The observation process in the universe through the database

The causal relation of space and the absence of light in Universe

The goals of the research, which has been conducted from 2003. till 2015., were to find out why the space between the objects in Universe is dark; furthermore, to find evidence that space is not empty and to determine its characteristics; to answer the question, is there an interaction between radiation and space; and finally, to determine the reasons of differences in temperatures in Universe.

The sun light must have obviously been changing its nature on its way from the Sun to our planet. It is visible on Sun and on Earth, but not between these two objects. There is no visible light immediately outside the atmosphere. The decrease of light visibility is in a direct relation to the density of the atmosphere: the more sparse is the atmosphere, the less of light and the more of darkness is there.

Correlating this fact with other objects of our system we can see that the behavior of the objects with atmosphere is identical, while the objects with an unsignificant or no atmosphere at all have only a surface that is lighted, followed by a field without light. When observing the comets, we can see they create a visible tail when approaching a star. That is a clear example of observing the transition of an object without the atmosphere towards the objects with the atmosphere. In the slow transformation of a comet we can follow the process which indicates that light is not appearing by itself but with the occurrence of the visible matter. On this level of observation, the behavior of space, when colliding with radiation, is the opposite one from the behavior of the visible matter. Space is dark and (visible) matter is visible. When traveling away from the source (a star), radiation does not create a relation to space which would result in the appearance of light; on the other side, when radiation collides with the visible matter, a phenomenon of light is being created. The observations within the whole Universe support this idea: light is created when the visible matter is influenced by the radiation of a star, while the rest of space, without the visible matter, is dark and it is directly adjacent to the space with the visible matter.

In the further research of space the focus of attention is on the possible interaction of radiation and space, which would rule out the idea of empty space. Empty space does not interact with radiation, it is void.

The radiation of Sun changes through space – its intensity (force) is weakening as the distance from the source is increasing. The pressure of the electromagnetic radiation, measured in μPa (μN/m² and N/km²), is as follows: 915, on the distance of 0.10 AU (astronomical units) away from Sun; 43.3 on Mercury; 9.15 on Earth; 0.34 on Jupiter. Or,

measured in pound-force per square miles (lbf/mi²): 526, 0.10 AU away from Sun; 24.9 on Mercury: 5.26 on Earth; 0.19 [14] on Jupiter.

The average intensity of the solar radiation, in W/ m², is as follows: 9 116.4 on Mercury; 1 366.1 on Earth; 50.5 on Jupiter; 0.878 [15] on Pluto.
The interaction of space and radiation directly influences the temperature of an object. On the following objects' surfaces it is as follows: 440°K on Mercury; 288°K on Earth; 152...[16] on Jupiter. The space around the objects has the same decreasing curve starting from the Sun towards the end of the system. The same goes for the dark side of the objects. The lowest temperature on Mercury is 100°K, on Uranus 49°K, on Pluto 28°K, in the Oort cloud 4°K. During observation, a compensation for the atmospheric influence and the interior temperature of an object needs to be taken into consideration, as these are the factors of interference when comparative data are being acquired. However, even without doing that, it is completely obvious that a curve of the radiation decreasing effect is in accordance with the distance from the source of radiation.

Space is interacting with radiation. The temperature is the highest on the places where the radiation is the strongest. The more the distance increases, the more the radiation gets weaker, all the way towards the absolute zero. The influence of radiation is manifested with the same decreasing curve on the opposite side of an object, where the temperature can not be causally related to the solar wind or highly energetic particles.

Through checking the behavior of some forms of visible matter (water, etc.), we can see that the temperature of some form of visible matter is the highest on its surface, because it is the place of collision of radiation and matter and the closest place to the source of radiation. As distance increases, radiation gets weaker (the temperature is 0-3°C on the bottom of the ocean)[17]. Having in mind the factors of interference (density, etc.), we can conclude that there is a comparative and obvious similarity in fields of invisible and some forms of visible matter. It points out that space, in which there is visible matter, is filled with it, with some of its characteristics having been measured for already a long time. ([14] [15] [16])

The low temperatures are responsible for some strange physical laws in the Universe. The objects that are close to the central object (a star or the center of a galaxy) are rotating around the central object faster than the more distant objects, due to the stronger gravitational influence. However, this law can not be applied on the edge of a stellar system or a galaxy – it gets ruled out by the low temperature. When the temperature decreases below the critical point of 4.21°K, it makes possible for the objects to rotate faster in their orbits from the objects with higher temperatures, provided the gravity is weak enough. Except for the edge of a galaxy, it can also be indirectly seen inside our Solar system by observing the objects, incoming from the Oort cloud towards the center of the system. Their speeds are higher than the one of Pluto or those objects in the Kuiper belt. Some of these are the fastest objects in our system [18]: the speed of the comet Hale-Bopp is 52.5 km/sec; the comet Halley, 66 km/sec; the comet Shoemaker-Levy 9 hit the surface of Jupiter at the approximate speed of ~58 km/sek. [19].
The critical temperature point, which causes the increase of the gravitational influence, is the boiling point of helium, 4.21°K. [20].

The causal relation between a star and its temperature, gravity, radius and color

Since the dawn of time people have been observing stars, their glow and color. The modern science has taken viewpoint that everything related to stars has to do with the combustion of the complex particles and their change into helium and hydrogen[12].

	Zvijezda Star	Temperatura K	Rotacija Rotation	Masa/S Mass	Radijus/S	Povr.grav
1	R Doradus	2.740±190	340 days	1,2	370±50	/
2	Betelgeuse	3.140-3641	5 km/sek	7,7-20	950-1200	0,5
3	Aldebaran	3.910	643 days	1,5±0,3	44,2±0,9	1,59
4	Arkturus	4.286±30	2,4±1,0 d	1.08±0,06	25,4±0,2	/
5	Pollux	4.666±95	558 d	2.04±0,3	8.8±0,1	2,685
6	Fomalhaut b	4.711	2,93 km/s	0,725	0,629	/
7	Sunce	5.778	25,38-34,4 d	1	1	28,02g
8	Polaris	6.015	119 d	4,5	46±3	2.2
9	Procyon	6530±50	23 d	1,499	2,048	3,96
10	Canopus	7.350	8,0 km/sek	9,0-10,6	71,4±4,0	2,1
11	Beta Pictoris	8.052	130 km/sek	1,75	1,8	4,15
12	Denebola	8.500	128 „	1,78	1.728	4,0
13	Fomalhaut	8.590	93 km/sec	1,92	1,842	4,21
14	Vega	9.692±180	12,5 h (sati)	2,135	2,36x2,81	4,1
15	Sirijus a	9.940	225-250km/s	2.02	1,711	4,33
16	Castor α Gem Aa	10.286	18 km/sek	2,76	2,4	4,2
17	Pleione 28 Tau	12.000	329 km/sek	3,4	3,2	/
18	Regulus	12.460±200	347 km/sek	3,8	3,092	3,54
19	Albireo B	13.200±600	<0,6 days	3,7	2,7	4,00
20	Achernar	~15.000	250 km/sek	6,7	7,3x11,4	3,5
21	Antares	18.500	250 km/sek	7,2	5,2	3,9
22	Sirijus b	25.200	/	0,978	0,0084	8,57
23	Mintaka	29.500±500	130±10 km/s	24	16,5	3,37

The intention of this paper is to examine this matter from the more realistic perspective by using the widely-accepted and available evidence on Wikipedia. My framework is always the same Universe-and-rotation

Temperature / a star's speed of rotation

As a rule, if a star possesses a lower temperature, there is also a slower rotation and its color has the nuances of red. As the temperature grows, the speed of the star's rotation around its axis also grows and its color changes from red through yellow into white and blue[10]. Although stars possess significantly different masses, they all strictly abide this law, with only a very small number of exceptions to it.

Mass / radius

The radius of a star (mass/radius relation) acts similarly; if the temperature is lower, the radius is bigger, and with the increase of temperature and the speed of rotation there is a decrease of the radius.

Rotation and temperature / surface gravity

Lower temperatures and slower rotation also mean weaker surface gravity. On the other hand, higher temperatures and faster rotation mean stronger surface gravity. There are typical representatives of these laws, but there are also less typical stars, which abide that law. It is absolutely impossible for a star from the first third to have even a slightly similar values as the stars from the last third.

The list of stars could be extended to the rest of them all, but it would follow the parameters from a table that is randomly chosen by leaving out stars which do not have the needed values published.
The table contains comparable data; the mass range is small, although even a very large mass range would not change the law (Lacaille 8760 [13] T = 3.800 K, the speed of rotation of 3,3 km/s, mass of 0,6, radius of 0,51, surface gravity of 4,78(?). These data are related to the agreement that small stars are dwarf stars, which, though small, possess an extreme gravitational force and a high value of surface gravity that is assigned to them without a valid reason. The other data are in accordance with the law. As we can see, the mass is a small one (0,6) and therefore gravity should be in accordance with the mass and the rotation speed of 3,3 km/s, or approximately 15 days; that value should be below 2 CGS).

If there are no less than two of these parameters, it is possible to determine the rest of the parameters with a high percentage of precision (if a relative value of mass (compared to Sun) and radius are known; also, relative mass and surface gravity; relative mass and rotation; etc.).

Why there is a ring, an asteroid belt or a disk around the celestial objects?

In these times, rings are seen mostly just as a decoration of a celestial object and are related exclusively to the collision of an object with another object that possesses a ring. It is the same with the Moon-like satellites: there is the opinion that it is a product of collision between a Mars-sized object (Theia) and Earth (but why there is no ring around Earth, then?). There are disks of gas and dust around some stars, which are named protostars[6]. Their name should signify that they are still being formed out of the disk

matter, but the fact is being overlooked that there is a star in the center and the disk being a product of the relation between matter and the object in the center.

The data, collected on Wikipedia, are no longer scant; it is sufficient – only by examining them – to determine what are these rings, how are they created and what are the causes of their existence.
There are 4 gaseous giant planets and 2 lesser, asteroid-like objects[7] with the rings inside the Solar system. There is also anasteroid belt around the Sun.

Around 900 stars with asteroid belts or disks around them have been discovered until this time; some of the most famous are Beta Pictoris[8], 51 Ophiuchi, Tau Ceti, Fomalhaut, Epsilon Eridani, Zeta Leporis, Vega, the Sun, …). The data from our system make the basis of the knowledge, but if the existing data for 900 stars and the majority of galaxies are included, these facts become clear:

1. The rings occur only around the objects, which have their own independent rotation around their axis;
2. The size of a ring is directly correlated with mass, the speed of rotation, the temperature and the quantity of matter around an object;
3. The existence of a ring is not related with the mass of an object and its speed of rotation.

The objects with a ring but without their own rotation have never been dicovered yet. That conclusion is drawn from the irregular galaxies, which do not have their own rotation and a formed center (An **irregular galaxy** is a galaxy that does not have a distinct regular shape, unlike a spiral or an elliptical galaxy. Wikipedia). It is clear that they do not have a recognizable disk-shaped form, as the galaxies with a formed center and a rotation around their axis do. Regular galaxies, those with a rotation around their axis, consist of a galactic center, the diameter of which can be up to 30.000[9] light-years, and a formed ring (with the spiral galaxies) or disk (with the elliptic galaxies), the diameter of which can be over 100 000[10]light-years. All satellites of the Solar system, together with Mercury and Venus, could also be included here, with the important remark that very low temperatures and irregular shape of the distant satellites in the Kuiper belt around planets can also have their own rotation, as well as the objects around that satellite.

A vast majority of stars, which have been identified up to now as having a disk, an asteroid belt or a ring, are very fast rotating stars[11] with a smaller radius (a relation of mass/radius, related to the Sun) and a stronger surface gravity. Gaseous giant planets of the Solar system have at the same time higher speeds of rotation and lower temperatures of the surrounding area. However, there are different results, too. The rings exist around the objects with the red nuances, which temperatures are below 5 or 4.000°K (Beta Pictoris b …). It means that these objects have a slower rotation and some of them have a relative radius bigger than the relative mass (for example, an object, with a mass of the 1,7 Sun mass, has a radius of the 2,3 Sun radius) and a weaker surface gravity. It proves beyond any doubt that if there is a rotation of an object, there is also a possibility of forming a ring and other smaller objects in the orbit around it.

Bigger objects (such as stars and galactic centers) and faster rotation produce bigger rings and a very fast speed of rotation produces a disk (elliptic galaxies and so-called protostars[6]).

The rings, asteroid belts and disks have their own orbits and an orbital speed that is no different to the other objects' orbits. The faster rotation of an object and an orbital speed, measured closer to the object, is higher and it decreases with the distance from the main object. It needs to be pointed out here that this rule is not applied when an orbit is in the area where the temperature is below 4,21°K (the low temperatures law); the objects there have a higher speed than the one that would have been given to them by the gravity of a main object (the Oort cloud, the edges of galaxies,...).

Supernovae are not our creators

We have been listening for too long that supernovae (or just, novae) are responsible for our existence. They brought heavy, essential elements to our planet. Iron, uranium and other complex elements are said to have come from the universe to form our Earth.

This is the official viewpoint: the size of a super-massive black hole is ~ 0,001-400 AU (https://en.wikipedia.org/wiki/Black_hole#Physical_properties) . The central diameter of our galaxy in the equatorial area is 40 000 light-years and from one galaxy pole to the other one, 30 000 light-years (http://www.astrodigital.org/astronomy/milkywaygalaxy.html).
To make a comparison, a ligh-year is a distance of 9,461 × 10 ^ 12 km, while the astronomical unit (AU) is ~150 million km. Except for the Sun, the star that is the closest to Earth is Proxima Centauri, which is 4,3 light-years away.

Even if there was a maximal super-massive black hole in the center of our galaxy, it would be at least 15 000 light-years away from the surface area of the galaxy in its polar regions and 20 000 light-years in the equatorial area. Such a black hole would be covered with a layer of matter, 15 000 – 20 000 light-years thick.
Now, when all the evidence are here on the same place, we can rightfully ask, whatever do they write about, what kind of nonsense is that? Does anyone check their texts and where are the reviews?

We are used to (because we are taught to) listen to the scientists and trust them because they have the authority and therefore their statements are not to be questioned. The reality is completely different. The credibility of scientific articles is very questionable and you can not read scientific texts the way laws are read, but with a high level of scepticism.

The information of the first observation of the "black hole" devouring a star is of the same level of (in)credibility. The last contact to a star can be made from a distance of a few tens of thousands light-years from the position of a black hole, marked by the scientists. How can they then claim that a star has a contact with an

imaginary object at this distance? It can not be possible – not even in the wild imagination – for the teleportation of this time to carry objects – especially of that size – to these distances.

If the observed event was that a star disappears at the top of the galaxy pole, then there has to be a realistic reason for it, the one that is in accordance to the existing evidence and the laws of physics. The rotation of the galactic center cretaes cyclones at the poles, like those at the poles of gas giants and the Sun. Only the cyclones could be responsible for the events that are ascribed to the imaginary black hole and non-existing teleportation.


SN 1054 remnant (Crab Nebula).

To make the absurdity even bigger, there are not so many (only a few dozen) remains, made by the star explosions. According to Wikipedia, the amount of these supernova remains inside our galaxy ranges from 25 (or 40, if planetary nebulae are included) to 100, if all other nebulae and particle clouds are included (a molecular cloud, Bok globules, interstellar cloud, etc.). For the sake of the example: if we identify every nebula or cloud to be an exploded star – which is highly incorrect – and compare them to the total quantity of stars in the galaxy (100 – 400 billion of stars), it can be concluded that it is a completely neglectable quantity, in terms of the observations of the processes inside the galaxy and beyond.

How is it possible to draw the conclusion that a phenomenon of a neglectable significance is able to deliver complex elements to a few hundred billion of stellar systems and also create a vast number of new stars, just as the hypothetical black holes and neutron stars?

That disbalance, although catches the eye terribly, keeps getting away with it and becomes a fundamental science and a constant source of creating the unlimited number of continuous fabrications (which could by no means be identified with science or even science fiction).

"The Sun is composed primarily of the chemical elements hydrogen and helium; they account for 74.9% and 23.8% of the mass of the Sun in the photosphere, respectively. All heavier elements, called *metals* in astronomy, account for less than 2% of the mass, with

oxygen (roughly 1% of the Sun's mass), carbon (0.3%), neon (0.2%), and iron (0.2%) being the most abundant."

The density of a star is very low, less than 1,5 g/cm3 (Sun: 1,408), which clearly indicates the complete absence of complex elements. A bit higher density of gases that create a star appears due to the forces of pressure, which make the gases more compact inside that space or a star.

Where does it even come from, the claim that the explosion of an object, composed of hydrogen and helium, delivers its non-existing complex elements? If the stars before the explosion were composed only of the complex elements, then again, their small quantity presents only a neglectable significance, which can not be related to the complex particles of 100 – 400 billion of stellar systems. Besides, there is the disintegration of particles at work, due to the enormous explosion (the estimates are that only a small part of the stellar matter remains as a nebula).

The nebulae are generally composed of hydrogen and some helium, and other elements existing in insignificant quantities. It has never been discovered that there are silver, gold, uranium or generally any other complex element present on the stars or nebulae (at least, not in the quantities that are needed to establish such a hypothesis).

It also needs to be pointed out that the general information on Wikipedia also distinguish nebulae and clouds from the stellar explosions: there are 25 examples mentioned under the section of supernovae remains and 40 examples under the section of planetary nebulae (which also include the remains of supernovae).

The explosion of the star that later became known as the Crab Nebula, had taken place in 1054. and during this period of 1000 years it has moved less than 6 light-years away from the center (its diameter is some 11 light-years). The intensity of radiation and waves decreases with the square distance; matter spreads out much slower, therefore, there are no nebulae with the diameter longer than 200-600 light-years (a molecular cloud, which was not created by the stellar explosion and it does not represent the remains of a supernova).

There are no valid evidence to scientifically accept the idea that supernovae are the cause of all our ignorance, i.e., that they are responsible for the appearance of the complex elements on our planet – they are absolutely innocent.

Why iron did not sink when Earth was hot?

Even though it is being steadily abandoned, the theory of the creation of Earth, stating that Earth was hot at the beginning and have been steadily cooling down since, is still the dominant one. In that theory (of course, the wrong one) there is an explanation of iron sinking towards the center of Earth, which has been regarded as "clear evidence" that the nucleus of Earth consists of melted iron, as the nucleus is more dense than the rest of Earth.

("The pressure in the center is more than 3-4 million bar, and the temperature is 3 000 – 4 000 K. It is believed that the nucleus consists of iron and nickel and the mantle of silicate minerals. " Wikipedia)

It is absolutely unnecessary to relate the density of nucleus to the heavy and dense element of iron when it is generally accepted that, due to pressure, there is always a more dense layer of matter at the bottom then at the top. It is obvious from the table on Wikipedia https://en.wikipedia.org/wiki/Earth#Internal_structure and it would be very interesting to sort the layers according to the density of particular atoms.

The ground upon which people walk, or Earth's crust, posesses the greatest variety of natural elements, which decreases towards the lower layers. If the composition of magma or basaltic rocks is analyzed, it becomes obvious that many elements, existing in crust, are absent from the layers of upper mantle and mantle. Iron is present in all of these three upper layers; it did not sink, after all, probably because it had not been introduced to the idea of sinking.

In the composition of stars, measured by spectroscopy, only hydrogen and helium are present there, with more complex atoms being present only in traces. If we add this to the earlier mentioned facts, we can conclude that, with the increase of temperature (above the melting point of the elements included), the complexity of atoms is reduced and in the end there are permanently only hydrogen and helium (in a smaller share).

This image can be expanded onto the geology of our own planet. It shows that ice ages on Earth keep shortening steadily and there is a constant increase in temperature. 70-140 tons of space matter is falling daily on Earth and it adds up to the small but steady increase of pressure inside the planet.

If data regarding brown dwarfs are also included
("WISE 1828+2650 Its temperature has since been revised and newer estimates put it in the range of 250 to 400 K (−23–127 °C, −10–260 °F).
In April 2014, WISE 0855−0714 was announced with a temperature profile estimated around 225 to 260 K and a mass of 3 to 10 MJ.
It was also unusual in that its observed parallax meant a distance close to 7.2±0.7 light years from the Solar System." Wikipedia) we can conclude that nowadays Earth, together with Venus, belongs to brown dwarfs. The research data show that on brown dwarfs there is an atmosphere with nitrogen and ammonia, with a possibility for water to exist.

The origin of Earth (and other objects) can only be related to growth and gathering matter together in Universe. The sequence of gathering matter can be seen through the existence of gas, dust, lesser and larger asteroids and comets, small planets, planet-size objects, small and large stars and centers of galaxies at the same place (in the same part of Universe). When their mass is insufficient, the objects are cold. Matter gets warmed up with the increase of pressure and other forces: gravity, the interrelation of two or more objects, fast rotation. After a critical point (the sum of forces) they become hot objects that emit radiation (which we interpret as light).

Why there is not one and the same atmosphere on the objects of our system?

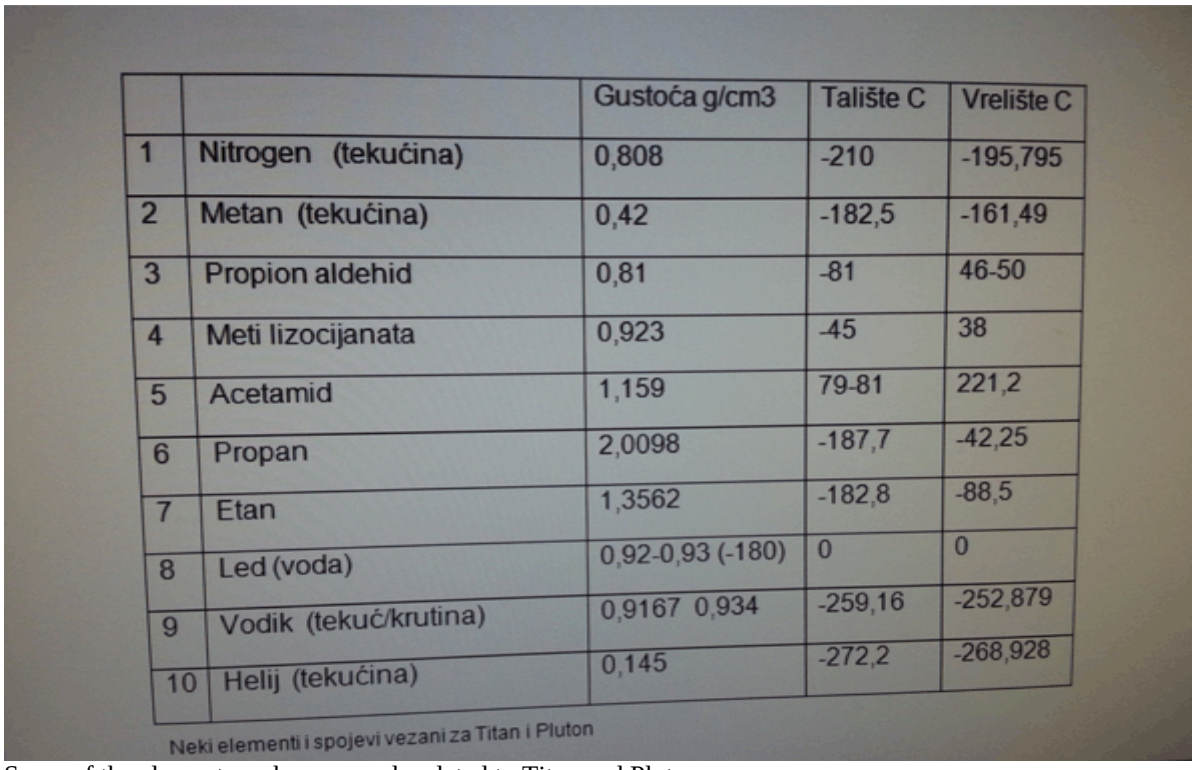
The position of an object (i.e. its location) determins which geological processes will be there. Volcanoes exist on the internal objects of the system, while the ejection of cold matter is present on the objects in the outer layer, which is significantly colder than the internal one. It is important to mention that the observation is related to the currently existing situation in the system. The current arrangement of objects, regarding their mass, location, atmosphere, etc., by no means need not have been set as it is now; the arrangement in general is a consequence of many events, occurr ing in a system during a period of time. A clear evidence to that fact have been noticed in other systems with planets (exoplanets) or where a star rotates around the other one (Sirius A and B).

The occurrence of atmosphere is directly related to different geological processes: volcanoes; ejection of cold matter; attraction of new particles of matter; activity of intensive radiation; activity of gravitational forces among two or more objects on each other; rotation of objects (when different temperatures of day and night occur); constant bombardment of other, lesser or larger objects; inclination and form of an object; the change of calendar seasons; etc. The age of an object deserves to be particularly singled out here, although it will not be discussed now.

When a formation of atmosphere on the internal objects takes place, aside from a quantity of geological processes, the following needs to be taken into consideration: "Nitrogen does not burn nor it supports combustion. It is a bit easier than air and poorly soluble in water, chemically unreactive. ... 99,8% of all carbon on Earth is found combined in minerals, mainly carbonates... Only 0,01% of carbon exists in living beings. ... After hydrogen, carbon creates more compounds than all the other elements put together" (Wikipedia)

Although CO2 is mutual for all of the three planets with atmosphere, the differences among them occur due to the distance from Sun, rotation, mass; they caused different geological processes. The proximity of Sun and the lack of rotation – notwithstanding the similar masses – created the atmosphere of Venus: CO2 96,5% and nitrogen 3,5%. The rotation of Earth, the change of calendar seasons, binary relations between Earth and Moon and colder environment (related to that of Venus) are suitable for the creation of water, which in the form of rain removes CO2 from the atmosphere in the favor of nitrogen (78%) and oxygen (21%). The insufficient mass of Mars (manifesting itself in the lack of geological processes of the atmosphere formation) causes the beginning of the atmosphere formation: CO2 95,97%, nitrogen 1,81%, argon 1,93%,... 67/P Churyumov – Gerasimenko comet is a transitive object, partially belonging to the internal region and partially to the outer region (perihelion: 1.2432 AU, aphelion: 5,6829 AU). Its mass is small, but it possesses rotation and different distances from Sun. There are also free particles of oxygen and nitrogen. Its composition consists mainly of carbonates and of some water, etc.

The objects in the colder, outer region are divided into gas giants and other objects.



		Gustoća g/cm3	Talište C	Vrelište C
1	Nitrogen (tekućina)	0,808	-210	-195,795
2	Metan (tekućina)	0,42	-182,5	-161,49
3	Propion aldehid	0,81	-81	46-50
4	Meti lizocijanata	0,923	-45	38
5	Acetamid	1,159	79-81	221,2
6	Propan	2,0098	-187,7	-42,25
7	Etan	1,3562	-182,8	-88,5
8	Led (voda)	0,92-0,93 (-180)	0	0
9	Vodik (tekuć/krutina)	0,9167 0,934	-259,16	-252,879
10	Helij (tekućina)	0,145	-272,2	-268,928

Neki elementi i spojevi vezani za Titan i Pluton

Some of the elements and compounds related to Titan and Pluto

The atmosphere of Titan consists of: Stratosphere: 98.4% nitrogen (N2) 1.4% methane (CH4), 0.2% hydrogen (H2); Lower troposphere: 95.0% N2, 4.9% CH4 (Wikipedia). The similar, only much thinner atmosphere, exists on Pluto, too. Significant presence of methane reveals there is no water in hydrological cycle to reduce such a high level of methane in its atmosphere. The common thing for Titan and Pluto is a distinguished binary system, which accelerates geological processes. Mass and structure of an object also have an important role in increased geological processes. A larger mass is less compact and easily subject to changes, which is generally sufficient for a particular chemical element or compound to change its state of matter and produce the cold ejection of matter (ice volcano or ice geyser). The cold ejection of matter exists on Pluto, where the temperature maximum is -210°C; at this temperature nitrogen turns liquid.

On the colder places there are elements and compounds of the lower melting point (N2, CH4,…), while warmer objects, such as Venus, Mars, Earth (at certain time in the past, the atmosphere of Earth also consisted mostly of CO2), create the atmosphere from the carbon cycle (CO2, CO, carbonates, ...). ("It lead to 'another atmosphere' being created; at the beginning it consisted of carbon-dioxide and nitrogen, with some water vapor, but practically without oxygen." Wikipedia). The common thing for all but two objects are hydrogen, oxygen, nitrogen and carbon, but their particular presence is different, due to the earlier stated reasons. ("The composition of Saturn's atmosphere: ≈ 96% hydrogen (H2), ≈ 3% helium (He), ≈ 0,4% methane (CH4), ≈ 0,01% ammonia (NH3), ≈ 0,01% deuterium (DH). Ice: ammonia (NH3), water vapor (H2O), ammonium hydrosulfide (NH4SH). " Wikipedia).

The active elements (hydrogen, helium, nitrogen and carbon) create an atmosphere according to the local conditions.

Why there are differences in structure of the objects in our system?

R/B	Objekt	Satelit	Ø density g/cm3	Radius km	Poluos orbite km
1	Mars	Phobos	1,876	11,27	9.376
2		Deimos	1.4718	6,2	23.463,2
3	Jupiter	Amalthea	0,857	83,5	181.365,84
4		Io	3,528	1.821,6	421.700
5		Europa	3,013	1.560,8	670.900
6		Ganymede	1,936	2.634,1	1.070.400
7		Callisto	1,8344	2.410,3	1.882.700
8	Saturn	Janus	0,63	89,5	151.460
9		Enceladus	1,609	252,1	237.948
10		Tethys	0,984	531,1	294.619
11		Dione	1.478	561,4	377.396
12		Rhea	1.236	763,8	527.108
13		Titan	1,8798	2.575,5	1.221.870
14		Hyperion	0.544	135	1.481.009
15		Iapetus	1,088	734,5	3.560.820
16	Uranus	Miranda	1,20	235,8	129.390
17		Ariel	1.592	578,9	191.020
18		Umbriel	1,39	584,7	266.000
19		Titania	1,711	788,4	435.910
20		Oberon	1,63	761,4	583.520
21	Neptun	Proteus	~1,3	210	117.647
22		Triton	2,061	1.353,4	354.800
23	Pluto	Charon	1,707	603,6	19.591
24	Haumea	Hi`iaka	~1	~160	49.880
25	Haumea		2,6	620	
26	Eris		2.52	1163	
27	Pluto		1,86	1.187	
28	Neptune		1,638	24.622	
29	Uranus		1,27	25.362	
30	Saturn		0,687	58.232	
31	Jupiter		1,326	69.911	
32	Ceres		2,161	965,2	
33	Vesta		3,456	572,6	
34	67P/Ch-G		0,533	4,1x3,3x1,8	

35	Mars		3,9335	3.389,5	
36	Earth		5,514	6.371	
37		Moon	3.344	1.737,1	384.399
38	Venus		5,243	6.051,8	
39	Mercury		5,427	2.439,7	
40	Sun		1,408	695.700 eq	

Dysnomia, the moon of Eris, is beyond our abilities to acquire data in a credible way (that is obvious when talking about the less distant object of Haumea), but it should not be forgotten that nowadays scientists introduce, with "a high probability“, "relevant“ data for the exoplanets that are tens and thousands of light-years away. Therefore, the measurements are unreliable and should be treated as such, i.e., with caution.

The data from the table clearly point out that it is quite difficult to recognize the pattern that could attract the attention with its clarity and simplicity. If we take a fact that higher density also means more complex chemical structure of the objects, regarding chemical elements and compounds, we can conclude that an object's density has no clear regularity. The object 67P/Churymov-Garasimenko, classified as a comet, has a lower density of all so-called gaseous planets. Although it is relatively close to Sun, its aggregate state is solid, so Philae could easily land on its surface. This fact clearly states that gaseous planets are solid (and solid/melted) objects with impressive atmospheres. There are solid objects with even lower density: Pan 0,42 g/cm3, Atlas 0,46 g/cm3, Pandora 0,48 g/cm3 – all of them the satellites of Saturn. Etc.

The objects that are closer to the central object possess a higher density (due to the higher tidal force effects), as well as the objects with bigger masses and higher temperatures of space (Ariel/Umbriel; Titania/Oberon; Proteus/Triton; Rhea/Iapetus; Galileo's satellites; Phobos/Deimos; internal/external planets; etc). Of course, it does not mean that all objects belong to this group. The very division of asteroids into S, M and V type suggests a dramatical deviation. One part of objects becomes more dense in the beginning of their approach to the Sun (because volatile matter disappears and higher temperatures help the creation of the more complex elements). The other part of objects was created during the disintegration of objects (the internal – the higher density, and the external – the lower density), due to the collisions. In both cases a continuation of growth must be taken into consideration, as the lesser objects keep arriving to their surfaces. A certain portion of satellites also does not abide the strict law (density, mass, space temperature and distance to the central object), which implies the different past of these objects before they got captured by the central object. A part of it definitely belongs to the different composition of objects that constantly bombard satellites and other objects. It is unlikely that more dense asteroids from the asteroid belt would hit the outer objects, unlike the interior ones, because the gravitational force of Sun is dominant.

The conclusion would be that it is a very complex and dynamic pattern related to the processes of objects' creation – it is constantly moving and growing. The complexity of objects is related to the space temperature, the mass of an object and the total sum of tidal

forces. Furthermore, the complexity is influenced by the position of an object related to the planet, Sun, as well as the asteroid belt. The important role also belongs to time when object got captured, for how long the object had been near Sun (perihelion) and at what distance.

The goal of this article is to eliminate the biblical-style of thinking of simultaneous creation of all objects and their inability to change during time, as well as to point out that everything could be explained by the already existing evidence and processes.

What are working temperatures of elements and compounds in the Universe?

Science keeps falling into a trap these days and continues to observe the objects in the Universe without taking into account the most important factor: the importance of influence of the temperature level that belongs to an observed object. The similarities of the other objects to Earth have been rather frequently imposed to us, over and over again, as the attempts to prove the wrong hypotheses.

It is generally accepted that there are higher temperatures in the objects and spaces that are closer to a star, as well as the fact that elements and compounds have significantly different working temperatures at which either of these change their aggregate state, from solid into liquid or they sublimate, and from liquid into gas and vice versa. The working temperature of water is from 0 to +100°C; oxygen from -218,35 to -188,14°C; nitrogen from -209,86 to -195,75°C; methane from -182,5 to -161,49; hydrogen from -259,14 to -252,87°C; helium from -272,20 to -268,934°C; sulphur dioxide from -72 do -10°C , etc.

The process that initiates with the working temperature starts with heating up, which makes it possible for the aggregate state to change from solid into liquid (or sublimate into gas) and from liquid into gas. There is a reverse process when the elements and compounds, after their breakthrough from an object into its atmosphere, meet the temperatures that are lower than the boiling point, when gas turns liquid, or the melting point, when gas or liquid turn solid.

There is a vast number of examples for the influence of the temperature level on the beginning of the process of changing the aggregate state of different elements and compounds. The lower working temperature of nitrogen on Pluto is closer to solid state. There are two sources of temperature on Pluto: internal one, which is generated due to the influence of tidal waves of the binary system with Charon, and the external one, generated by Sun and being different in perihelion and aphelion, on the light and dark side and on the equator and the poles. If the temperature on Pluto is considered here, minimal one being -229°C and maximal one being -210°C (-218 Wiki), and the atmosphere being insignificant (the surface pressure is around 1 Pa, while on Earth it is 101,325 kPa), it is easy to demonstrate which processes and with which elements and compounds will take place there. It needs to be said that surface temperatures are not the same as the internal ones, which in a particular places, where, due to the tidal forces, a friction takes place and matter emissions or crusts occur, become higher than maximal ones (when the friction stops, matter gets cooled down, i.e., the temperature lowers

rapidly with the increase of distance to the point of friction). By the quantity of elements and compounds in the atmosphere or on the surface of an object it is possible to determine quite precisely the temperatures in the internal parts of that object.

On the moon of Io, these temperatures reach above -10°C, because there is SO2 in the atmosphere and it is the compound that changes its aggregate state on Io (there is a liquid SO2 in the craters). Low temperatures on Io turn this compound into crystals, which end up on the surface very quickly. The difference between Io and Europa is in the tidal forces, which are stronger on a closer object, which also has a higher density and a more complex chemical structure.

On Europa, the working element is oxygen (its melting point is 54,8°K; the boiling point is 90,19°K), because the moon's temperature ranges from 55 to 125°K.
The temperature amplitudes between the light and dark side, as well as the temperatures on the equator and on the poles create the process of the oxygen crystallization and its removal from the atmosphere to the surface.
The surface temperatures on Europa don't offer the possibility for the water ice to create the landscape on the surface, because water melts down at 273°K or 0°C, while the maximal surface temperature on Europa is 125°K or -148°C.

The temperatures on Titan, with the average temperature of -179,5°C, don't enable the reverse process of nitrogen, so it accumulates in the atmosphere, while methane (CH4) participates in very active processes, which throw methane into the atmosphere, but there are also the active processes of its deposition from the atmosphere, which indicates the existence of temperatures above -161,49°C and below -182,5°C. …

The tidal waves affect all the objects, but differently. The objects closer to the source of tidal waves, or where the sum of tidal waves from different sources is bigger, experience the more intense processes and the chemical structure of objects is more complex (see the article "Why there are differences in structure of the objects in our system?"), but the amplitudes and the level of temperature (whether the object is closer or further from Sun or another dominant object; day and night; equators and poles) determine, which elements and compounds will become working ones and how intense it will all be, and also, how will these processes look like for every particular object inside our system and in the Universe.