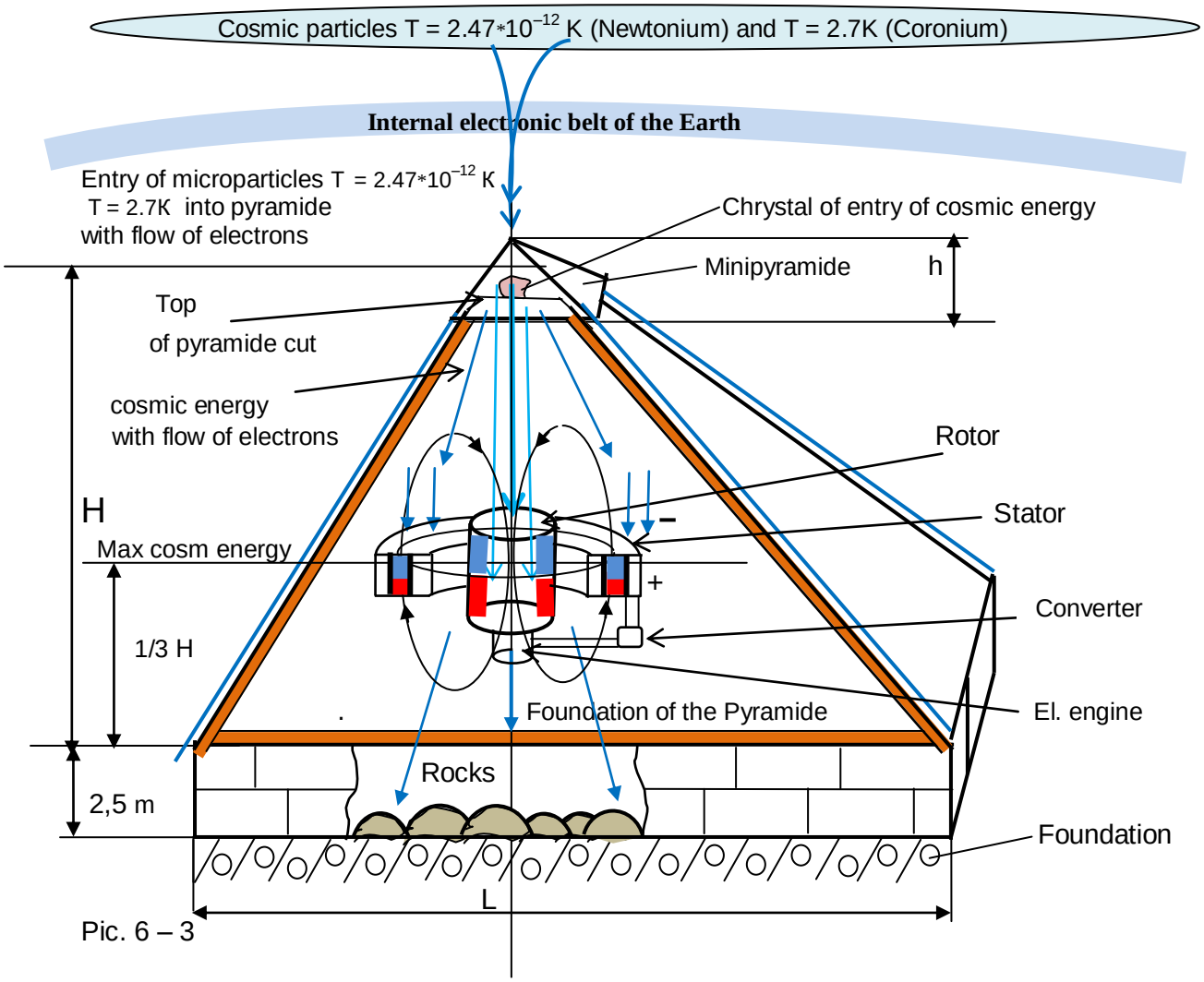
Since cells are mini-power stations, the process of setting up cells on a single electromagnetic wave takes place, both in frequency and in location of the microparticle charge poles: minus plus; There is a process of combining cells into a single energy chain of the human body.

Pyramid - powerhouse.

Pyramids located in all parts of the Earth were built 10-12 thousand years ago, and researchers increasingly come to the conclusion that the main purpose of creating pyramids is to generate electricity. Earth is surrounded by radiation belts - proton and electronic, created by solar miccles. From the inside electronic belt during thunderstorms continuously eit powerful electric discharges.



In the pyramid there is a powerful concentration of magnetic lines of force - the fluxes of microparticles Newtonium and Coronium, moving towards the center of the Earth, and pull the electrons from the electron belt under pressure.



Pic. 6 – 3

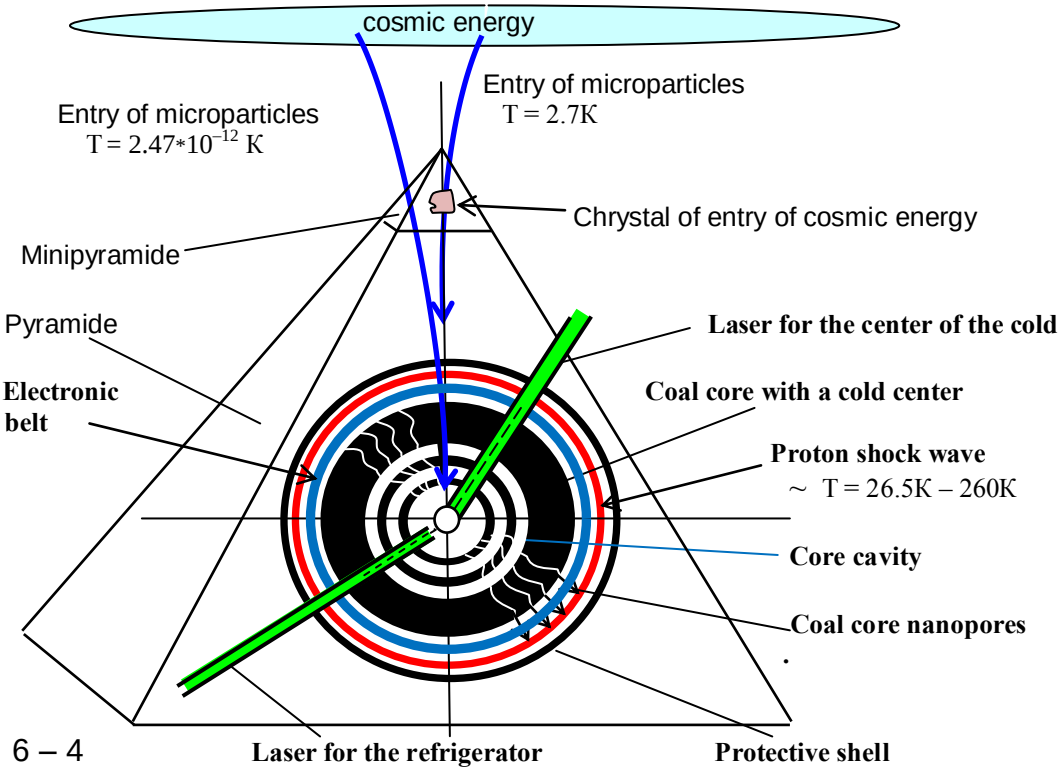
We place a natural crystal on the platform of the cut-off top of the big pyramid and install a mini-pyramid on the pyramid - the receiver of cosmic microparticles.

At a height of 1/3 from the base of the pyramid, where the maximum concentration of cosmic energy is, we install a rotor with magnets and a stator with solenoids (electromagnets). When the rotor rotates with magnets in the stator, a voltage is generated in the coils of the solenoid. The rotor electric motor is disconnected from an external source and, through a converter, operates at the expense of el. the current produced in the coils of the solenoid. The larger the pyramid, the more powerful the flux of magnetic field lines of cosmic particles, the greater the power generated.

3. Laser gravitational generator.

On pic. 6–4, a gravitational laser generator is shown, the design of which consists of a graphite core with cavities, where all the thermodynamic processes occurring in the core correspond to the parameters operating in the core of the Earth.

We install the gravitational generator into the pyramid — we place it at a height of 1/3 from the base, where the greatest intensity of the physical field is the concentration of cosmic energy. "The pyramids(e most ancient are ~ 12 thousand years old) are the accumulators of space studies - the sources of electric power." (48)



Pic. 6 – 4

Low temperature in the centre of the cold, which includes cosmic microparticles $T = 2.47*10^{-12}$ K and in the fridge of the core with the "terrestrial" temperature T = 0.275K is achieved by slowing down the speed of microparticles using lasers.

In the refrigerator, where space microparticles with temperature continuously go T = 2.7K , the rupture of cosmic microparticles occurs with temperature differences:

T = 2.7K / 9.81 = 0.275K .

Microparticles with a temperature T = 0.275K from the cavity under pressure enter the nano pores of the coal core, where the cold-nuclear process of neutron formation takes place.

From the nano pores of the nucleus, reactive neutron fluxes are ejected under pressure into the cavity, which, meeting with cosmic microparticles, are braked, condensed and a proton shock wave with a temperature T = 2.7 K is formed at the boundary of the meeting when the sheath breaks down from the neutrons.

The coal core has a cascade of cavities where proton shock waves with increasing temperature are sequentially generated: T = 26.5K ; T = 260K .

In fact, in the reactor we obtain a divided plasma into electrons and protons.

"Research conducted by O. Hepfner (1989) established the important fact that the energy accumulated by the pyramid can be brought out through a flexible copper cable and used for the necessary purposes from a distance." (48)

Consequently, from the proton shock wave and from the electron belt, a process of continuous selection of electricity and its transfer from the reactor and pyramid to the consumer is created.

Book 2

Shock wave aerodynamic and cosmic jet propulsion. The smooth rise up in space.

Introduction

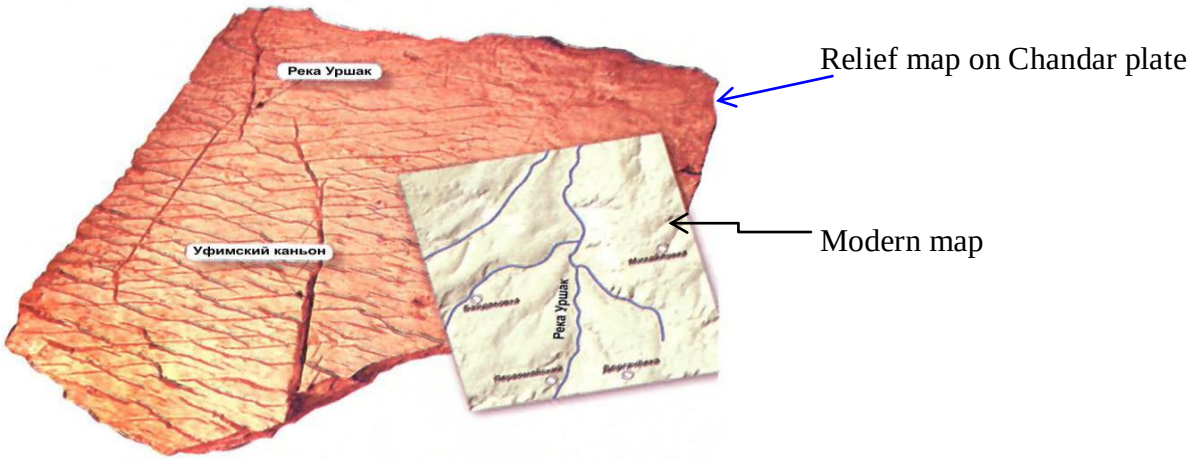
A smooth jet climb from the surface of the Earth into outer space is a technical breakthrough, having accomplished that, humanity will open a new era in the exploration of outer space.

It turns out that once upon a time there existed highly developed civilizations that, without any problems, flew into cosmic expanses from any point on the Earth's surface.

Based on archival data from the 18 th century, where it was reported that stone white slabs with strange badges were stored near the village of Chandar in Bashkiria, an expedition in 1999, organized by Professor A. She found a three-layer stone slab, where the upper layer is heavy-duty calcium porcelain.

It turned out that a relief map is depicted on the surface of the slab! It was proved by scientific methods that the Southern Urals is represented on the Chandar Plate, but the terrain relief is partially different from the modern one, since the map is at least 65 million years old! The mountains, rivers and the Ufa canyon, which is no longer presently, are mapped. But the most surprising thing is that, according to experts, such an image of a map can only be obtained by using aerospace imaging.The map shows hydraulic structures; channel system. The map shows hydraulic structures; channel system. Not far from the canals rhombic platforms are indicated - apparently, runways. (45)

Most likely, THEY - who once lived and built on Earth, flew - there are no roads on the map. Undoubtedly, THEY posd for the mass movement of such devices that could carry out flights, both in airspace and in space with a smooth rise.

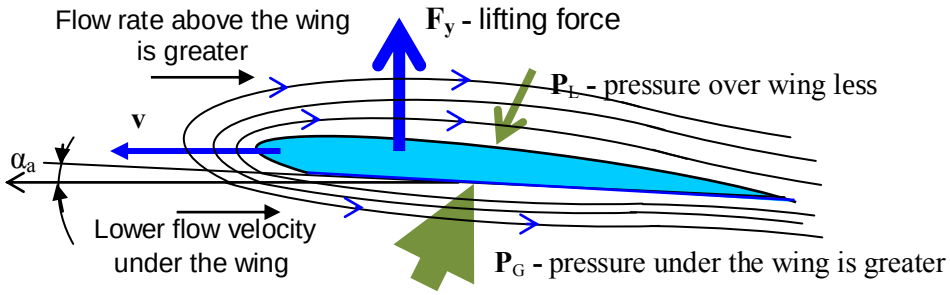


Unfortunately, modern science is not available and it does not even consider the question - the smooth ascent of manned spacecraft into space and the smooth descent from space. Consequently, there is no exact scientific solution to the question of what is a reactive motion.

Shock-wave theory not only eliminates gaps in knowledge of aerodynamics and jet propulsion, but also unites all flight processes, both in airspace and in space, which makes it possible to make a revolutionary breakthrough in creating devices with a smooth rise and open the way for millions of passengers into cosmic spaces.

Part 1. **Aerodynamics of flight.**

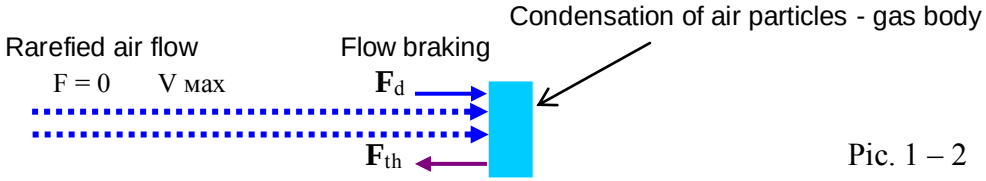
1. **Modern aerodynamic theory** determines the emergence of lift in the asymmetrical profile of the wing during its translational motion in the air flow around the wing above and below, as follows:
the lower plane of the wing, where the flow velocity is less, experiences a pressure greater P_G than the upper plane of the wing, where the speed of the air flow is higher, therefore, is under pressure less than P_L. The pressure difference on the planes $P_G > P_L$ - creates the lift force of the wing $\mathbf{F}_y$, see pic. 1 - 1.



Pic. 1 – 1

Aerodynamic formula of wing lift force $F_y = C_y \rho S V^2/2$ (28), where
V – is the wing speed; $\rho = 1.293$ кг/м^3 – air density;
S – wing working area;
C_y – aerodynamic coefficient of lift, the magnitude of which depends on:
from the angle of attack of the wing α_a – angle between the wing plane and the velocity vector; and lifting angle α.
But such a modern aerodynamic theory ***cannot explain*** how the world of nature flies with a flapping wing?

2. **Aerodynamic forces of action and reaction.**
When an airplane wing moves or a wing flies in the living world of nature, the wing, having speed, breaks into the surrounding mass of air, the density of which $\rho = 1{,}293$ кг/м^3.
It is known that the strength of the body $\mathbf{F}_d$, those. wing, will manifest itself only if there is a second body, from which the force of bestowal is created $\mathbf{F}_{th}$ – appears wing lift $\mathbf{F}_y$. If we consider the wing as the first body, then where is the second body?
A high-speed, flowing around rarefied air stream will have an even lower density than the surrounding air masses, and is not a body. Therefore, air particles must be thickened, compressed so that gas density appears, a support that can be acted upon by force of action $\mathbf{F}_d$, to get the power of bestowal $\mathbf{F}_{th}$, lift force $\mathbf{F}_y$.



Pic. 1 – 2

The fundamental physical law is observed - the impulse of the forces of action and reaction: the wing must have a support, starting from which the force of bestowal $\mathbf{F}_{от}$ there is a lifting force of the wing $\mathbf{F}_y$.

Such a theory - the appearance of an air support during movement - can explain not only the aerodynamics of an airplane's flight, but also the flight of birds, and the flight of a bumblebee hovering in the air due to the rapid flap of its wings — the entire flying world of nature.

2. How is air support created for wing lift?

Air composition is known: nitrogen – 75.5%; oxygen – 23.2%; other gases – 1.3%
It turns out that the air in the atmosphere has a unique natural phenomenon - its molecules, being in a chaotic motion, have a supersonic speed.
"The average kinetic energy of molecules does not depend on the nature of the gas, but depends only on its temperature." (40)
The average velocity of air particles at 17^0C (T = 290K) is:

$V^2 = 8\ RT / \pi\ \mu = 8 * 8.31\ J/mol\ K * 290K / 3.14 * 29*10^{-3}\ kg/mol$; where

R = 8.31 J/mol K - gas constant;
$\mu = 29*10^3$ kg / mol - the average molar mass of air.
We get that V = 463 m/s (4)
At 20°C, the average speed of air molecules:

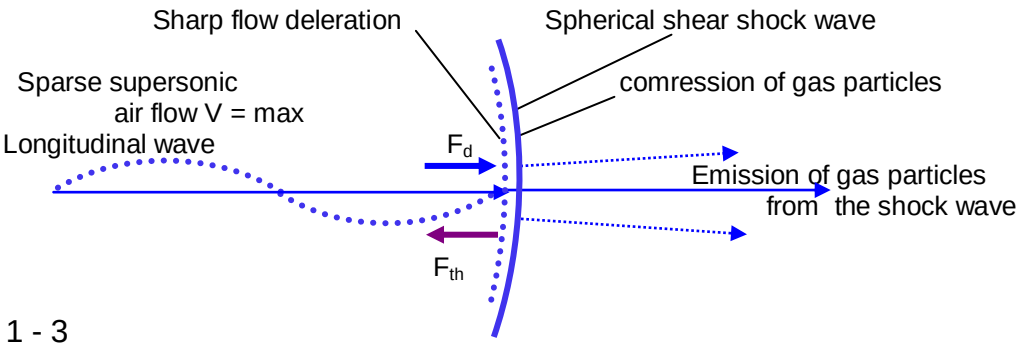
for hydrogen -1500 m/s;
nitrogen - 450 m/s;
in oxygen - 400 m/s.
The speed of sound in air a = ~ 330 m/s .

Since the main elements of the air: Nitrogen, oxygen have a supersonic speed, therefore, acting by force pressure on air masses, i.e. creating an air flow in a certain direction, a unique physical phenomenon occurs: The chaotic movement of air molecules in air masses passes into a supersonic, wave-wave flow of nitrogen and oxygen molecules.

At the boundary of the meeting of a supersonic spate-wave, rarefied flow of air molecules with an inert air mass, instantaneous deceleration and compression of supersonic gas particles flow occurs. The shock wave front is formed - a very thin layer in which the thermodynamic parameters of the gas change abruptly; when strongly compressed, the gas molecules create a high density, high pressure and temperature. (40)

The front of the shock of compaction of gas particles - is a transverse shock wave that occurs when a longitudinal, supersonic motion of gas molecules passes into a decelerated, compressed, transverse motion of molecules.

The transverse - shock wave can be influenced by the action force F_d, in order to obtain the il force F_{th}, see fig. 1 - 3.



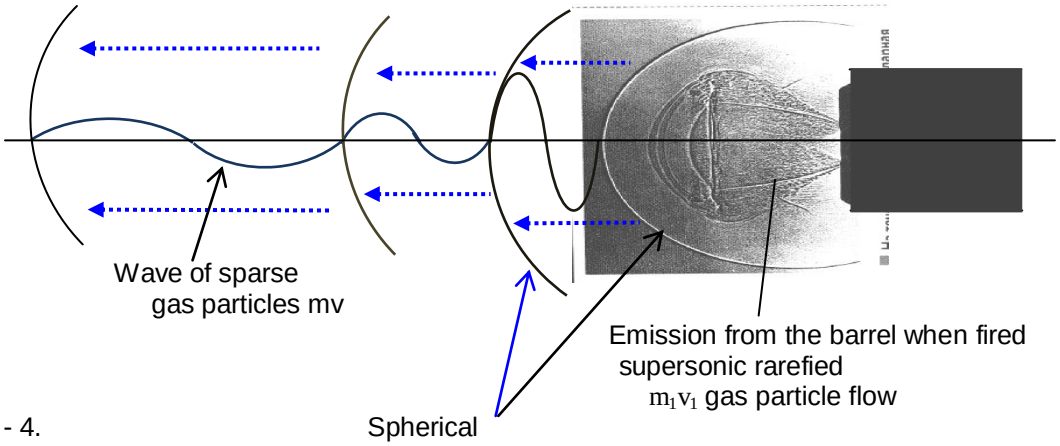
Pic. 1 - 3

The nature of the appearance of spherical, transverse waves of compressed air particles - shock waves, ranging from ultra weak (inaudible during the flight of the living world of nature), medium, strong to super strong shock wave - is the same: transverse - a shock wave arises during a sharp deceleration of a supersonic stream of particles on the boundary of a meeting with an inert air mass.

Spherical, transverse - shock waves can be classified by sound level: ultra-weak (inaudible and lower sensitivity limit of the human ear); weak (quiet rustle); medium (speaking); strong (shot, strong thunder - sound barrier).

Since air molecules move chaotically at supersonic speeds in the surrounding airspace, the impact in a certain direction on airspace molecules by a force flow from the source immediately creates a supersonic rarefied flow of air molecules with an impulse m_1v_1. At the boundary of the meeting of a supersonic flow of air molecules with the surrounding inert air mass, the process of deceleration and thickening of particles takes place, which create a spherical, transverse - shock wave, which has an impulse of force f_1t_1. This primary, large impulse of force creates a cascade of impulses of movement and impulses of forces:

$m_1v_1 = f_1 t_1 > m_2v_2 = f_2 t_2 > m_3v_3 = f_3 t_3 > m_4v_4$ See. pic. 1 - 4.



Pic. 1 - 4.

Due to the energy of the lightning or the body flying in the supersonic zone, Air molecules shrink and create a shock wave front - a transverse shock wave, which is a sound barrier at the boundary with the subsonic zone, the boundary of a sharp pressure drop.

When a lightning breaks through a sound barrier or a sound barrier body, a thunder strike occurs - an instantaneous transition of the potential energy of compressed molecules from a transverse shock wave to a longitudinal wave motion, with the kinetic energy of the molecules ithe subsonic zone. See Pic. 1 - 5.

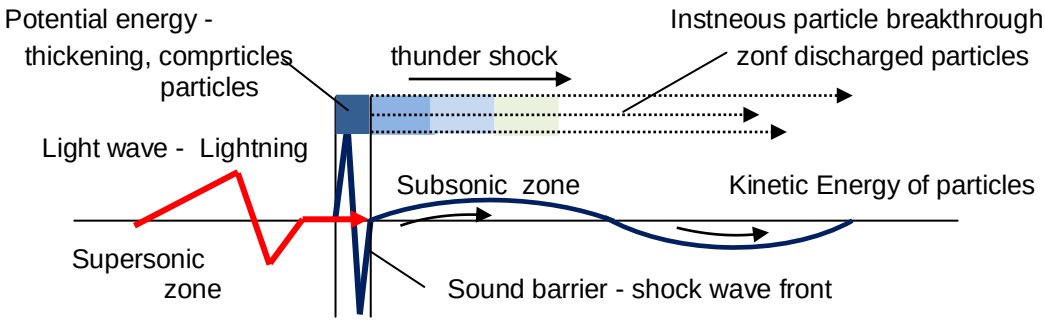


Fig. 1 - 5

3. Front shock compaction of air particles.

When the aircraft is moving in air at a speed of v, the wing of the aircraft in front of itself creates a supersonic flow of air molecules. Meeting with a fixed mass of ambient air, the supersonic flow of molecules thickens and creates a compressed, disturbed layer of gas particles with a pulse of motion mv in front of the wing, separated at the boundary of the meeting from the unperturbed air mass by the "shock front" of air particles, i.e. transverse shock wave with an impulse of force ft.

If the wing is the ***first body***, then the shock front of compaction of air particles, that is, the transverse shock wave, is the ***second body***.

Between the wing (the *first body*) and the shock wave (the *second body*), in a compressed, disturbed layer of air particles, there is a process of action and reaction: the impulse force of the wing ft_w, through the impulse of the compressed mv molecules, acts on the shock wave. The impulse of the shock wave ft_{sw}, through the impulse mv, creates an impulse of recoil force on the wing: $ft_w = mv = ft_{sw} = mv = ft_w$,

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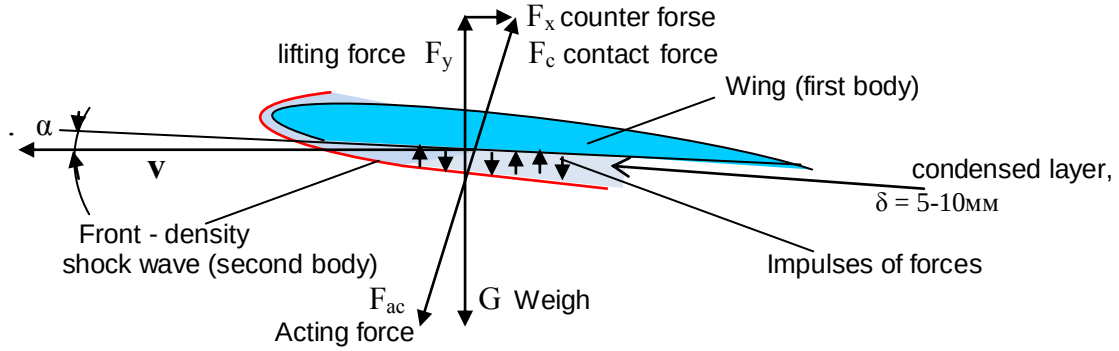
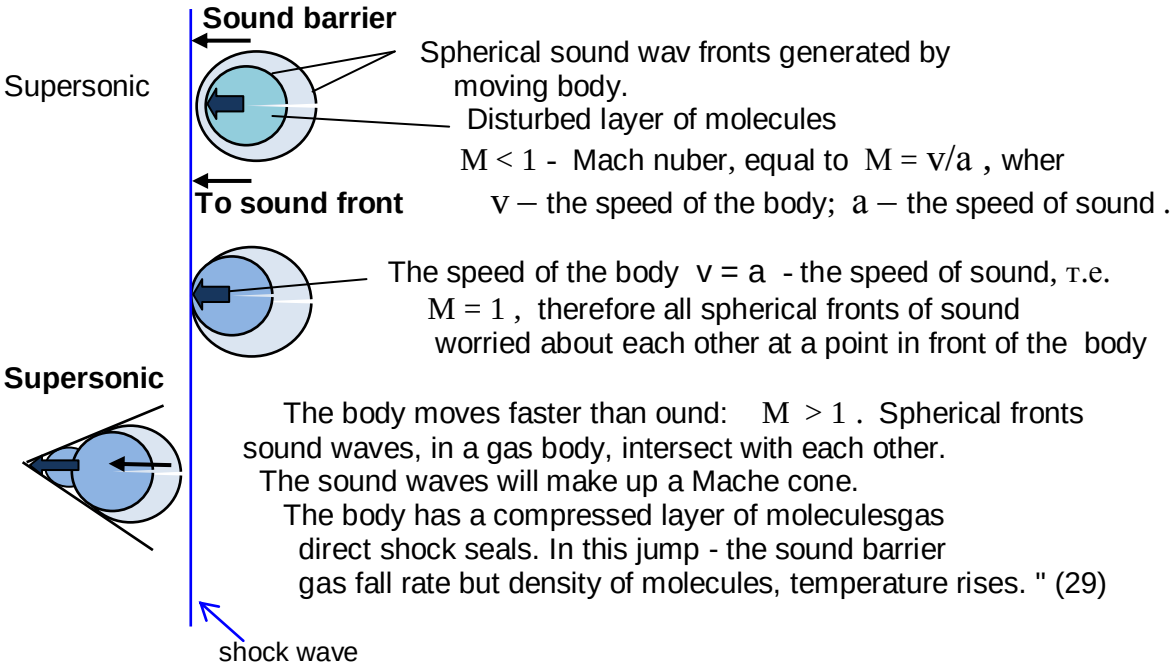
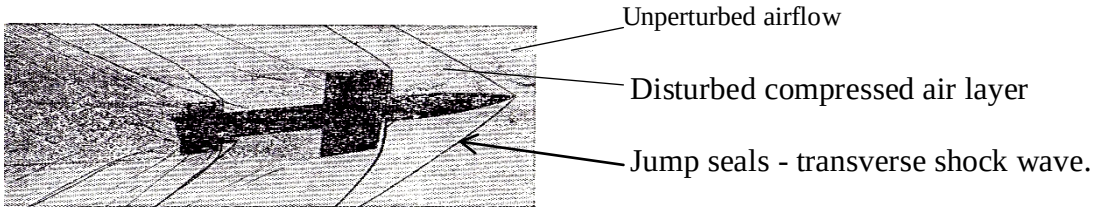


Pic 1 – 6



When the velocity of the projectile is higher than the sonic one, after overcoming the sound barrier, it is flying in a supersonic zone.

In the picture, Pic. 1 - 9, the photographed flight of a projectile with a Mach number of 2,67, which shows that shock waves are transverse shock waves when the projectile moves at supersonic speed in undisturbed air currents. (35)



Ударные волны при полете снаряда (число Маха 2,67).

Pic. 1 - 9

Thus, during the transition from particles moving at supersonic speeds to transverse waves, shock waves arise — a transverse shock wave — the thinnest layer with sharp retarded parts, where the jumps change the thermodynamic parameters of the condensed particles: pressure, diameter, temperature.

4. **Density of inhibited gas particles.**

In a supersonic gas flow, where there is a strong underpressure, it is significantly less than the density of the surrounding air, $\rho_{min} < 1.293\ kg/m^3$.

$P_{мin} = \rho_{Min}\, v^2_{мах}$, where: when v_{max} - is selected, the gas flow rate, ρ_{min} - the flow decreases, and P_{min} - the gas pressure synchronously decreases. Such a minimum amount of airflow allowed will never create a lifting force, since the force interaction between the air units approaches zero.

The pressure drop in a moving stream is determined by the Bernoulli law: "As the flow rate of a liquid or gas increases, the pressure decreases, and, conversely, as the flow rate decreases, pressure increases."

This law combines *two environments - liquid and gas*. The liquid easily goes into a gaseous state, and when a gas condenses, it goes into a liquid. So in nature - there is a continuous evaporation of water from the surface of the Earth, i.e. air is saturated with vapors - water molecules, which are transported by the air medium into the cold zones of the atmosphere. A dense concentration of water molecules is formed in cloudy and powerful clouds; and the process ends with the overthrow of water flows during a thunderstorm.

It is known that the diameter of air $\rho = 1.293\ kg/m^3$, and the diameter of water is 770 times larger and equal to $\rho = 1000\ kg/m^3$. According to the formula $R = nkT$ (40), are compressed and condensed to the density of water; where n - is the concentration of molecules in one cubic meter; k - is the Boltzmann constant.

With a sharp deceleration of supersonic air flow, strong compressions of gas particles, there are *shock waves - a transverse shock wave* with a dense density:

$P_{мах} = \rho_{мах}\, v^2$, or $nkT = \rho_{мах}\, v^2$, where

v - is the inhibited velocity of molecules in the shock wave;

$\rho_{мах}$ - is the size of gas particles, during compression, volume reduction, increase;

$P_{мах}$ - the gas pressure increases sharply.

Accordance with the formula $nkT = \rho v^2$, directly proportional temperature $\rho \sim T$, Then on the border of the meeting - compressed, condensed air particles with density ρ_1 and temperature T_1 with a stream of discharged gas particles having density ρ_2 and temperature T_2 , a *shock wave front* is created with a density drop equal to the temperature drop $\rho_1 / \rho_2 = T_1 / T_2$

The density of the shock wave in the subsonic zone.

"The shock wave makes the gas as hard as a sledgehammer, and the more the energy of the gas, the harder the sledgehammer becomes.

The method of direct energy transfer between gases with different pressures by means of a *shock wave* was patented in 1906 by British engineer Robert Knauff. " (27).

It is known that along with the process of vaporization, the reverse process of condensation occurs - the transformation of vapor into liquid. A vapor that is in a state of dynamic equilibrium with its liquid is saturated steam. (42) It is also known that when compressed, with increasing pressure, hydrodynamic cavitation bubbles filled with gas collapse. Escaping under pressure from a collapsed bubble, supersonic gas flows create a *shock wave*.

Consequently, the density of the most powerful transverse acoustic shock wave, which occurs when a body breaks through a sound barrier at a sound velocity of $v_{max} = a = 330$ m/s , is equal to the density of the concentration of saturated vapor upon transition to a liquid, i.e. $\rho_{max} = \sim 1000$ kg/m^3. (41)

The breakthrough of such a density $\rho_{max} = \sim 1000$ kg/m^3 - of the shock front - *sound barrier* in the atmosphere by a lightning or an aircraft, moving at supersonic speed, is accompanied by a thunder strike.

Knowing the strength of the sound during a thundering strike $fs = 120$ *db* , it is possible to determine how much the sound density increases — a shock wave with an increase in sound power by one decibel: $\rho_{max} / fs = 1000$ kg/m^3 / 120 *db* = 8.33 kg /m^3.

We determine the density ρ of sound shock waves from known levels of sound power in decibels. All results are summarized in a table of levels of known sounds (42).

Table A

Levels of different sounds (reference) *	Strength of the sound fs *db* *	Effective sound pressure P (n /m^2)	Density Of the *shock wave* ρ (kg /m^3)
Lower sound limit	0 - 5	0.00002	1.3 – 41.65 *)
Silent rustle of leaves	10	0.000065	83.3
Quiet garden	20	0.0002	166.6
Quiet music	40	0.002	333.3
Speech	60	0.02	500
Loud speech	70	0.0645	583
Thunder strikes	120	20	1000 - sound barrier
Pain threshold - no sound	130	-	1083

*) The density of the transverse - ultra weak waves formed under the wing of the silently flying world of nature is within $\rho = 1{,}3 – 41{,}65$ kg /m^3.

The density of the shock wave in the supersonic zone.

In an air environment saturated with nitrogen, oxygen, hydrogen and other gases, there are also ascending pairs - water molecules, which are actively involved in creating the shock front.

a). If the aircraft in its motion reaches the sound zone, then at the speed of sound $M = v / a = 1$, the device creates a *shock wave* of particles in the atmosphere.

When braking, the kinetic energy of the jet stream of molecules in the shock wave goes into heat: $^1/_2\, mv^2 = {}^1/_2\, ma^2 M^2 = {}^3/_2\, k T$, where

m - is the mass of the molecule; k - is the Boltzmann constant.

$T = \sim ma^2 M^2 / 3 k = \mu_o a^2 M^2 / 3R$, where

$R = \mu_o k / m = 8{,}314$ J / (K mol) - is the gas constant;

for air $\mu_o = 29{*}10^{-3}$ kg /mol; $a = 330$ *m/s* ; $1nm = 1$ J ; $T = \mu_o a^2 M^2 / 3R$.

We get the temperature $T = \sim 130K$. But since the temperature of the Earth and its atmosphere equal to $T = 260K$, the temperature of the shock wave - the shock wave (sound barrier) is equal to: $T_{zB} = \sim 400K$ at the density of the shock wave - sound barrier $\rho = 1000$ kg / m^3.

b). If the aircraft approaches the speed $M = 7$, then we obtain the temperature of the shock wave — the shock wave:

$T = \mu_o a^2 M^2 / 3R = 29{*}10^{-3}$ kg /mol $*$ (330 *m/s*)$^2 * 7^2 / 3 * 8{,}314$ J / (K mol) $= \sim 6000K$. (29)

"The temperature is in the order of magnitude the same as on the surface of the Sun! ». (29)

That is, it is the temperature of the solar plasma.

"It was found that protons make up 91.3% in solar plasma." (14)

The density of particles in a shock wave - in the inhibited flow directly depends on the temperature of the shock wave: $\rho_1 / \rho_2 = T_1 / T_2$, i.e. $\rho_7 / \rho_1 = T_s / T_{zB}$

Then the density ρ_7 - of the proton shock wave $T_s = 6000K$ will be:

$\rho_7 = 1000\ kg / m^3 * 6000K / 400K = 1.5{*}10^4\ kg / m^3$.

c). If the aircraft approaches a speed of the order of $M = 10$, then we obtain the *temperature of the shock wave* — the shock wave $T = \sim 10.000K$. (29)

It is known that $T = \sim 10\,000K$ is the temperature of the electronic discharge of lightning.

When braking the jet stream of particles, a compressed layer is created - a transverse electron shock wave.

The density of the electron shock wave at a temperature $T = \sim 10\,000$ K

$\rho_{10} = 1000\ kg / m^3 * 10\,000K / 400\ K = 2.5{*}10^4\ kg / m^3$

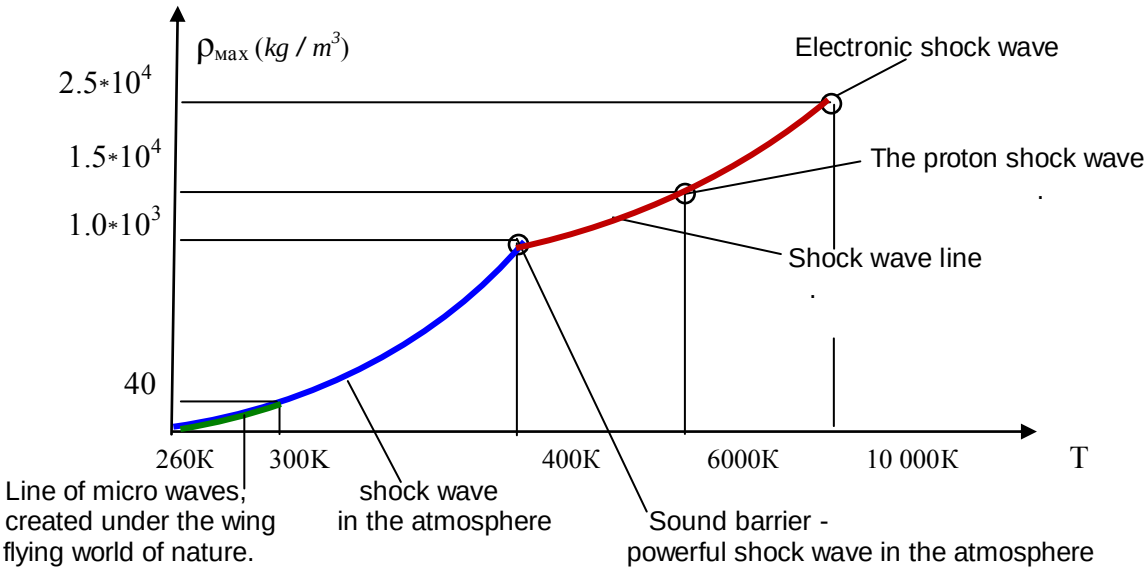
The results obtained are summarized in table B

Table B

jet propulsion.	Speed of the gas flow km/s	Inhibited temperature flow - the shock wave	Density of the shock wave ρ *kg / m^3*
Reactive motion of the body with the speed of sound M = 1	~ 0.33	~ 400K	1000
Body movement with M = ~ 7	~ 2.31	~ 6000K	$1.5{*}10^4$
Body movement with M = ~ 10	~ 8.25	~ 10 000K	$2.5{*}10^4$

Conclusion: near the surface, in addition to air particles, are neutrons, neutral electrons, microparticles of the gavitational field, creating force lines, and microparticles that maintain a constant temperature of the Earth $T = 260K$.

On pic. 1 - 10 shows a combined grahf micro waves created by the floating world of nature; sound shock waves andshock waves created by supersonic aircraft.



Pic. 1 – 10

5. **Wing lifting force.**

The wing, having energy $W_{cr} = mV^2/2$, with velocity V rushes, presses on the air mass, compresses it, there is a shock wave - shock (shear) waves and the wing receives the recoil force from the shock waves.

Compressed gas in the shock wave - the shock wave has pressure: $P = \rho V^2/2$, where compressed gas density $\rho = m_{cr} / SL$, where S - is the wing area, L - is the wing travel.

Pressure is the force of movement of F_d to the wing area: $P = F_d / S$, then driving force - thrust force: $F_t / S = \rho V^2 / 2$, we get: $F_t / S = \rho V^2 / 2$

Wing lift $F_y = C_y \rho S V^2 / 2$ (28) Therefore, $F_y = C_y F_t$

ρ - density of the shock wave - wing support.

C_y - is the aerodynamic lift coefficient, the value of which depends on the angle of attack of the wing α_a - the angle between the plane of the wing and the velocity vector, and the angle of elevation α - between the horizon lines and the velocity vector of the wing - the direction of thrust force F_t.

The angle of attack and the angle of elevation affect how far the shock wave is formed under the wing; the impulse of the force of action of the wing ft_c on the shock wave and the impulse of the force of recoil ft_f depend on this, from the shock wave to the wing.

As the lift angle increases, the pressure of the force of the wing on the shock wave increases, which means that the recoil force from the shock wave to the wing increases, and the lifting force of the wing increases.

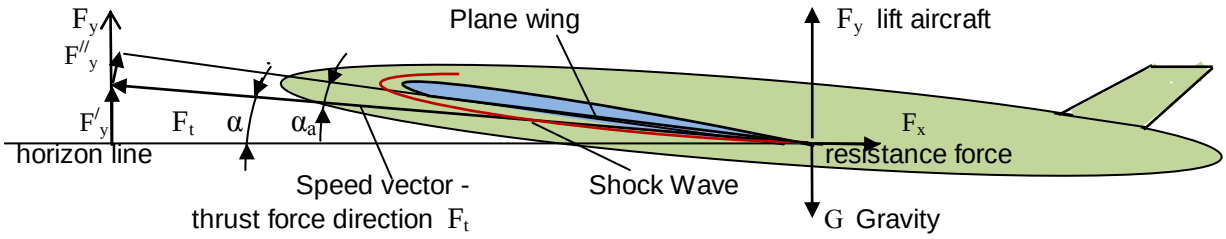
Wing lift when the lift angle α appears: $F_y / F_t = \sin\alpha$.

Then we have the following: $F^I_y = F_t \sin\alpha$; then $F^I_y = \sin\alpha \rho S V^2/2$, where $C^I_y = \sin\alpha$ - aerodynamic coefficient of lift of the wing, depending on the value of the angle of lift.

Wing lift when the lift angle α_a appears: $F^{II}_y / F_t = tg\,\alpha_a$.

Then we have the following: $F^{II}_y = F_t\, tg\,\alpha_a$; or $F^{II}_y = tg\,\alpha_a \rho S V^2/2$, where $C^{II}_y = tg\,\alpha_a$ - aerodynamic coefficient of lift of the wing, depending on the value of the angle of attk. Pic. 1 - 11.

Total force of the wing lift: $F_y = F^I_y + F^{II}_y = C_y \rho S V^2$, then $C_y = C^I_y + C^{II}_y = \sin\alpha + tg\,\alpha_a$.



Pic. 1 - 11

The maximum value of the aerodynamic lift force of the wing:

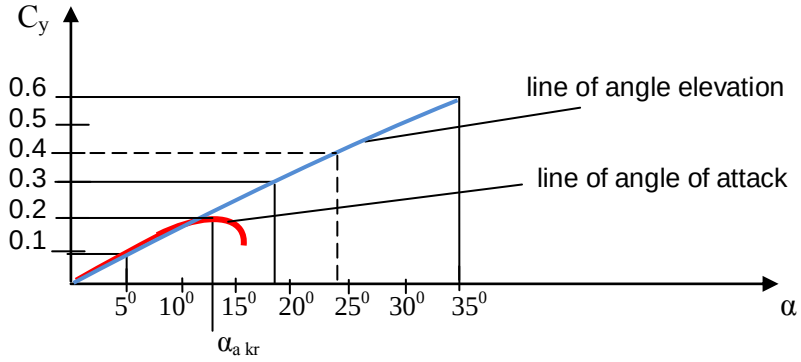
$F_y = 0.77\ \rho V^2 S$ (29)

It is known that the critical value of the angle of attack of the wing is $\alpha_{a\ kr} = \sim 15^0$.

If the angle of attack of the wing is $\alpha_a = 12^0$, then $tg\ 12^0 = 0.2$

Then, $\sin \alpha = 0.57$. We obtain the elevation angle $\alpha = 35^0$

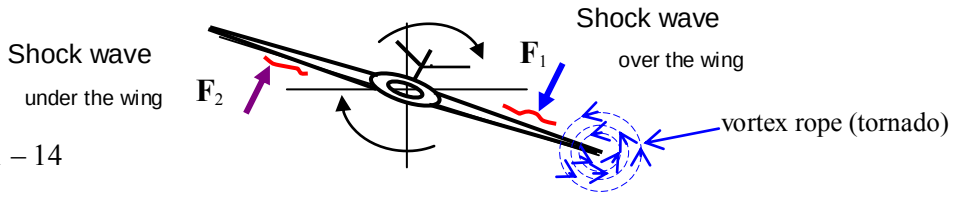
On pic. 1 – 12 grphically visible relationship aerodyna lift coefficient when changing the angle of lift and anglof attack of the wing



Pic. 1 – 12

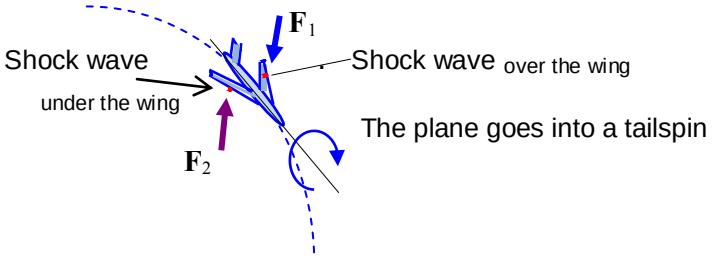
A sharp drop in the lifting force of the wing F_y occurs as a result of reaching the critical angle of attack $\alpha_{a\ kr}$.

A sudden encounter with an obstacle - a shock wave by ball lightning or a swirling air stream - a tow, can lead not only to the braking of the wing, but also to the instant destruction of the shock wave under the wing and the appearance of the shock wave already above the wing.



Pic. 1 – 14

On the wings immediately appear oppositely directed forces F_1 and F_2 . The aircraft instantly makes a 2 - speed torque - around the transverse and longitudinal axes, and as a result - it enters the tailspin.

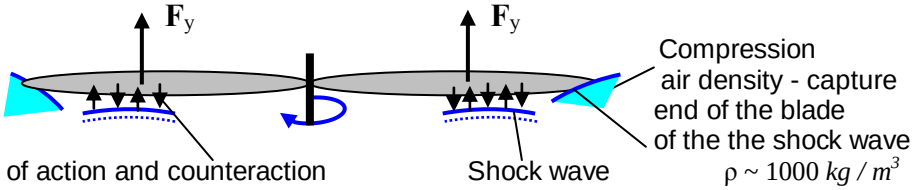


Aerodynamics propeller helicopter.

“Under the influence of air compressibility, lift coefficients and resistances depend not only on the angle of attack, but also on the number M of the blade section.

For example, when the speed of the helicopter is $250\ km/h\ (70\ m/s)$, the circumferential speed of the main rotor is $210\ m/s$, and the total speed of the end blades of the screw is $v = 280\ m/s$; critical number $M_{cr} = v / a = 280/340 = \sim 0.83$.

In this case, the end blades of the screw work in conditions of wave crisis. Deep wave crisis causes a sharp deterioration in the aerodynamic characteristics of the rotor: the vibrion level of its structures increases dramatically, which significantly complicates the flight and akes it unsafe. ” (7).



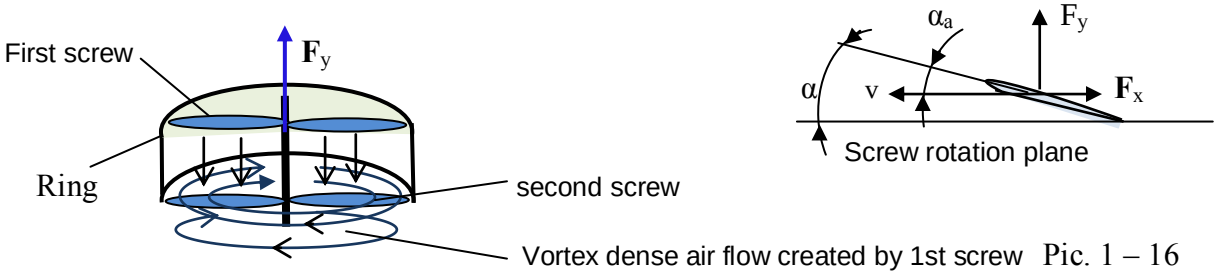
Pic. 1 – 15

When the rotor of the helicopter rotates, if the speed of the blade ends approaches M_{cr}, then the process of approaching, “gripping” and braking the ends of the blades by shock waves occurs; vibration occurs. The action of shock waves creates a "wave crisis" and a sharp deterioration in the aerodynamic characteristics of the rotor, pic. 1 - 15.

Aerodynamics of a screw screw enclosed in a ring.

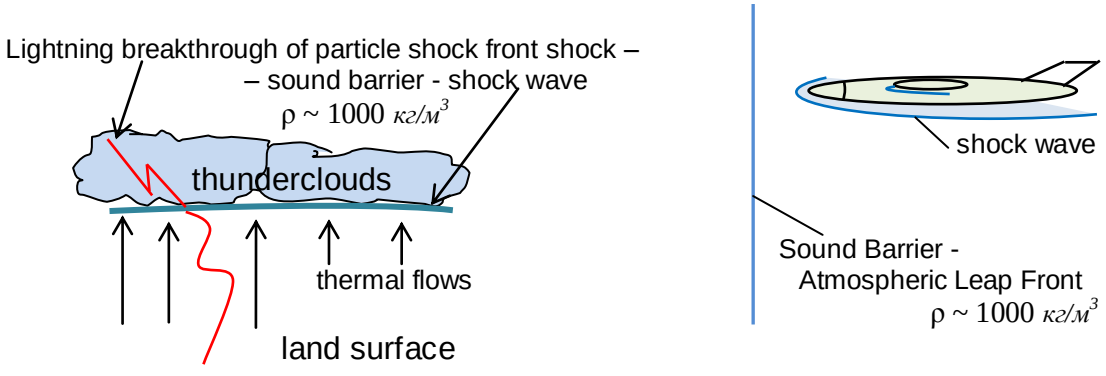
The propeller blades rotate in the ring, therefore, the rotational speed of the propeller blades can be $V > 340\ m/s$, and there are no longer any conditions for the appearance of a wave crisis. The first screw creates a vortex compressed flow with micro-shock waves with a high density $\rho = \sim 250 – 450\ kg/m^3$.

Therefore, for the second screw, the lifting force is the thrust force, when rotating in a dense medium, condensed particles: $F_y = C_\alpha\ \rho n^2 D^4$ (13) , where n - screw rotation frequency; D - is the diameter of the screw; $C_\alpha = \sin\alpha$ - aerodynamic lift coefficient of the screw, depen α - the angle of the blades to the plane of rotation.



Pic. 1 – 16

6. **Ascending air currents** prop up the front of the Walnutney jump $\rho \sim 1000\ кг/м^3$ - a shock wave of thunderclouds with millions of tons of water, moving in the sky.



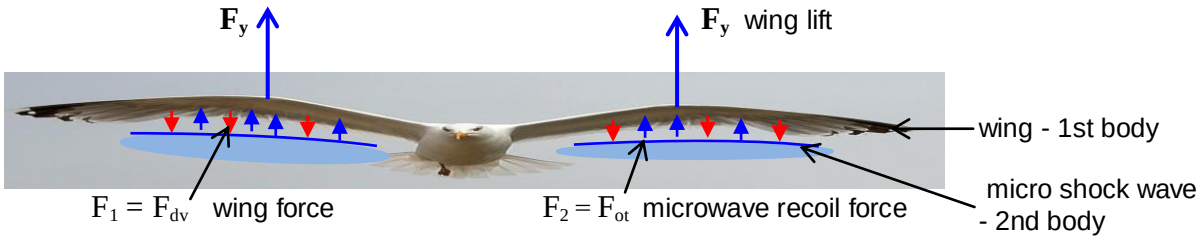
7. How does the whole living world of nature fly?

When birds fly, bees - of all the living world, wing flaps form
targeted supersonic streams of air particles, which at the boundary of the meeting with the surrounding air mass create transverse - micro-shock waves with a certain density.

Micro-shock waves and flies the whole living world of nature.

Leonardo da Vinci, watching the flight of birds, came to the conclusion that the air under the wing is compressed, compacted - and this supports the bird in flight:
"What force is created by the object (wing at the stroke) against the air, which is also created by air against the object."

Since the air molecules have a supersonic speed, then when moving - swinging the wing performs the function of creating a stream of molecules that
meet with inert air mass. At the boundary of the meeting, the supersonic flow molecules are slowed down, approach each other, are condensed, which leads to the appearance of transverse-micro-shock waves with density ρ .
That is, under the wing, a compressed air with micro-shock waves is created, where the forces of action of the wing F_1 (1 - body) act on the waves (2 - body) and the recoil forces from the micro-shock waves on the wing F_2 .
The recoil forces from micro-shock waves create both the lift force F_y of the wing and the force of movement F_{dv}, see fig. 1 - 17.



Pic. 1 - 17

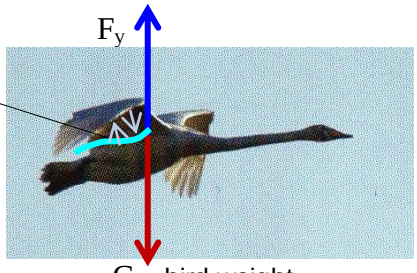
The lifting force of the wing of the whole living world when lifting does not depend at all on the coefficient of attack angle of the wing C_y . Since birds and insects make oscillatory movements of the wing with the required frequency ν and the amplitude of the wing flap h for lifting to a height H.
Therefore, the lifting force of the wing in the living world is determined by the formula:
$F_y = \rho S V^2/2$, where – S is the area of the wing; ρ - is the density of transverse micro-impact waves created by the wing during the swing; $V = \nu h$ *(m/s)* - is the lifting speed of a living object, where ν - is the frequency of wing strokes per second;
h - lifting height with one wing stroke. Then, the wing lift $F_y = \rho S (\nu h)^2/2$.
The lifting force must ecseed the bird weight G.

In the bird, the wing is the driving force, therefore, the bird forms microfuse waves under the wing, which make it possible, when flapping the wing, due to the force of action of the ft on the microfuse waves, to receive from the micro shock waves the recoil force per wing: F_{ot} , i.e. create and lift force $F_{ot} = \mathbf{F_y}$ and
the force of movement F_{dv}

On pic. 1 - 18 shows the flight of a bird:
The power expended whenimbing at an angle α to the horizon line:
$F_y = F_{dv} \sin \alpha / 2 = \rho S(v\ h)^2 \sin \alpha / 2$
a) horizontal flight due to the force of motion $F_{dv} = \rho S V^2 / 2 = \rho S\ (v\ h)^2 / 2$

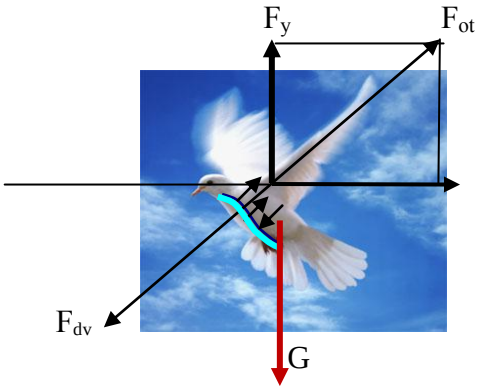
) The wing rejects the flow of air, micro-shock waves appear.

Forces of action and forces of recoil on the wing from micro-shock waves
The power lift , of movement appears: F_y and F_{dv}



Flight of the whooper swan. The maximum flight height of these birds H = 8,8 км

b) **Brake**



Landing of the bird - the force of braking of the wing appears F_x

Pic. 1 - 18

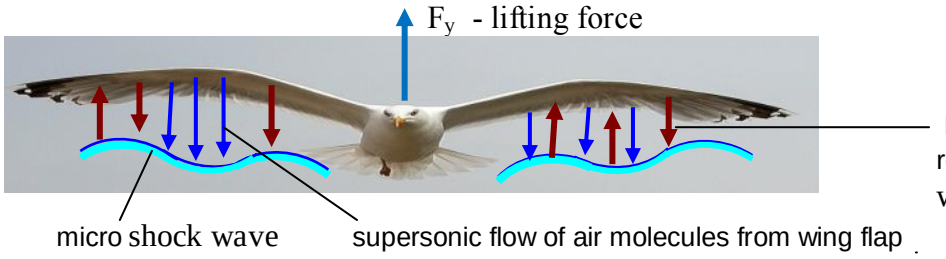
Bumblebee lift.

Forces of action and forces of return from micro shock wave on the wing.
Formation of a micro shock wave by supersonic flow of molecules under the wing during wing flap.

Pic. 1 - 19

The maximum oscillation frequency of the bumblebee's wing is $v = \sim 250 - 300\ 1/s$.
The first wing of the wing causes the bumblebee to create transverse - micro-shock waves - compressed air, and the second wing of the wing creates pressure - the force of action F_{dv} on the micro-shock waves and get the recoil force F_{ot} on the wing.
From the two wings - lift the Bumblebee $F_y = \rho S(v\ h)^2$
The effective area of one wing is $S = 3{*}10^{-5}\ m^2$.
With an intense flap under the wing, air turbulences occur, which have a density of air flow.
The average density of the micro shock wave under the wing of the bumblebee is $\rho \sim 40\ kg/m^3$ - on the border “lower limit of sensitivity”, see table A.
If the frequency of oscillation of the wing of the bumblebee $v = \sim 200\ 1/s$, the lifting height at one wing of the wing $h = \sim 0{,}01\ m$, then the lifting force of the bumblebee:
$F_y = \rho S\ (v\ h)^2 = 40 kg/m^3 * 3{*}10^{-5}\ m^2 * (200\ 1/s * 0.01 m)^2 = 0.0048\ n = 0.00048\ kgs = \sim 0.5\ \Gamma$
With a bumblebee weight of $0{,}1g$, a 5-fold reserve of lift force is provided, which means that the bumblebee can easily handle the load: nectar of flowers. Having a support - shock waves created under the wings, and a large supply of lift, the bumblebee, flying, in fact, as it were, “runs” along the micro-shock waves: instantly changes the direction of flight - moves in any direction; anywhere n space freezes in the air.

Gull wing lift.



Pic. 1 – 20

The wingspan of a silver gull $123 – 148\ sm$, weight $G = 0,7 – 1.5\ kg$

For example, if the frequency of wing flaps at a seagull when lifting is $\nu = 3\ 1/s$, and moving the bird with one wing flap up will be $h = \sim 1m$, then the bird lifting speed:
$V = \nu\ h = 3\ m/s$.
The density of micro (transverse) waves under the wing during a stroke is equal to $\rho = \sim 40\ kg/m^3$ (range "lower limit of sensitivity", see table A).
The gull wing area is $S = \sim 0,2\ m^2$.
Gull lifting power: $F_y = \rho S\ (\nu\ h)^2 / 2 = 40 kg/m^3 * 0,2\ m^2 * (3\ m/s)^2 /2 = 36$ n = 3.6 kg

With a gull weight $G = \sim 1,2\ kg$, a 3-fold reserve of lift is provided and the bird soars easily into the air.

The lifting force of the mountain goose.

Birds, when flying through the Himalayan mountains, fly at an altitude H = 10 000 m.

Mountain geese - champions in flight altitude; during migration through the Himalayas, they fly at altitudes up to 10175 m (Source: http / org.wiki / Bar-headed Goose Migrations). Mountain Goose: weight $G = 2\text{-}3\ kg$; wingspan 150-165 sm.
Wing area $S = \sim 0,3\ m^2$. Flight speed $V = 70\text{-}80\ km/h = \sim 20\ m/s$.
Therefore, when flying at an angle $\alpha = 8^0 - 9^0$ at a speed of $\sim 20\ m/s$, the vertical speed of the bird's lift per second of flight on a path length of $20\ m$ will be:
$V_y = V \sin\alpha = 20\ m/s \cdot 0,15 = \sim 3\ m/s^2$
The density of micro-impact waves under the wing during a swing is $\rho = \sim 40\ kg/m^3$
Lifting force: $F_y = \rho S\ (\nu\ h)^2 / 2 = 40 kg/m^3 * 0.3\ m^2 * (3\ m/s)^2 /2 = 54\ n = 5.4\ kg$
The total force of the ascent of the mountain goose is $F_y = 10.8\ kg$, which is about 4 times the weight of the bird. The power that a bird spends when climbing at $h = 3\ m$ is equal to: $E = F_y\ h = 10.8\ kg * 3\ (m/s) / 75\ kg.m/s = 0.43\ hp$
It turns out that if the bird rises to a height of $H = 10\ 000m$, then power is needed:
$W = F_y\ H = 10.8\ kg * 10\ 000m = 108 * 10^3\ kg.m / 75\ kg.m = 1440\ hp$
Consequently, only the appearance of a support under the wing - micro-impact waves, allows the bird, only at the expense of its lifting power, step by step to rise to a height $H = 10\ 000m$ - to overcome the Himalayan mountains.

The flight of a bird is a visual, flying prototype of an apparatus, with a flight based on micro-impact (transverse) waves, which must be created for a smooth ascent to any height.

Electromagnetic and ultrasonic radiation.

Birds make long flights across the mountains and oceans, and fly at night. During the flight, birds freely navigate in space. For example, black swifts sleep at night in flight, spend several years in the sky.
The flight speed of black swifts reaches $120\ km/h = \sim 30\ m/s$. The resistance area of a swift $S = 0,001\ m^2$. When flying at a speed of $\sim 30\ m/s$, a disturbed layer of air molecules with a micro-shock wave with a density of at least $\rho = \sim 80\ kg/m^3$ arises in the air ahead of the shear.

To overcome such air resistance, the power of action is necessary:

$F_d = \rho S V^2/2 = 80\ kg/м^3 * 0.001\ m^2 * (30\ m/s)^2/2 = 36\ н = 3.6\ kg$

Power consumption: $E = F_y V = 3.6\ kg * 30\ m/s / 75\ kg.m/sec = 1.44\ лс$

The bird naturally does not have such power, which means that the birds have a mechanism, both perceiving and creating electromagnetic and ultrasonic radiation, which help them in flight not only to neutralize gravity and orient themselves in space, but also to develop the necessary speed.

The frequency of the electromagnetic radiation of the Earth $\nu = 9.81\ Hz$ coincides in magnitude with the acceleration of gravity $g = 9.81\ m/s^2$, i.e. with temperature cosmic radiation acting on the Earth.

Consequently, during a flight, the frequency of electromagnetic radiation in a bird must be such that its waves of the electromagnetic field and ultrasonic radiation repel themselves from the waves of the Earth's radiation.

General conclusion:

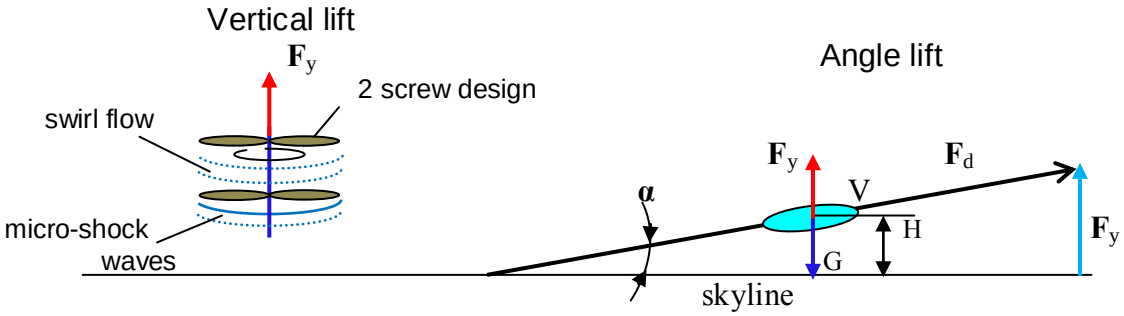
The aerodynamic lift force of the wing F_y is created by impulses of recoil forces from the transverse micro shock waves. Without reliance on compressed air particles and the front of the shock wave of seals, there are no micro-shock waves, and there will be no wing lift. So the whole living world of nature flies.

This unique phenomenon of flight in the air ocean makes it possible to lift the vehicle with the minimum power to the required height:

1. Perform vertical lift:

$\mathbf{F}_y = \rho S(\nu h)^2/2$, i.e., to overcome the force of gravity: $\mathbf{F}_G = \rho S\, gH/2$;

2. Rise at an angle α to th required height: $\mathbf{F}_y = \rho S(\nu h)^2 \sin\alpha/2$

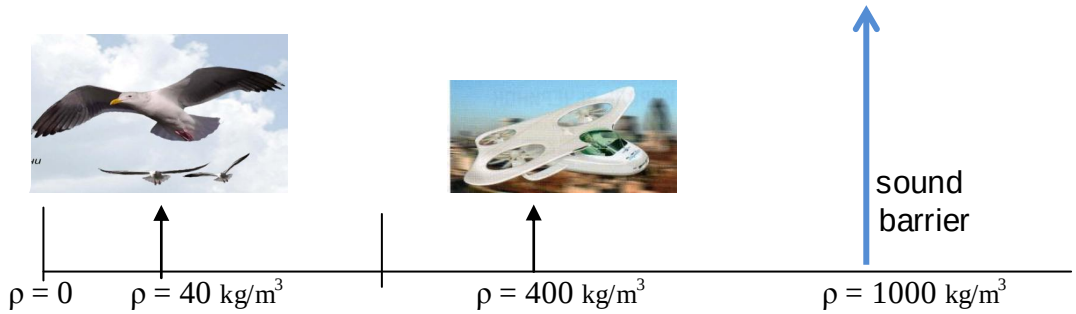


Pic. 1 - 22

Use of twin screws:

The **first screw** creates a vortex jet stream that thickens, air particles in the vortex flow converge, contract; creates a density of air particles.

When the **second screw** rotates in a dense layer of air particles, fronts of shock waves appear - *micro-shock waves*, starting from which the screw ceates the necessary lifting force for fast vertical lifting of the device.



Part 2. Jet propulsion.

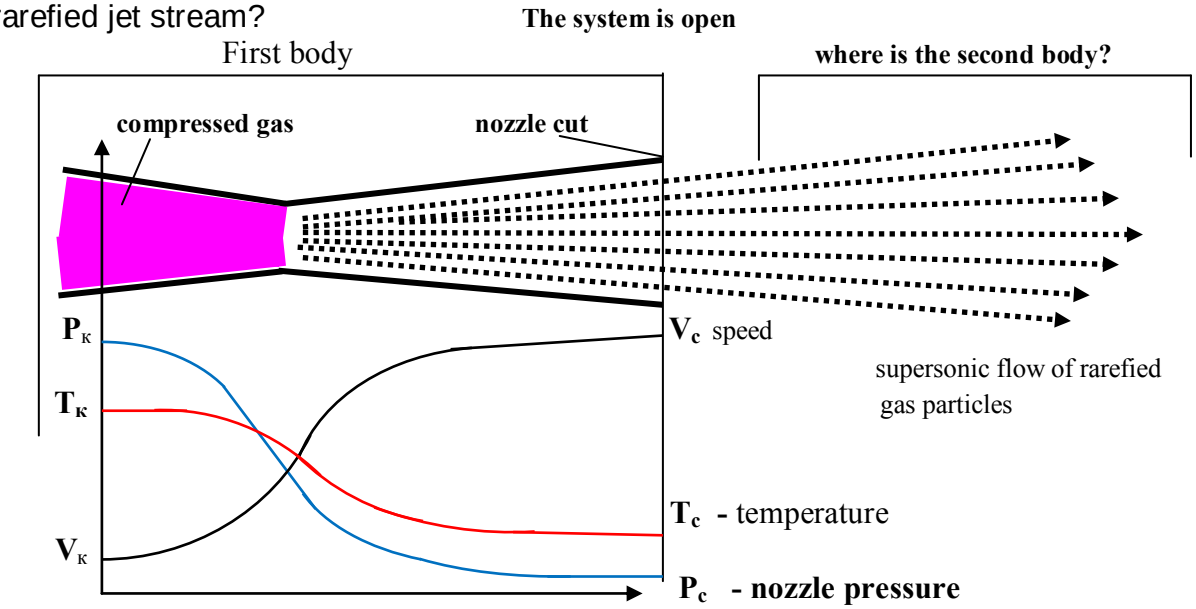
Modern theory states: the source of thrust of the jet apparatus is the supersonic flow of gases thrown by the apparatus in the opposite direction. That is, the impulse of the force of thrust Ft is equal to the impulse of the amount of gases mv thrown from the apparatus nozzle: $Ft = mv$.

It is known that at the nozzle section, the pressure P_{min} and the density ρ_{min} of the reactive gas flow are minimal — approaching *zero.* This means that the supersonic gas stream is broken into individual particles and the higher their speed, the greater the distance between the particles of the gas stream.

From the third law of Newton - the law of action and reaction - it follows that if a force acts, then there must be two bodies: one produces action, the other counteracts. The *forces of action and reaction* appear where there is a force contact between the bodies. The force vectors of the opposing bodies are directed in opposite directions.

In a supersonic gas stream at a maximum speed v_{max} - density ρ_{min} and pressure P_{min} continuously fall, i.e. $P_{min} = \rho_{min} v^2_{max}$, the force interaction between the particles of the flow approaches zero $f = 0$.

And if the entire jet system is considered from the point of view that a rocket with a fuel reserve is the first body, then a supersonic rarefied gas flow is not a monolithic second body. In fact, such a reactive system is open, see fig. 2 - 1. And where is the recoil force, the thrust force, if there is no force contact between the particles in a rarefied jet stream?

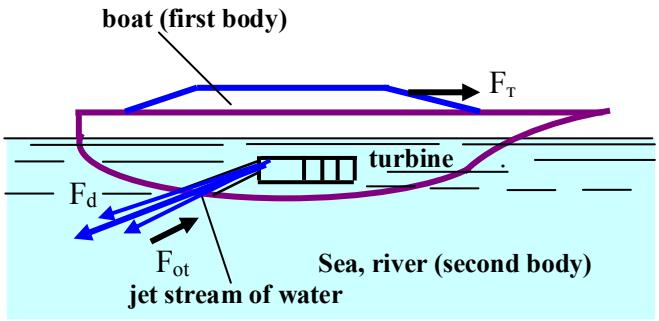


Pic. 2 – 1

In the technique there is an example where the system of jet propulsion is clearly traced from two bodies: from the turbine of the sea, river boat (*the first body*) is pulled out, due to the strength of the action F_d, jet stream of water.

If the jet of water is directed into the air, the boat remains in place, because no support (water). But as soon as the jet stream will be directed into the water of the sea, the river (*second body*) the boat will immediately begin to move:

on the force of action F_d, transmitted by the power jet stream of the boat's water (*the first body*) - the water of the river, the sea (*the second body*) corresponds to the recoil force F_{ot} and the boat, having received the force of thrust F_t, starts moving, see fig. 2 - 2.

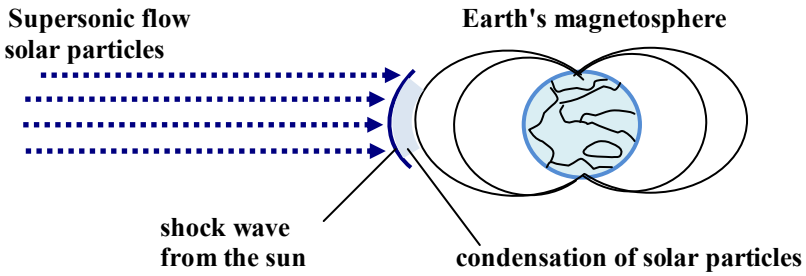


Without a second body (river), there is no movement of the first body (boat)

Pic. 2 – 2

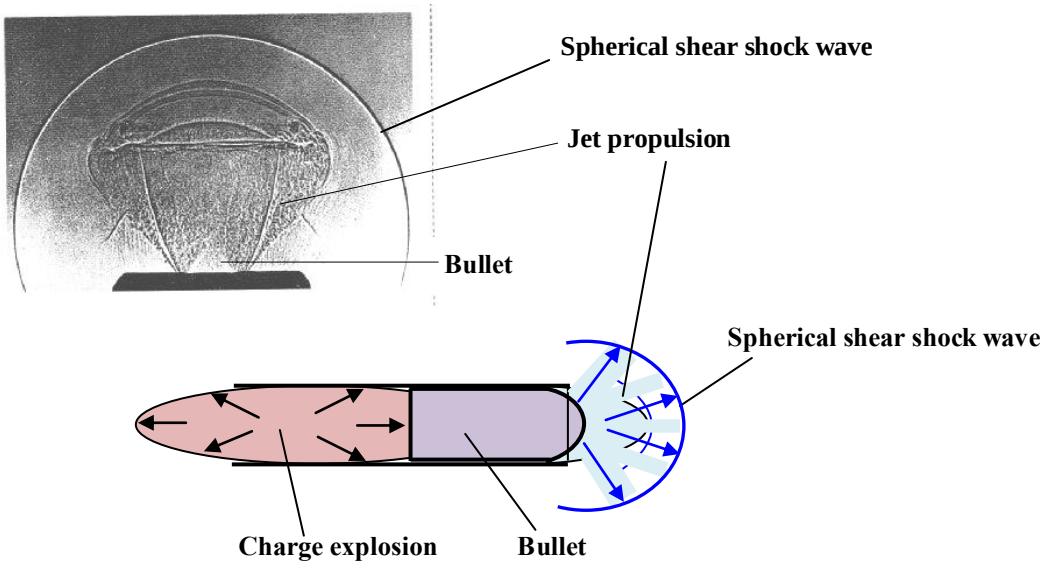
Such a system of action and reaction occurs in a supersonic gas flow: here nature created an amazing phenomenon - a transverse shock wave (second body).
It is known that if a supersonic stream of particles meets with hindered, condensed particles, then a shock wave is created at the boundary of their meeting.

For example, a supersonic stream of solar wind encounters an obstacle — the Earth's geomagnetic field; solar particles slow down, condense. At the boundary of the meeting, condensed solar particles with subsequent supersonic streams of the solar wind, a shock wave arises from the side of the Sun in fron the Earth's geomagnetic field. (14)



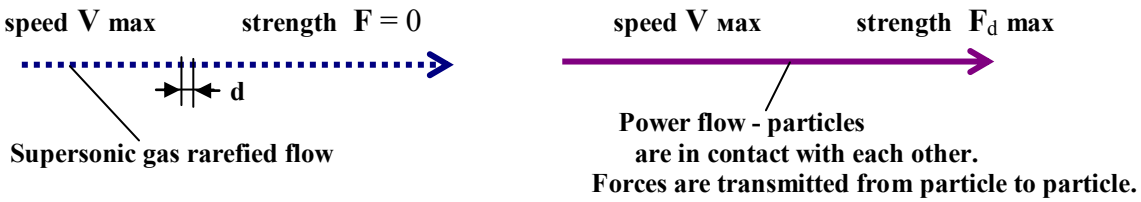
Pic. 2 – 3

Consider the example of the appearance of a spherical transverse shock wave, which occurs when a jet stream of air emerges from the barrel and is displaced by a bullet. In the image (see Fig. 2-4), a transverse shock wave is seen formed at the boundary between the jet of the jet stream and the motionless mass of the surrounding air. (25)



Pic. 2 – 4

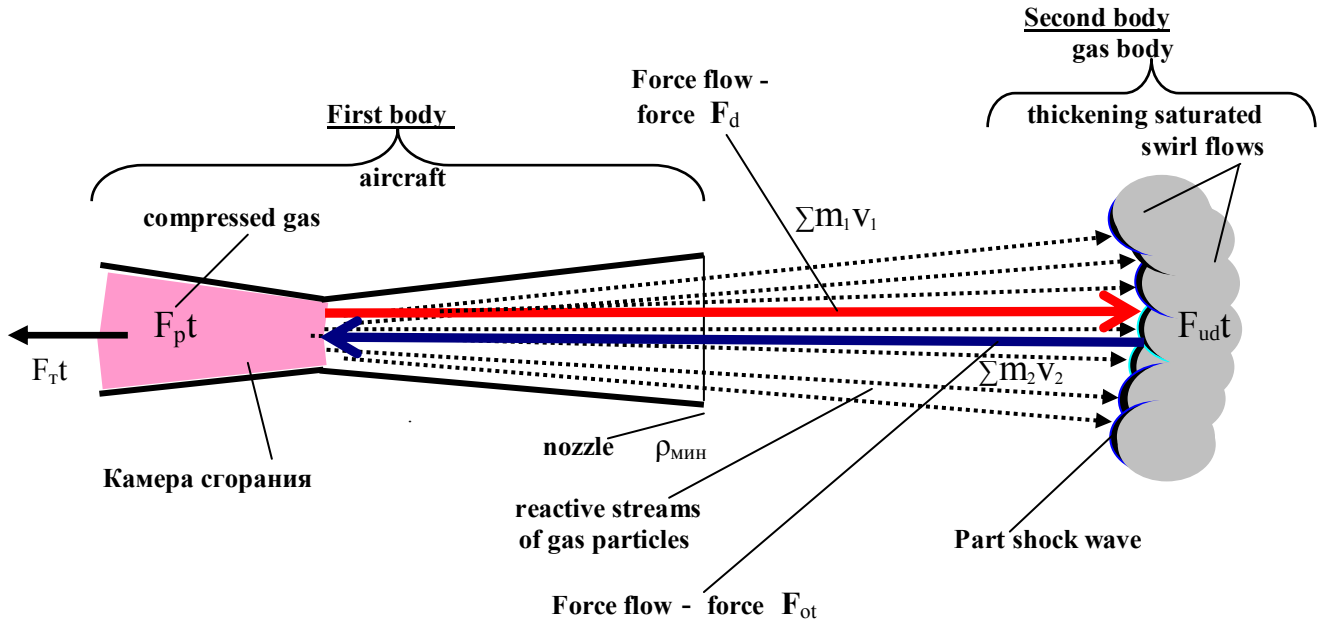
Thus, the supersonic gas stream emerging from the jet apparatus in its jet automatically creates a *transverse - shock wave*. It arises at the boundary of the meeting of the supersonic flow of gas particles surrounding fixed air mass. The transverse - shock wave together with the condensation of particles is the *second body* - the "gas body". Acting on the shock wave of the “gas body” by the reactive power flow V_{max} is when the particles align in one line and there is no gap between them and the forces of action F_d **max** are transmitted from particle to particle — the jet apparatus is repelled by the shock wothe second body and moving forward.



Pic. 2 - 5

If the jet apparatus is in a vacuum of air, then the particles of the jet stream of the working gas, escaping from the nozzle, meeting with the microparticles of outer space, begin to thicken (turbulence and thickening occur in the supersonic stream itself); new portions of supersonic gas flow from the apparatus are suitable, and transverse shock waves are formed at the boundary of the meeting of condensed particles.

See pic. 2 - 6



Pic. 2 – 6

The subsequent sup ersonic flow of the wornas, meeting with the shock waves, becomes a force flow, creates the force of action F_d. , the apparatus receives from ock wave the recoil force F_{ot}, which creates the force of motion — the force of thrust $F_т$ of the jet apparatus.

The whole process of jet movement occurs in two stages:

1.The first stage - is the formation of a shock wave - the second body:

$F_pt = \sum mv = F_{ud}t$, where F_pt - is the impulse of force of the working medium through the transmission link $\sum mv$ - supersonic flows of particles, create a transverse shock wave with impulse of force $F_{ud}t$.

2. **The second stage -** is getting the recoil force, thrust force from the transverse shock wave: $F_p t = \sum m_1 v_1 = F_{ud}\, t = \sum m_2 v_2 = F_т\, t$.

The impulse of the working medium force $F_p t$ transmits an impulse of action force to the shock wave through the force flows $\sum m_1 v_1$. The shock wave on the impulse of the force of action $F_{ud} t$, through the power flows $\sum m_2 v_2$, cretes an impulse of recoil force, equal to the imulse of the force of propulsion $F_т t$ of the apparatus, see fig. 2 - 9.

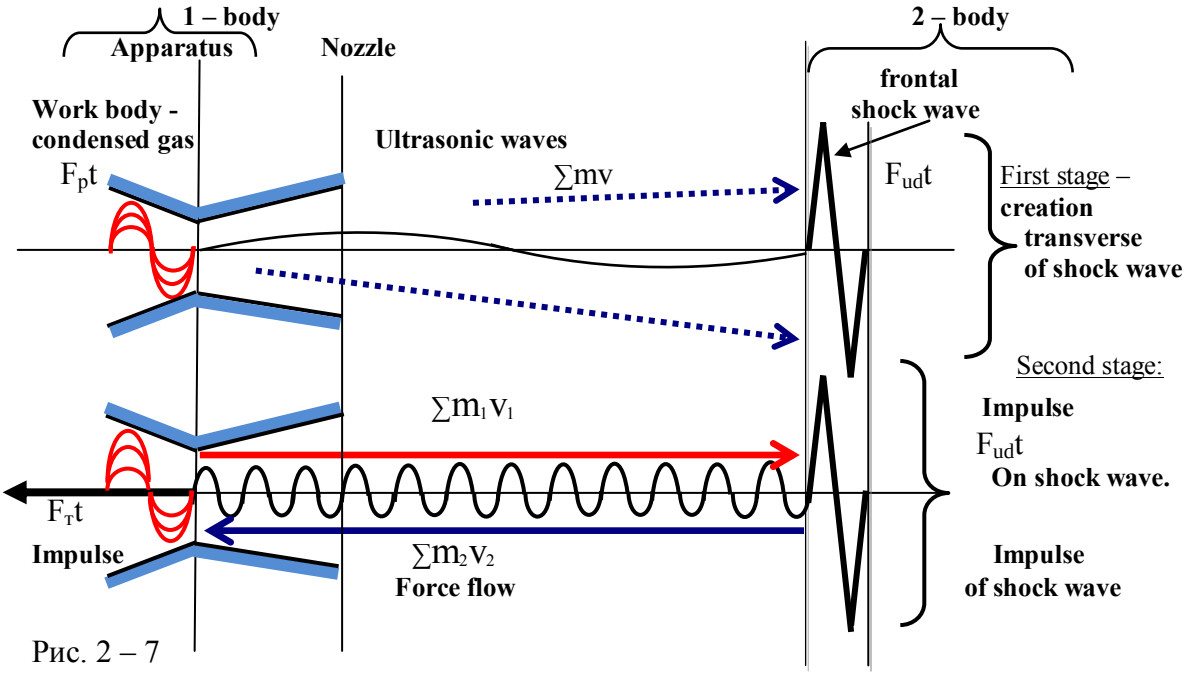
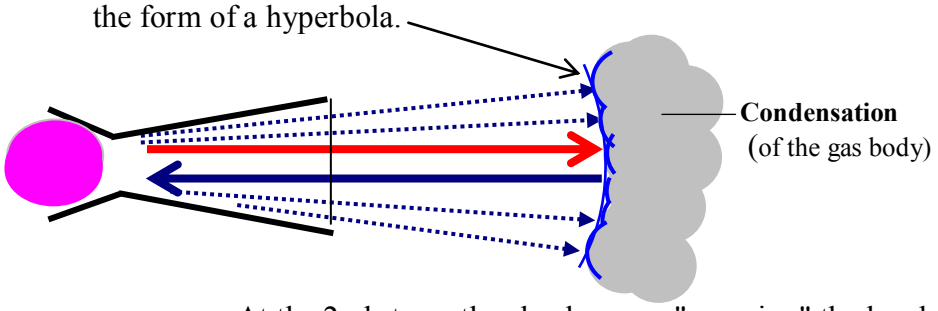
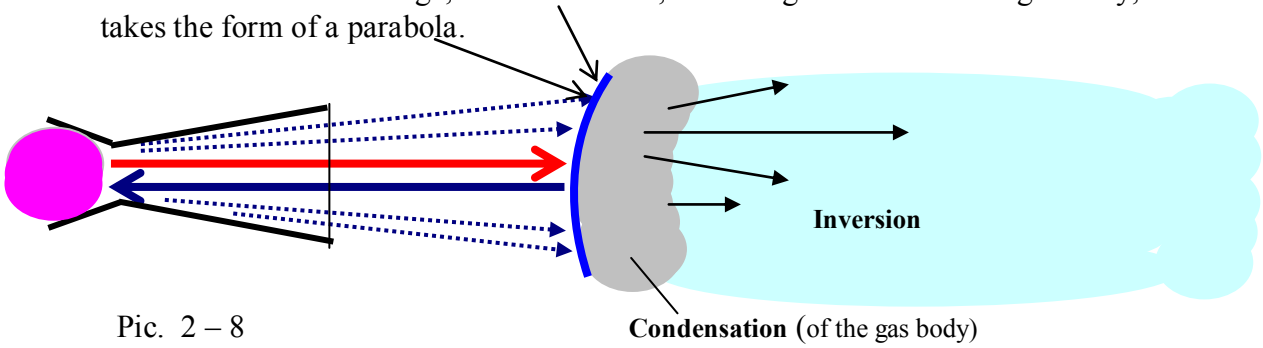


Рис. 2 – 7

At the first stage of the reaction flow, the shock wave is formed by micro-shock waves and has the form of a hyperbola.



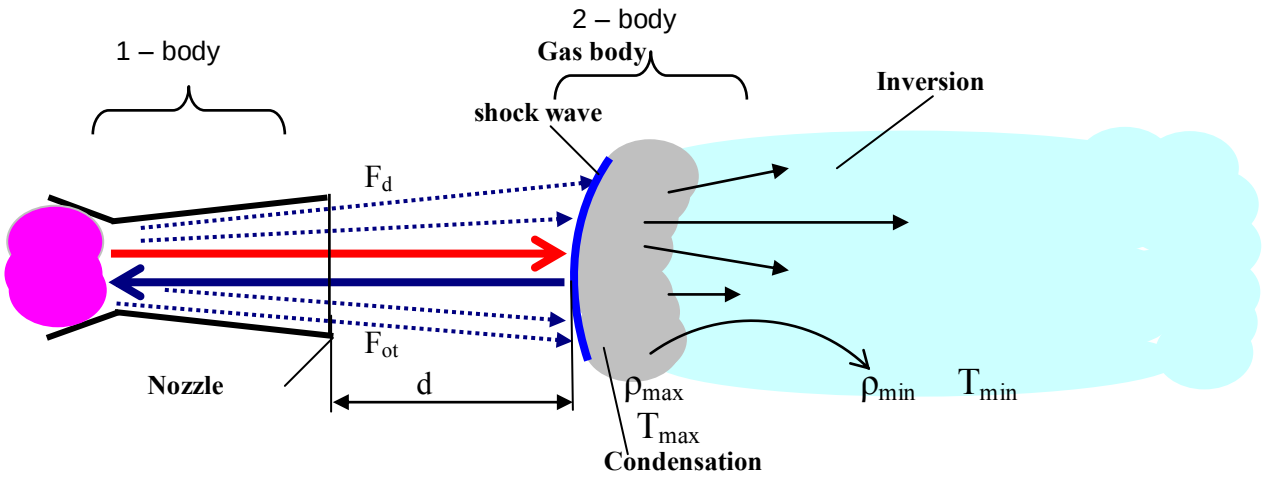
At the 2nd stage, the shock wave, "covering" the head of the gas body, takes the form of a parabola.



Pic. 2 – 8

Created by a jet stream, as an independent “gas body” with a shock wave in the head of the body, behind the front of the shock wave there is a zone of thickening of a stream of particles with increased density. When leaving the “gas body” zone, the dense gas stream rapidly expands to form a zone of reduced pressure. Ambient air rushes into this zone, where it is cooled sharply. Atmospheric moisture vapor becomes supercooled and forms the smallest mist droplets. And as a result - a clear trace of the trajectory of the aircraft.

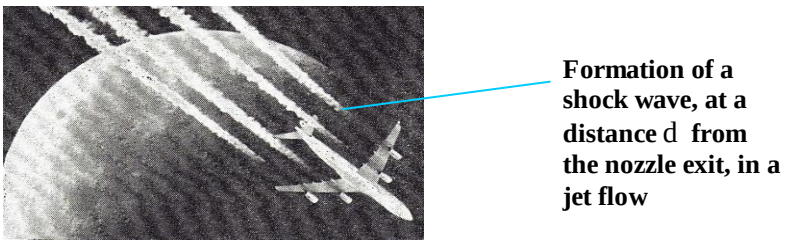
On pic. 2 – 9, it is possible to trace the conditions of a jump — the “scattering” of particles from the zone of maximum density ρ_{max} and temperature T_{max} to the zone where the density of gas articles is minimum ρ_{min} and low tempeature T_{min}.



Pic. 2 – 9

It is known that an inversion wake arises at a certain distance d from the nozzle exit — it turns out that there, in the wake head, there is a shock wave.

In the picture, Fig. 2 - 10, it is clearly visible that the inversion wake appears at a certain distance from the enginenzle section, therefore, a shock wave is formed in the jet stream at a certain distance from the engine nozzle section.



Pic. 2 - 10 / Photo from the Internet /

The phenomenon of jet propulsion due to the recoil force from the shock wave that arises from a supersonic gas flow can be formulated as follows:

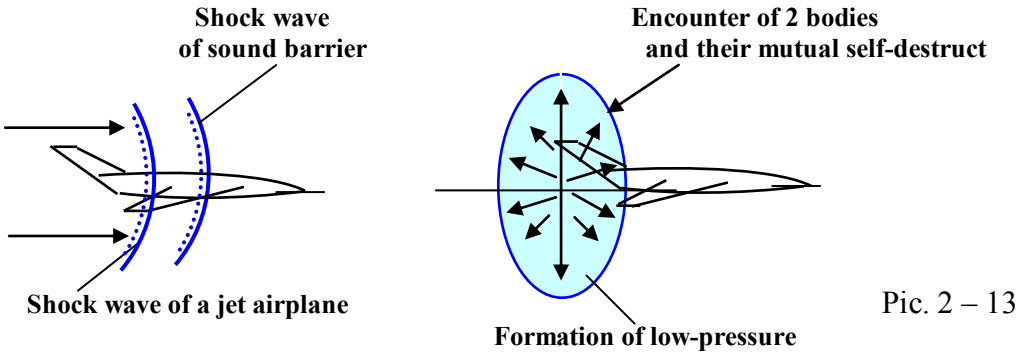
As a result of turbulence and deceleration of particles in a supersonic gas flow emanating from a source (1st body), a transverse shock wave (2nd body) is formed, acting on which the source (1st body) receives a force of recoil by a force flow of particles, thrust for jet propulsion (flight).

When maneuvering at large angles of attack, a fighter shrouds a vortex wave on bearing surfaces — tiny shock waves occur and a sharp drop in temperature in the area behind the shock waves *) / Photo from the Internet /

The sound barrier - is a transverse shock wave that occurs in the atmosphere at the interface of the inert mass of air particles with a powerful supersonic flow, created by the body, moving at supersonic speed, i.e. $V > 340\ m/s$.

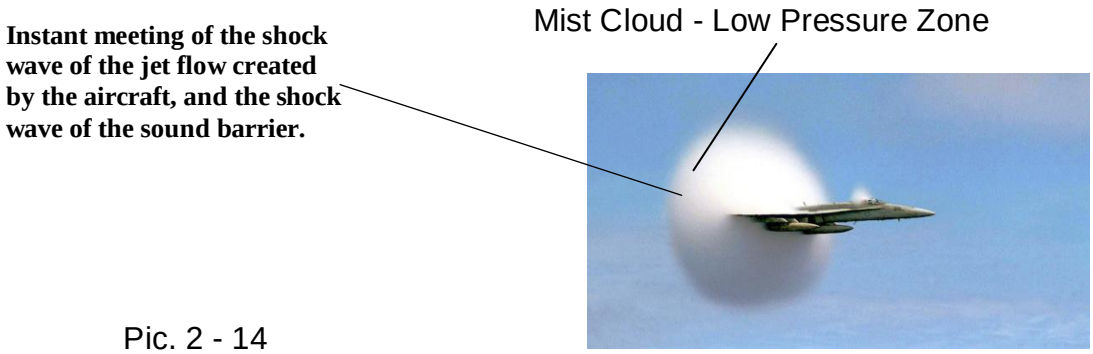
At this instant, two shock waves occur:
one is formed in an air atmosphere by a flying plane, the other - is *a sound barrier.*

At the moment of meeting of the shock wave - the sound barrier and the shock wave of the jet air flow created by the aircraft, the mutual destruction of two shock waves occurs. In the place of two burst shock waves (scattered gas particles) a zone of reduced pressure and low temerature is formed, see Pic. 2 - 13.



Pic. 2 – 13

The picture (from the journal "Science and Life" N 2, 2000) entitled "Sound barrier can be seen," the plane breaks out of a white cloud, inside which is a zone of low pressure and low temperature. The droplets of atmospheric watr vapor instantly turned into a white misty cloud, which was formed at the time of the plaeovercoming the sound barrier.



Pic. 2 - 14

Overcoming a supersonic barrier / photo from the Internet /

Pic.15

Pic.2 - 16

*) Inversion (change) of temperature in the atmosphere - a sharp decrease in temperature in the zone behind the shock wave with a high temperature.

Jet stream - the tail of the gas particles of the Earth.

In 1803r scientist - naturalist A. Humboldt, traveling in southern countries, in the night sky discovered a dim oval glow, opposite to the Sun - “counter-glow”, which occupied an area many times larger than the full Moon in the sky.

Later, a distance of approximately $20R_3$ (earth radius) was determined to it, and they came to the conclusion that a gas stream continuously flows to the "lightning" from the surface of the planet.

The antireflection is a gas cloud, it must be continuously replenished with more and more portions of gas. Only in this case is he guaranteed a sustainable existence.

So the gas tail of the Earth was discovered. It is directed, like comet tails, in the direction opposite to the Sun. (10)

The observed glow - the antireflection - is a condensation of particles - a gas cloud (body) with a shock wave. Based on the shock wave of a gas body, the Earth is continuously pushed toward the Sun with force $\mathbf{F}_E$. But solar streams repel the Earth with equal strength $\mathbf{F}_S = \mathbf{F}_E$, as a result, the Earth moves in its constant orbit.

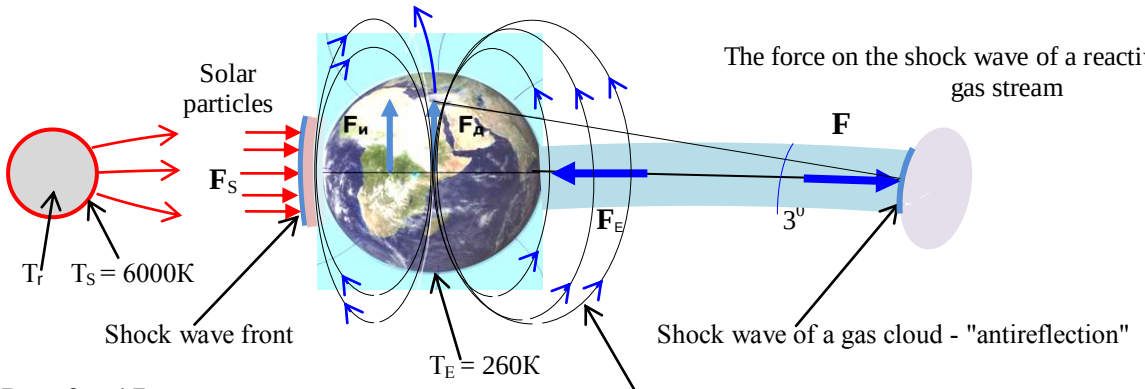


Рис. 2 – 17

$\mathbf{F}_E$ = a m = 5.932 $*10^{-3}$ m/s^2 $*$ 8.31$*10^{24}$ kg = 4.93$*10^{22}$ n ; a – acceleration; m - Earth mass ;

$\mathbf{F}_S$ = GM_c m /R^2 ; R – distance from the Earth to the Sun.

$\mathbf{F}_S$ = 4.79924$*10^{-11}$ nm^2/kg^2 $*$ 2.766$*10^{30}$ kg $*$ 8.31$*10^{24}$ kg / (14.96$*10^{10}m)^2$ = 4.93$*10^{22}$ $н$

We get the equality of forces $\mathbf{F}_S = \mathbf{F}_E$

All the planets of the solar system have gas (comet) tails. With the help of reactive tails, the planets are pushed towards the Sun with a force equal to the repulsive force of solar particles.

Richard Feynman

« The law of gravity $F = GMm/r^2$ is not exact .... because they have not yet connected it with *quantum theory*. But somewhere on the edge is always a mystery » - from the book by Richard Feynman "The Nature of Physical Laws." (33)

Newton's law of gravity - does not disclose the mechanism of gravity, which occurs with a temperature difference in the microworld system.

Newton's law is the law of the action of forces, for example, it explains the equality of the forces of action between the Sun and planets.

The mechanism of action of gravity is explained by the laws of thermodynamics in the microworld system. The rate of gravitational acceleration is created by cosmic Koroniy microparticles, with a temperature of $T_R = 2.7$ K , upon their transition, due to pulsating (quantum) energy, into the cold zone: to the centers of stars, the Sun, Earth, planets.

Consequently, it is possible to neutralize the gravitationally pulsating (quantum) acceleration by pulsating reactive flows with power recoil from the shock waves arising from the supersonic motion of particles in the reactive flow.

The system of forces of action and counteraction from shock waves makes it possible to carry out a smooth rise into aerospace space.

Part 3. Smooth rise from the surface of the Earth into space.

It is known that the ascent from the surface of the Earth into outer space is carried out by jet apparatus - rockets, which overcome the gravity of the planet at space speeds: the first $V = \sim 8$ *km /s* and the second $V = \sim 11.2$ *km /s* .

Lifting into airless space with speeds of $25M - 30M$ entails not only huge energy costs per unit of lift height, as can be seen from the formula $E = mgH = F_{gr}H$, where H - is the lift height; m - is the mass of the apparatus; g - is the acceleration of gravity; $F_{gr} = mg$ - force to overcome gravity; but it also makes absolutely impossible the mass manned exploration of outer space.

The shock-wave theory of jet motion allows you to radically change the speed mode of lifting vehicles into space - it opens the way for a smooth rise from the surface of the Earth into space.

The process of smoothly lifting the apparatus into space follows the scheme:

1. Creating a thrust force for vertical lifting, necessary only to neutralize gravity: $F_y = \rho Sgh /2$.
2. Creating thrust force to move the machine at an angle: $F_y = \sin\alpha\ \rho SV^2 /2$

How to solve the task of smooth lifting?

1. **The first stage** - neutralization of gravity - gravitational force F_{gr} due to the thrust force of impulse jet engines of vertical lift.

Vertical lifting with fixation of the apparatus at a certain height is carried out by pulsed jet engines with a certain constant thrust force — the lifting vertical force F_y , which is necessary only to overcome the gravitational force $F_y = F_{gr}$.

With a vertical lift, the lift force is:

$F_y = \boldsymbol{\rho} SV^2 /2$, or $F_y = \boldsymbol{\rho} Sgh /2$, or $F_y = \boldsymbol{\rho} S(\nu h)^2 /2$, where

S - is the working surface area of outgoing reactive particle fluxes;

ρ - is the density of the transverse shock wave created by reactive particle fluxes during deceleration;

$V = \nu h$ *m/s* - is the vertical lifting speed of the vehicle, where

ν - is the pulse frequency of the power reactive flows;

h - is the lifting height of the apparatus in one cycle of the action pulse.

2**. The second stage** is a straight-line or screw-raising device at a given angle.

Raising the vehicle at an angle into outer space allows you to expend significantly less lifting force per unit height.

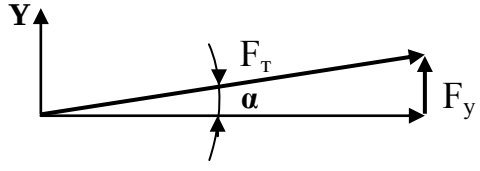
Moreover, the engine power does not depend on the lift height.

A smooth rise from the surface of the Earth at an angle accomplishes the whole living world of nature; The formula for calculating lift for a smooth lift of the aircraft and the living world is the same.

Lifting force at rectilinear or screw raising of the device at an angle:

$F_y = \boldsymbol{\rho} S^2 \sin\boldsymbol{\alpha} /2$ or $F_y = \boldsymbol{\rho} S (\nu h)^2 \sin\boldsymbol{\alpha} /2$, where

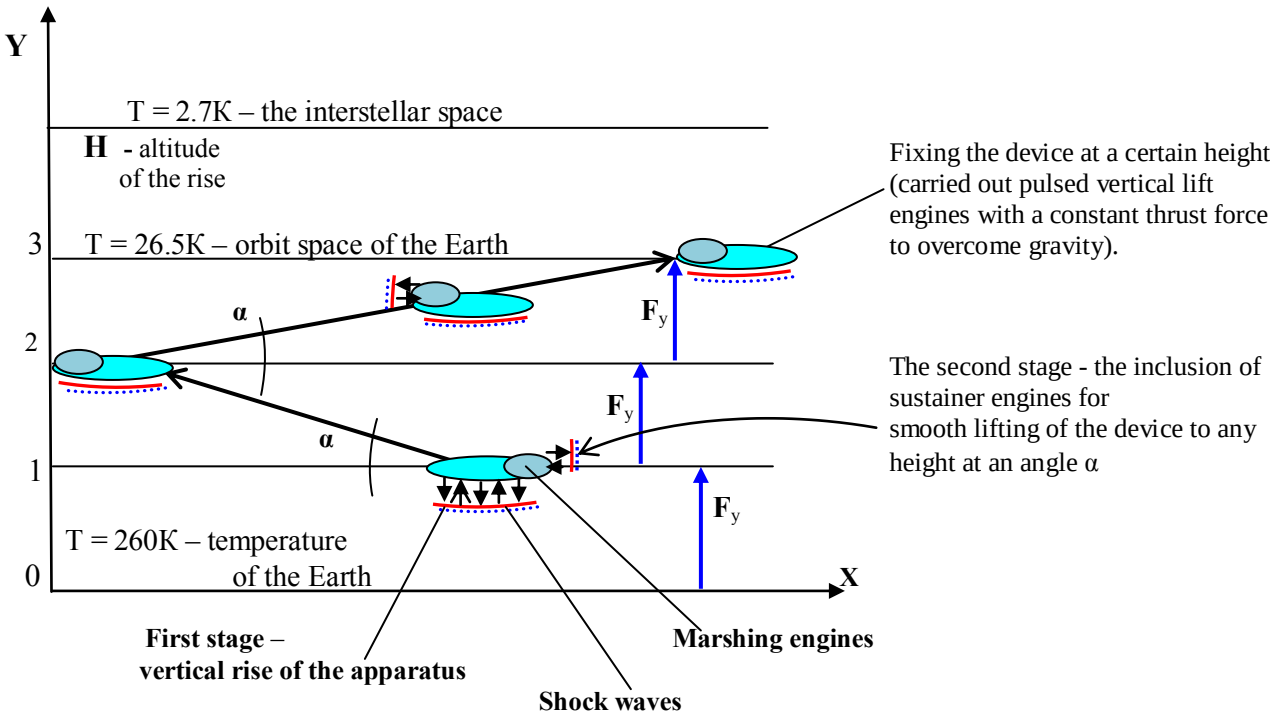
V - the speed of movement of the device when lifting at an angle α.



$F_y = F_т \sin\boldsymbol{\alpha}$, where

$F_т$ - engine thrust force, spent on movement apparatus at an angle $\boldsymbol{\alpha}$.

Pic. 2 - 18



Pic. 2 – 19

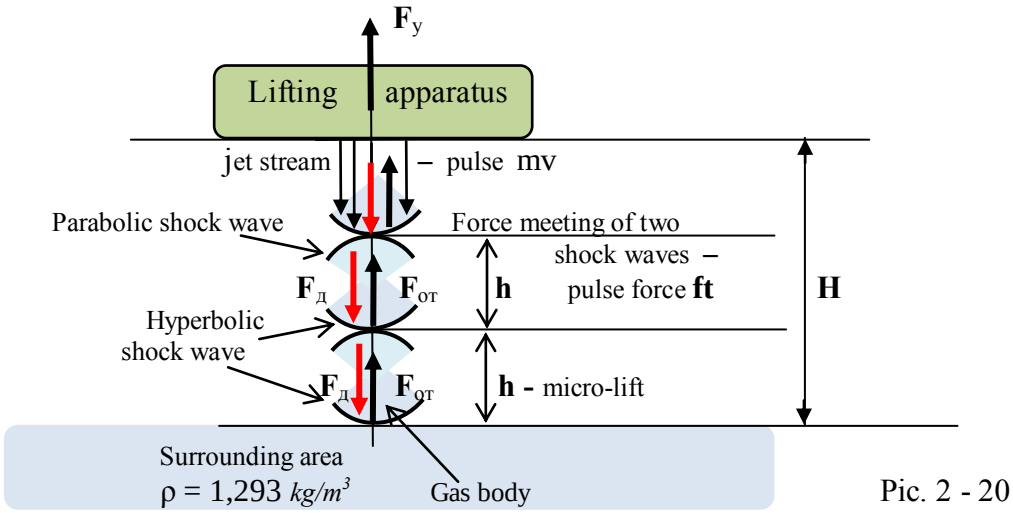
Laws of jet propulsion.

1. Jet propulsion is carried out using shock waves.

The primary, initial reactive flow, having a supersonic speed, is braked, condensed at the border of the meeting with the surrounding space, and creates *a hyperbolic shock wave.*

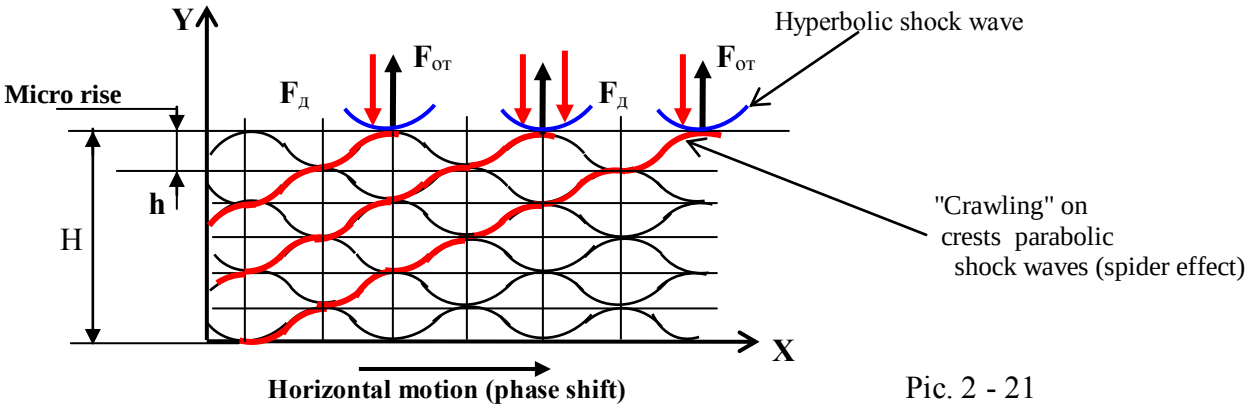
The initial flux of **mv** particles, when braked, becomes an independent object - a "gas body", limited by a parabolic shock wave, which corresponds to the recoil force $\mathbf{F}_{ot}$ on the force $\mathbf{F}_d$ of the shock wave (hyperbolic) created by braking and thickening the subsequent reactive particle flow.

2. Reactive motion is an impulse of a particle flux **mv** interrupted by an impulse of force **ft** - a force meeting of 2 shock waves: on the strength of the action $\mathbf{F}_d$ followed by recoil force $\mathbf{F}_{ot}$, creating lift $\mathbf{F_y}$ – micro rise follows **h**. Continuous pulses **mv= ft = mv= ft** provide the process of gradual "creep" of the apparatus along the ridges of shock waves to a height **H**.



Pic. 2 - 20

Hundreds of pulsed jet particle streams, breaking out of mini-nozzles over the entire working area, create hyperbolic shock waves, which, as a result of inhibition of the jet flow, become independent objects — they turn into “supports” with parabolic shock waves. The subsequent impulsive force jet streams of particles, creating hyperbolic shock waves, acting, relying on supports - parabolic shock waves, create conditions for forceful "creeping" - Yuriy Ivanov's wave "spider effect"arises - a gradual rise of the apparatus. Pic. 2 - 21.



Pic. 2 - 21

1. Sound waves

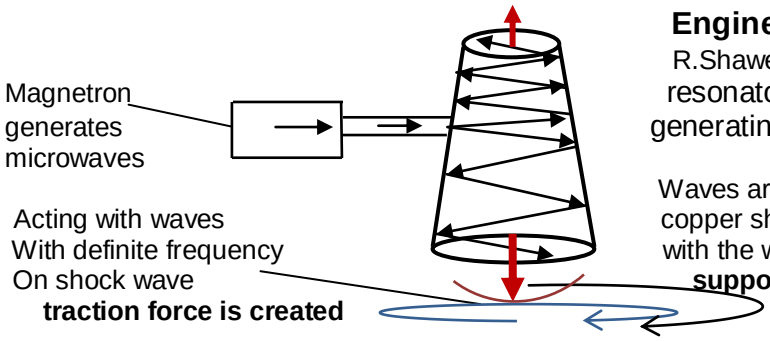
Currently, research groups from international universities and organizations such as Boeing, BAE Systems, NASA are working on anti-gravity.

In January 2014, specialists from the University of Tokyo made with the help of sound waves soar in space small objects of different shapes and masses.

NASA conducted tests that showed the following results:

with a frequency of $1.933*10^6$ Hz was obtained thrust 91 mN (~ 9 g).

Chinese engine type Shawer during tests showed thrust 72 g.



Engine EmDrive of the british engineer R.Shawer is a cone resonator with a powerful magnetron, generating sound microwaves. (47)

Waves are reflected from the side walls. copper shell, create at the exit with the waves of the surrounding space **support - shock wave**

Scale low frequency and high frequency sound waves. (42)

Frequency in Hz	Name	ways of arousal
0.5 – 20	Infrasound	Water fluctuations in large reservoirs
20 – $2*10^4$	Audible sound	Human voice, birds, instruments.
$2*10^4$ – 10^{10}	Ultrasound	Magneto and piezoelectric emitters; are also excited by some animals and insects
10^{11} and higher	Hypersound	Thermal vibrations of molecules and crystal lattices

Findings.

In order to minimize the gravitational pressure of particles - neutral electrons, protons, it is necessary to use a shell with superconductivity.

The denser the shock wave, the stiffer the lift support will be - a powerful reserve is opened for a smooth rise into space!

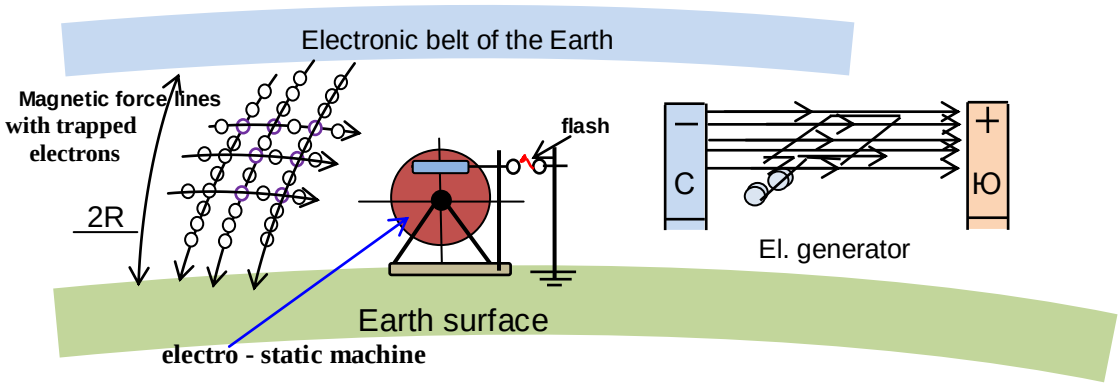
The most dense shock waves in Nature: - proton shock wave $\rho = 1.5*10^4\ kg/m^3$

- electronic shock wave $\rho = 2.5*10^4\ kg/m^3$

Practical energy production from space.

"Our world is immersed in a vast ocean of energy. We face a grand task - to find a way to get this energy. " (N. Tesla)

The fact that there is a huge amount of electrical energy - electrons in the atmosphere is confirmed during thunderstorms: powerful electric discharges occur on the border of the temperature fronts meeting - kilometre lightning is observed. The atmosphere is saturated with electrons from the inner electron belt, located at an altitude of $2R = 12.7$ *thousand km* from the Earth's surface.



The intensity of the electric field of the atmosphere is very high: 15 kilovolts per centimeter. In school and university laboratories on electrostatic machines create electric charges: in the dry air between the two edges, it takes about $8\ kv$ to create a $1sm$ spark; if a charge occurs between two balls, then to create a spark in $1sm$, $27\ kv$ is necessary. (35)

In fact, cosmic electricity has long been received on Earth: it is produced by electric generators, where conductors (frames) rotate in magnetic force flows created by strong magnets.

Between the poles of the magnet creates a powerful concentration of magnetic field lines saturated with electrons.

According to the Faraday law, the movement of a conductor (frame) with a speed $v\ (m/s)$ in a magnetic flux during time $t\ (s)$ creates an EMF in a conductor (frame) - potential difference : $\mathcal{E} = v\,E$ (v), where $E = F/S$ is the intensity of the el. fields in the area $S\ (m^2)$; $F = kq$ - magnetic flux of tension lines; q - charge (Cl) (31, 35)

$k = 9*10^9\ (nm^2 / Cl^2)$; $1\ Cl = 6.25*10^{18} e$; $1\ eB = 1.6*10^{-19} J$ (Nm) ; $1\ B = 1.6*10^{-19} J/Cl$.

Creating electronic shock waves as supports to overcome gravity.

Neutral electrons from the electron belt of the Earth, from a height of $2R = 12.7$ thousand km in a continuous flow along magnetic lines of force move to the surface of the Earth.

During compression, friction with neutral electrons breaks the neutral shell; when this occurs, an electric discharge - lightning - electron shock wave with a density of $\rho = \sim 2.5*10^4\ kg/m^3$.

An electron shock wave with such a density can be created under a rotating disk with strong magnets. Cosmic fluxes of magnetic force lines with electrons are pulled under the bottom of the disk through mini guides (rod with conductive coils) (49) installed in the gap between the disk (rotor) and the outer stator ring with magnets.

An electron shock wave is created between the electron shock wave and the bottom of the disk, an electron field where impulses of action forces F_d and recoil F_{ot} from the electron shock wave arise.

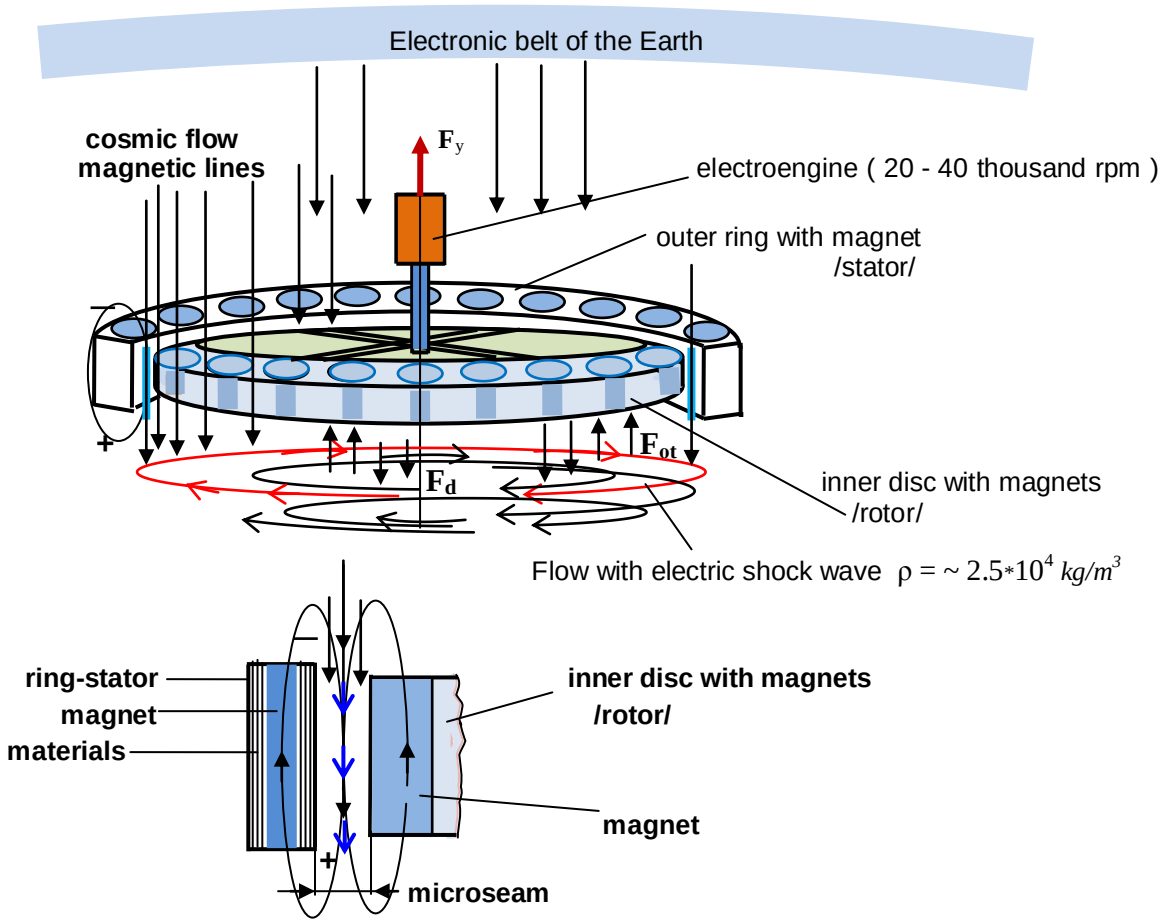
Using the electron charge $q(Cl)$ from the dense electron shock wave with charge $Q(Cl)$ and area $S\,m^2$, a force impulse is generated:

$\mathbf{F} = k\,q\,Q / r^2$ or $\mathbf{F}_y = k\,q\,Q\,\pi / S$, where $k = 9*10^9\ (Nm^2/Cl^2)$.

Lifting force of the device: $\mathbf{F}_{ot} = \mathbf{F}_y = \rho S V^2/2$, where

$V = h/t = h\,\nu$ - the speed of lifting the device to a height h when the disk rotates with frequency $\nu = 1/t$

Magnetic Power Module

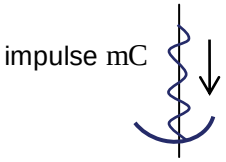


A continuous stream of electrons from space goes through the magnetic field lines of the magnets. There is a process of circulation of electrons in the magnetic field lines.

When the rotor with magnets rotates with the magnets, the flow of electrons from space in the magnetic-force lines of the magnet begin to increase sharply.

With an increase in the circulation of electrons in the magnetic field lines of the magnets, the impulse of motion of particles mC transforms into a transverse shock wave with an impulse of force ft.

$$mC = ft = const$$



Having reached the saturation limit in the magnetic field lines, the electrons begin to emerge and create, perpendicular to the magnetic lines of the magnet, their own electromagnetic field.

Under the rotor, with a working magnetic area S, occurs rotating electromagnetic field from electrons. The greater the number of revolutions, the stronger and denser the vortex field of electrons. At high revolutions of the rotor with the magnets, the electrons approach each other - an electron shock wave begins to appear.

The density of the saturated electron shock wave is $\rho = \sim 2.5*10^4\ kg/m^3$.

During the rotation of the magnets, a continuously incoming stream of electrons abuts against a vortex flow saturated with electrons — an electron shock wave. It is known that like charges repel each other.

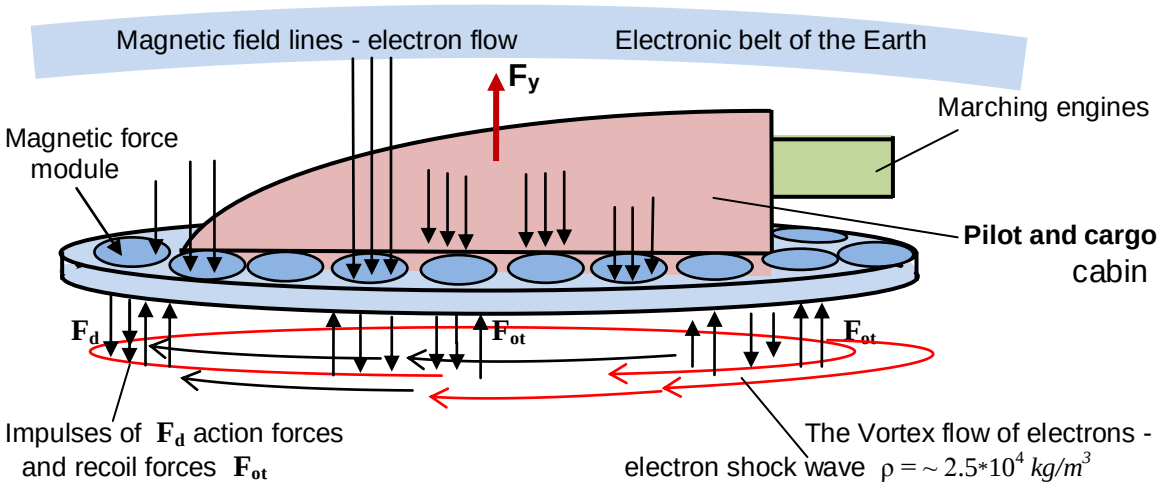
There is a repulsive force of magnetic force lines saturated with electrons from an electron shock wave.

From the strength of the F_d electron action of the magnetic force lines of the rotor magnets, recoil force F_{ot} arises from the electron shock wave, i.e. lifting force F_y

The stator magnets, mounted by poles identically with the rotor poles, make it possible to create a compressed flow of field lines of magnets saturated with electrons.

Placing magnetic power modules with a certain force of thrust over the entire working area, thus creating a sufficient total thrust force for lifting the vehicle into air and space.

Apparatus for smooth lifting.



Moving a manned spacecraft to interplanetary space due to the main engines.

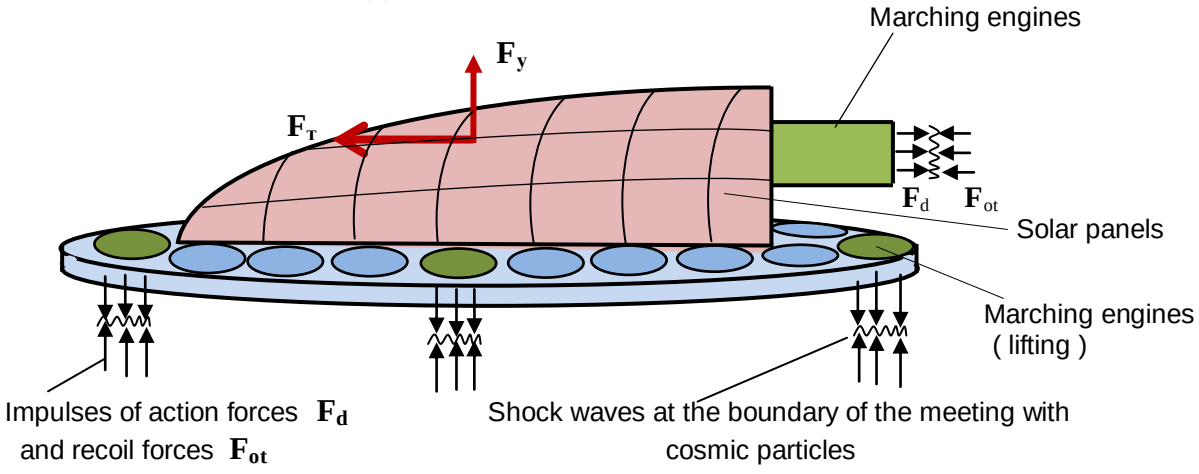
The inner electronic belt of the Earth is located at an altitude of $2R = 12.7$ thousand km

The outer electronic belt is located at an altitude of $4R = 25.5$ thousand km

Therefore, in order to move in cosmic interplanetary space, sustainer engines are needed using: solar energy; nuclear energy, generating micro-shock waves at a certain frequency.

Interstellar space, according to the theory of D. Mendeleev, filled with Coronius microparticles $T = 2.7K$ and Newtonium $T = 2.47*10^{-12}K$. At the boundary of the meeting of cosmic microparticles with particles of jet flow from the engine creates a shock wave.

Influencing the shock wave by the flow of waves emanating from the engine, with the force of action F_d , the recoil force appears $F_{ot} = F_T$ - traction force.



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ТОЛЬЯТТИ

ТИТТиП

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Бадьин Юрий Михайлович

МЕХАНИЗМ ДЕЙСТВИЯ КВАНТОВОЙ ГРАВИТАЦИИ

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Yuryi Badyin - corresponding member of the IEAEB;
Member of the Peter Academy of Arts and Sciences; inventor,
author of the patent "Jet-rotary engine."
Author of books: "Mysterious Wave"; “Shock-wave thermodynamics. Gravity mechanism "; "The Sun is a cold body with a hot photosphere."

Author of discoveries:

- The mechanism of action of gravity - is due to the pressure of cosmic *guantum particles* with a temperature $T_R = 2.7K$ when the temperature drops. The mechanism of the relationship between temperature and *quantum gravity.*
- The gravitational constant $G = 4.79924*10^{-11} nm^2 / kg^2$ is specified.
- From the law of van't Hoff derived the formula of temperature equilibrium in space : $T_{ss} / T_R = T_R / T_{sr}$; $T_R^2 = T_{ss}\, T_{sr}$
- The presence of cold centers in stars, planets, in atoms of the elements of matter, where the magnetic field lines of the gravitational field go. The centers of cold are the temperature controllers of the Universe, galaxies, stars, planets, particles the living and plant world of Nature.
- Cold thermonuclear process, operating in the outside world of Nature in the formation of atoms (in stars, planets, living and plant world), which are created with the help of microparticles Newtonium $T = 2.47*10^{-12}K$ and Corona ($T_R = 2.7$ K), predicted by D. Mendeleev
- Modernization of the Hubble coefficient, which is determined by the frequency equal to the ratio of the length of the radiated wave to the length of the observed wave of the galaxy $H = (\lambda_{rad} / \lambda_{obs})$ $(^1/_s)$ The universe is infinite in size and in time of existence.
- Shock-wave aerodynamic and space jet Motion. Reactive movement occurs due to the use of force from shock waves arising in a jet stream.

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Yuryi Badyin

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