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Black Hole & There is no Chaos in the Universe

Weitter Duckss

Independent Researcher, Zadar, Croatia

Abstract This year's Nobel's Prize in physics has turned into another degradation of science. The first part of the article (3.) deals with chaos that includes very different star systems. Inside a system there are objects with a lot of satellites and those with none. Some planets in distant orbits and brown dwarfs are warmer than some stars. The objects and stars of the same mass have completely different temperatures and are often classified into almost all star types. There is light inside an atmosphere or on the surface of an object without an atmosphere, but it disappears just outside the atmosphere or the surface of the object without the atmosphere. There are galaxies with the blueshift and redshift; although the Universe expands faster and faster, there are *200 000 galaxies* and *clusters of galaxies* that merge or collide. There are enormous differences in the quantity of redshift at the same distances for galaxies and larger objects, i.e., there are different distances – with the differences measured in billions of light-years – for the same quantities of redshift. The other part of the article (4.) removes chaos and returns order in the Universe by implementing identical principles in the whole of the volume and for all objects.

Keywords Black holes, Chaos in universe, Processes in space, Stars, Galaxies, Ordered universe

1. Introduction

If the density of Jupiter is analized, as well as the density of liquid and solid hydrogen and helium, the conclusion is the whole planet, the one which we are unable to detect or measure nowadays, is missing. Nevertheless, the Nobel's Prize is awarded to the scientists who are able to detect a 0.001-400 AU large black hole (In Milky Way 0,3 AU) at the distance of ~27 000 light-years and through the layer of matter, which is no less than 1 500 to 20 000 light-years thick. Matter above the "black hole" consists of gas, dust and 10 million stars per parsec (3,26 light-years).

The current events in astronomical measurements and observations are used here and they are classified into 15 tables. All data are linked to their source. Based on the usage of data, a chaotic behavior of the processes in the Universe is returned to order and it is pointed to processes that are valid in the whole of the volume and are applied to all objects.

The differences registered at different objects are a consequence of the conditions that are specific for each object.

The method of verification is based on the comparison of different sequences of data, in order to create a comprehensive image of the processes that affect a star, its orbits, mass, the speed of rotation, color, the level of temperature, etc.

The main feature or goal of this method is acquiring universality and removing any paradox that might negate the conclusions and their verification.

This article relies on my already *published articles* that use the same or similar data, which describe more thoroughly and always from another perspective some sections of this topic.

2. "Black Holes"

The black hole topic appeared after a diffraction of light in the atmosphere had been explained as if gravity was refracting light. The statement of one scientific authority was supported and followed by other scientific authorities as they kept upgrading this hypothesis with new constructions. These constructions allowed for everything that was not allowed by the laws of physics.

The field equation solutions of "Karl_Schwarzschild Boundary region of Schwarzschild interior and exterior solution" and "modern" definitions of black holes are diametrally opposite. The common thing they share is they are based not on evidence or observations, but on speculations and assumptions.

The use of Doppler indicates a rotation of an object, not a black hole. A part of an object that rotates towards an observer possesses a blueshift, unlike distancing objects that possess a redshift.

Galaxies and stars rotate.

Fast-rotating galaxies: quasar *RX J1131-1231* „X-ray observations of RX J1131-1231 (RX J1131 for short) show it is whizzing around at almost half the speed of light; *Spindle galaxy*, elliptical galaxy, „possess a significant amount of rotation around the major axis“; *NGC 6109* is Lenticular

* Corresponding author:
wduckss@gmail.com (Weitter Duckss)
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Galaxy, Within the knot, the rotation measure is 40 ± 8 rad m−2.

Contrary to: Slow Rotation: *Andromeda Galaxy*, spiral galaxy, maximum value of 225 kilometers per second; *UGC 12591* spiral galaxy, the highest known rotational speed of about 500 km/s,; *Milky Way* spiral galaxy, 210 ± 10 (220 kilometers per second Sun).

Table 1. Rotation of stars

	Star	Temperature K	Rotation speed
1	*PSR B0943 + 10*	310.000	1,1 s
2	*PSR 1257 + 12*	28.856	6,22ms
3	*Cen X-3*	39.000	4,84 s
4	*GD 356*	7 510	115 min.
5	*RX Andromedae*	40-45 000	200 km/s
6	*WR 142*	200 000	1 000 km/s
7	LHS 1140	3 131	131 day
8	DENIS 1048-39	2 200	27 km/s

Table 1. Star rotation and temperature

Black holes are the most frequently placed in the centers of galaxies (bulges).

- A super-massive black hole with a diameter of 0.001-400 AU (In Milky Way 0,3 AU, 44 million kilometers). [1]
- The central part of Milky Way (bulge - "In astronomy, a galactic bulge (or simply bulge) is a tightly packed group of stars within a larger star formation. The term almost exclusively refers to the central group of stars found in most spiral galaxies.") has a diameter of 3 000 - 16 000 light-years [2], i.e. 30 000 (from north to south) x 40 000 light –years at the equator (according to other authors). [3] „The bulge of the Milky Way appears to be fairly typical – a slightly flattened sphere of radius ~6,500 light years – while bulge sizes in other galaxies vary from several hundred to several tens of thousands of light years, depending on the type and size of the galaxy." From COSMOS - The SAO Encyclopedia of Astronomy › B
- A center of the galaxy (a bulge) consists of 10 million stars per parsec^3 (1 pc ≈ 3.261563777 ly), dust, gas and other smaller objects that orbit around stars and planets.
- the radius of Jupiter is 69 911 km.
- the distance of the center of Milky Way from Earth is ~27 000 light-years.
- the distance of Jupiter is 4,2 AU or a few thousand kilometers if a satellite is rotating around it.

For example:

A black hole's size is 100 AU.

A bulge of a galaxy is 10 000 ly or 632 410 000 AU (or 3 066 parsec).

Let's define AU with centimeters, let 100 AU be 1 cm.

If a black hole had a diameter of 100 AU (In Milky Way 0,3 AU), we would then have the value of 1 cm inside a sphere with a diameter of 6 324 100 cm (the volume of a sphere: V= 4/3 pi r^3).

The Nobel's Prize in Physics Award for the detection of a "black hole", with these values set above, seems illogical and irrational and, because of it, the next generations will be compelled to acquire suspicious knowledge.

The density of liquid hydrogen is 0.07 g/cm^3 (solid: 0.0763 g/cm^3), the density of liquid helium (at m.p.) 0.145 g/cm^3. Solid helium has a density of 0.214±0.006 g/cm^3 at 1.15 K and 66 atm; the projected density at 0 K and 25 bar (2.5 MPa) is 0.187±0.009 g/cm^3. At higher temperatures, helium will solidify with sufficient pressure. At room temperature, this requires about 114,000 atm. [4]

The density of Jupiter is 1.326 g/cm^3.

These data undoubtedly state that Jupiter has to have a solid-liquid body, because when a value of 0.214±0.006 g/cm^3 (i.e., the density of solid helium) is deducted from 1.326 g/cm^3 (i.e., the density of Jupiter), there is a lack of matter, which has the density of 1.112 g/cm^3.

Our scientific instruments and our scientists are unable to detect and measure the body of Jupiter (Jupiter has a radius of 69,911 km) covered with gas, but they sure seem able to measure and get a Nobel Prize for "measuring" through a 1 500 to 15 000 light-years-thick layer of matter, consisting of 10 million stars per parsec (In Milky Way 10 000 ly or 3 066 parsec and 10 million stars per parsec^3), dust, gas and other smaller objects that rotate around stars and planets.

„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." From my earlier article (2016).

3. Chaos in Universe?

The analysis of the Universe, if it is not comprehensive, seems chaotic. Gravity does not explain the difference between the planets without satellites and planets with many dozens of satellites, as well as rings. Pluto (mean radius 1.188,3±0,8 km) has five discovered satellites, which make 12,2% of its mass. Venus has no satellites, although its diameter is five times larger than the one of Pluto.

Table 2. ~ % Mass of satellites Satellites /Central body

	Body	~ % Mass of satellites Satellites /Central body	Radius km	Distance AU	Temperature K
1	*Sun*	0,14	695 700	-	5 772 (Ph.sph)
2	*Venus*	No satellites	6 051.8±1,0	0,723332	737 K
3	*Earth*	1,23	6 371,0	1	287,16 (61-90 y)
4	*Mars*	is negligible (two satellites)	3 389,5 ± 0,2	1,523 679	210
5	*Jupiter*	0,021	69 911	5,2044	112 (0,1 bar)
6	*Saturn*	0,024	58 232	9,5826	84 (0,1 bar)
7	*Uranus*	0,00677	25 362±7	19,2184	47 (0,1 bar)
8	*Neptune*	0,385 (Triton 0,3)	24 622,0±19	30,11	55 (0,1 bar)
9	*Pluto*	12,2	1 188,3±0,8	39,48	44

Table 2. ~ % Mass of satellites Satellites /Central body

A table, Mass of satellites /Central body, seems chaotic. The same goes for ø temperatures, too, which do not decrease with the increase of distance from a star and if they do decrease, they do it at a pace that is unpredictable. Mercury is colder than Venus and Uranus than Neptune. If the temperatures from the dark side of the objects are included here, the illusory chaos seems to be complete.

Table 3. Sun system, temperature deviation, temperatures/ distance

	The body in orbit around the Sun	Minimum temperatures °K	Distance from the Sun AU
1	*Mercury*	80 (100 equator)	0,39
2	*Moon*	100	1
3	*Mars*	143	1.52
4	*Vesta*	85	2,36
5	*Ceres*	168	2,77
6	*67P/Churyumov–Gerasimenko*	180	3,46
7	*Callisto*	80±5	5.20
8	*Triton*	38	30,11
9	*Pluto*	33	39,48

Table 3. Sun system, temperature deviation, relationship: minimum temperatures °K/distance from the Sun AU. (2018. W. Duckss [5])

Although Mercury is 0,39 AU far from Sun, its lowest temperature is lower than these of Venus, Earth, Moon, Mars, Vesta, Ceres and 67P/Churyumov–Gerasimenko. The temperature of Callisto, which is 5,2 AU far, is approximately the same as that of Mercury. It is particularly obvious that the lowest temperature of 67P/ Churyumov–Gerasimenko (180°K, distance 3,46 AU) is by 100°K higher than the lowest temperature of Mercury, or the one of Ceres (168°K), which is twice as high than the one of Mercury at the distance of 2,77 AU.

A seemingly complete chaos appears with the discovery of the exoplanets.

Table 4. Planets, large distance orbits, mass/temperature

	Planet	Mass of Jupiter	Temperature K	Distance AU
1	*GQ Lupi b*	1-36	2650 ± 100	100
2	*ROXs 42Bb*	9	1,950-2,000	157
3	*HD 106906 b*	11	1.800	~650
4	*CT Chamaeleontis b*	10,5-17	2.500	440
5.	*DH Tauri b*	12 (8-22) (*11*)	2 750	*330*
5	*HD 44627*	13-14	1.600-2.400	275
6	*1RXS 1609 b*	14	1.800	330
7	*UScoCTIO 108 b*	14	2.600	670
8	*Oph 11 B*	21	2.478	243
9	*HIP 78530 b*	23,04	2 800	710

Table 4. Planets at a great distance from the stars with high temperatures and different mass. (2018. Lombaert et al.) [6]

Chaos !? We now have bodies (planets) in very distant orbits with star temperatures.

Although the mainstream of science claims that the objects that are below 13 masses of Jupiter cannot start nuclear processes (2013. James B. Kaler) [7], they are nevertheless hot and emit their own light. The following chaotic question imposes itself: how can a planet (*DH Tauri b 2 750°K, HIP 78530 b 2 800°K, UScoCTIO 108 b, GQ Lupi b 2 600°K, 2MASS J2126-8140 1 800°K, B Tauri FU 2 375°K, ..)* that is 100 to 6 900 AU far from its star and with a mass of 1 – 24 of the mass of Jupiter be hotter than a whole sequence of stars, the masses of which are 0,7 – 10 of the mass of Sun?

The additional mess is created by the data obtained from the comparison of small and large planets and brown dwarfs (all of the analyzed planets are very far from their stars), just as identical objects with approximately similar masses do.

Table 5. Cold stars, mass/radius

	Star	Mass Sun 1	Radius Sun 1	Temperature °K
1	*R Cygni*	Cool giant	/	2.200
2	*R Cassiopeiae*	Red giant	263-310	2.812
3	*CW Leonis*	0,7 – 0,9	700	2.200
4	*IK Tauri*	1	451-507	2.100
5	*W Aquilae*	1,04-3	430-473	1.800 (2250-3175)
6	*R Doradus*	1,2	370±50	2.740±190
7	*T Cephei*	1.5-1.8	329 +70 -50	2.400
8	*S Pegasi*	1,8	459-574	2.107
9	*Chi Cygni*	2,1 +1,5 -0,7	348-480	2.441-2.742
10	*R Leporis*	*2,5 – 5*	400±90	*2.245*-2.290
11	*R Leonis Minoris*	10,18	569±146	2.648
12	*S Cassiopeiae*	loss at 3.5 x 10-6 MSun per year	930	1.800

Table 5. Cold stars in relationship: mass/radius Sun=1).

Table 6. Brown dwarf and planets, mass/temperature

	Brown dwarf (& planets)	Mass of Jupiter	Temperature °K	Planets orbit AU
Mass up to 13 MJ/(vs) Mass above 13 M				
1	*ROXs 42Bb*	9	1.950 ± 100	157
2	*54 Piscium B*	50	810±50	
3	*DH Tauri b*	12	2.750	330
4	*ULAS J133553.45+113005.2*	15 -31	500 -550	
5	*OTS 44*	11,5	1.700 - 2.300	
6	*Epsilon Indi Ba and Bb*	40 – 60 (28±7)	1.300-1400 (880-940)	1.500 (between 2,1)
7	*2MASS J2126-8140*	13,3 (± 1,7)	1.800	6.900
8	*Gliese 570*	~50	750 - 800	1.500

Mass vs Mass

1	*2M 044144*	9.8±1.8	1.800	*15 ± 0.6*
2	*DT Virginis*	8.5 ± 2.5	695±60	1.168
3	*Teide 1*	57± 15	2.600±150	
4	*Epsilon Indi Ba and Bb*	40 – 60 (28±7)	1.300-1400 (880-940)	1.500 (between 2,1)
5	*B Tauri FU*	15	2.375	700
6	*DENIS J081730.0-615520*	15	950	

Table 6. Brown dwarf and planets (at a great distance), relationship: mass up to 15 MJ/(vs) mass above 15 M and Mass vs Mass and temperature.

Here are higher temperatures on the smaller objects than on the ones with a significantly larger mass, i.e., the objects that are below 13 mass of Jupiter are hotter than those that are above 30, 40, 50 and 60 mass of Jupiter (and the whole sequence of stars). The next part of the table compares the objects of the approximately similar masses that are above or below 13 mass of Jupiter and with a very significant difference in temperatures (*B Tauri FU / DENIS J081730.0-615520* have 15 mass of Jupiter and the temperature of 2 375 / 950°K). The objects that are not supposed to be hot, according to the mainstream of science, because they are below the "magic" level of 13 M Jup – they are as hot as stars.

In the process of analyzing stars, more of the chaotic data appear again. The stars of the same radius or the same mass have extremely different temperatures and are often classified into higher or almost all star types.

The "combustion" of stars seems not to be following the laws of physics. The same mass of different stars with a similar chemical composition does not burn with the same glow.

Table 7. Star about 20 M Sun, type / mass / temperature

	Star	Type	Mass Sun=1	Temperature °K
1	*EZ Canis Majoris*	*WN3-hv*	19	89.100
2	*Centaurus X-3*	*O*	20,5 ± 0,7	39.000
3	*η Canis Majores*	*B*	19,19	15.000
4	*HD 21389*	*A*	19,3	9.730
5	*Kappa Pavonis*	*F*	19 - 25	5.250 - 6.350
6	*V382 Carinae*	*G*	20	5.866
7	*S Persei*	*M*	20	3.000-3.600
8	*DH Tauri b*	*Planet; dist. 330 AU*	12 M Jupiter	2.750
9	*HIP 78530 b*	*Planet; dist. 740 AU*	24 M Jup.	2.700 (2.800)

Table 7. Stars, similar mass (except No 8, 9,), different classes (type) and temperatures

Table 8. Stars about 2 M Sun Type/mass ~2/temperature and radius

	Star	*Type*	*Mass (Sun = 1)*	Temperature K
1	*S Pegasi*	M5e - M8.5e	1,4-1,8	2.107
2	*R Leporis*	*C7,6e(N6e)*	*2,5 – 5*	*2.245*-2.290
3	*Rho Orionis*	*K0 III*	*2,67*	4.533
4	*29_Orionis*	*G8IIIFe-0.5*	*2,33*	4.852
5	*BX_Andromedae*	*F2V*	*2,148*	6.650
6	*Mu_Orionis*	*Aa*	*2,28*	8.300
7	*3_Centauri*	*B8V*	*2,47*	9.638
8	*Vela X-1*	*B0.5Ib pulsar*	*1,88*	31.500
9	*HD_49798*	*sdO5.5*	*1,50*	47.500
10	*PSR J0348+0432*	*pulsar*	*2,01*	/
11	*14 Aurigae*	*white dwarf*	*1,64*	7.498
12	*GQ Lupi b*	*planet*	*1-36 MJup.*	2.650 ± 100 (100 AU)

Table 8. Type/mass ~2/temperature and radius

Table 9. Star,mass/temperature

	Star	Mass, Sun=1	Temperature °K
Cool Stars			
1	*NML Cygni*	50	3.834
2	*WOH G64*	25	3.200
3	*Antares*	12,4	3.400
4	*UY Scuti*	7-10	3.365
5	*Beta Andromedae*	3-4	3.842
6	*HD 220074*	1,2	3.935
7	*Lacaillea 9352*	0,503	3.626
8	*Wolf 359*	0,09	2,800 ± 100
9	*SCR 1845-6357A*	0,07	2.600-2.700
10	*2M1207*	0,025	2550 ± 150
Hot Stars			
1	*HD 149382*	0,29-0,53	35.500±500
2	*NSVS 14256825*	0,528	42.000
3	*HD 74389*	0,69	39.500
4	*Z Andromedae*	0,75	90.000-100.000
5	*RX J0439.8-6809*	*~0,9*	250.000
6	*HD 49798*	1,5	47.500
7	*μ Columbae*	16	33.000
8	*S Monocerotis*	29,1	38.500
9	*AB7 O*	44	36.000
10	*Plaskett's star A*	54	33,000 ± 2,000
11	*HD 93403 A*	68,5	39.300

Table 9. Star,mass/temperature, cold stars, mass growth is not followed by temperature rise

Quote „In the nineteen-twenties, Cecilia Payne studied the spectra of stars, and devised a way to figure out the temperature and true chemical composition of stars. She concluded that the atmospheres of stars were

NOT made up of the same mix of elements as the Earth
NOT wildly variable in composition
but in fact,
almost entirely hydrogen, in almost all stars

This was so surprising that scientists ignored or rejected the idea for several years. Eventually, after further study confirmed Payne's work, the astronomical community had to concede that the stars were, in fact, very different from the Earth. They appeared to be made up of

90% hydrogen (by number of atoms)
10% helium
tiny traces of heavy elements (everything else)“ End of quote

Some of them are lazy, while the others are very lively. Whatever quantity of mass is observed makes no difference, because this phenomenon is omnipresent. It is the same with planets and brown dwarfs. The stars possessing a smaller quantity of mass are frequently warmer than over 96,15% of all stars (*Harvard spectral classification*) in the Milky Way (*NSVS 14256825* 0,528 M Sun, temperature 42 000°K, *HD 149382* 0.29−0.53 M Sun, 35 000°K; V391 Pegasi 0,5 M Sun, temperature 29 300 ± 500°K ...; 96,15% star temperature <6 000°K, + 3% F Class with temperature to 7 500°K = 99,15% the total number of stars, the main sequence, in the Milky Way).

Table 10. Small stars/ temperature and type of star

	Small star	Mass Sun=1	Temper. K	Type
1	*Beta Pictoris b*	0,0086-0,012	1.724	exoplanet, dist. *11,8 AU*
2	*ROXs 42Bb*	0,0086	1.800-2.600	exoplanet, dist. *140 AU*
3	*CW Leonis*	0,7-0,9	2.000,0	C9,5e
4	*Kelu-1*	0,060	2.020	brown dwarfs L2
5	*Gliese 570*	0,55	2.700	M1V
6	*HIP 78530 b*	0,022	2.800	exoplanet; dist. *710 AU*
7	*Lacaillea 9352*	0,503	3,692	M0.5V
8	*WD 0346+246*	0,77	3.800	white dwarf
9	*Castor C*	0.5992	3.820	BY Draconis dwarf stars
10	*HIP 12961*	0,63	3.838,0	red dwarf M0V
11	*LP 658-2*	0,45 (0,80)	4.270 (5.180)	white dwarf DZ11.8
12	*HR 9038 Ab*	0,67	4.620,0	red dwarf K3V
13	*Groombridge 1830*	0,661	4.759	G8 subdwarf
14	*HD 134439*	~0,78	5.136,5	sd:K1Fe-1
15	*AC Herculis*	0,6	5.225	F2pIb
16	*Mu Cassiopeiae*	0,74	5.341	G5Vb
17	*L 97-12*	0,59	5.700,0	white dwarf DC8.8
18	*QX Andromedae sec*	0,45	6.420	F6
19	*S Arae*	0,51	6.563	A3II
20	*HR 4049*	0,56	7.500	B9.5Ib-II
21	*GD 356*	0,67	7.510	white dwarf DC7
22	*Zeta Cygni B*	0,6	12.000	white dwarf DA4.2
23	*40 Eridani B*	0,573	16.500	white dwarf DA4
24	*Kepler-70*	0,496	27.730	sdB
25	*V391 Pegasi*	0,5	29.300,0	subdwarf star
26	*2MASS J19383260+4603591*	0,48	29.564	sdBV/M
27	*PG 0112+104*	0.52 ± 0.05	>30,000	white dwarf
28	*PG 1047+003*	~0,5	33.500	sdBe
29	*LS IV-14 116*	*0,485*	34.950	sdB0.5VIIHe18
30	*HD 149382*	0.29−0.53	35.000,0	B5 VI
31	*NSVS 14256825*	0,528	42.000,0	sdOB / M V

Table 10. Small stars mass ~0,5 MSun (except 3 exoplanets and *Kelu-1*) in relation to temperature and type of stars

After these data it is difficult not to discuss chaos. The stars of similar masses can have low temperatures, high temperatures and all temperatures in between. The same masses of different stars produce a whole sequence of temperatures and, vice versa, completely different masses from small to giant stars produce identical temperatures. At the first sight, there is no mathematics that could reconcile these complete opposites and put them inside the realm of physics.

Chaos gets increased when the density of objects is analyzed.

Table 11. The density and radius of the sun and the body in orbit

R/B	Object	Ø density g/cm³	Radius km
1	*Sun*	1,408	695.700 eq
2	*Mercury*	5,427	2.439,7
3	*Venus*	5,243	6.051,8
4	*Earth*	5,514	6.371
5	*Moon*	3.344	1.737,1
6	*Mars*	3,9335	3.389,5
7	*Vesta*	3,456	572,6
8	*Ceres*	2,161	965,2
9	*67P/Ch-G*	0,533	4,1x3,3x1,8
10	*Jupiter*	1,326	69.911
11	*Saturn*	0,687	58.232
12	*Uranus*	1,27	25.362
13	*Neptune*	1,638	24.622
14	*Pluto*	1,75	1.187
15	Sirius A	*0,568*	1.190.342,7

Table 11. The density and radius of the sun and the body in orbit (Source: NASA)

Chaos is the easiest way to explain density. The largest objects, Sun and gas giants, have the smallest density (except for some small, solid objects: *67P/Churyumov–Gerasimenko* 0,533 g/cm³, *Pan* 0,42 g/cm³, *Atlas* 0,46 g/cm³, *Pandora* 0,48 g/cm³, *Prometheus* 0,48±0,09 g/cm³, *Amalthea* 0,857±0,099 g/cm³..). Jupiter, Saturn and Uranus have smaller densities than Sun, while Neptune has a larger density than it. A chemical composition of objects is related to their density. It is observed that solid objects may have small or large density. It is particularly chaotic to have volcanoes on smaller and larger objects, with or without a melted core (Enceladus, Io opposite to Earth and Venus). Titan moon has atmosphere, although its mass is only 0,0225 of the one of Earth (its atmosphere is as large as 1,5 of the one of Earth's), or Jupiter, which mass is 317,8 larger than the mass of Earth. The objects with the atmosphere, orbiting around Sun, have very different chemical compositions and the thicknesses of atmosphere. The atmosphere of Titan (2017. Sarah M. Hörst) [8] (and Triton, Pluto (2019. A. A. Mardon et al.) [9] is made of nitrogen (N_2), while the atmosphere of Saturn (and Neptune), the planet around which Titan orbits, is made of hydrogen and helium.

When it leaves the atmosphere of a star, light immediately disappears. It appears again only on the orbiting objects or in nebulae made of particles and dust. It would seem as if something has been "swallowing" light and creating a complete darkness in the Universe. If that is to be ascribed to the influence of vacuum, that would create the following questions: why does vacuum reduce the intensity of light – the difference between Earth and Pluto is more than by 1 500 times. (*Mean Solar Irradiance* (W/m2) on Mercury is 9.116,4, Earth 1.366,1, Jupiter 50,5, na Pluto 0,878 (2009-2018. Solar Intensity BRSP) [10].

Figure 1. the Moon and the Earth Apollo 8; Sun; Pluto and Charon moon; stars look like from outer space of the Dawn spacecraft; NASA.

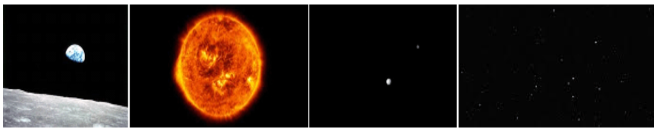

Figure 1. The Moon and the Earth Apollo 8; Sun; Pluto and Charon moon; stars look like from outer space of the Dawn spacecraft; NASA

Where do photons disappear? „The universe is a vast space that is not very easy to illuminate, though, because the stellar objects are very far from each other.

Nevertheless, a basic problem is not the vast space, but the light itself. The light comes from the Sun to the planets and to all the other objects of our system. Since the intensity of light decreases with the increase of distance, already behind Pluto it is rather dark. When we gaze at the sky at night, we can easily conclude that the range of light is very long (Andromeda is seen with bare eyes, even though it is more than 2 million of light-years far from us). Satellites and telescopes can detect light that has been travelling for more than 13 billion of light-years.

It is estimated there are some 200 billion of stars in our galaxy only. So many stars that emit light to the endless distances, and yet, we barely have some light. It is enough to leave the atmosphere of Earth to find yourself in the darkness“ W. Duckss 2015.

Figure 2. Moon, comet, ISS; NASA

Figure 2. Moon, comet, ISS; NASA

„A space outside the visible matter is dark. There is no light just outside the atmosphere of Sun. There is no light outside the atmosphere of Earth and off the surface of Moon. Light does not travel through space. There is a total darkness between Sun and Earth, just as between Sun and any other form of visible matter.

Sun emits X-rays, ultraviolet, visible light, infrared, radio waves and a very low quantity of gamma rays from sun spots. Radiation and waves are not visible and they are not a visible light, because space becomes dark just outside the visible matter of a star. When there is no visible matter, there is no light, there is only dark.“ W. Duckss 2019.

The measurements of distant objects, which emit light, are closely related to light. The mainstream of science has been claiming for a 100 years that the larger the distance of an object, the more significant is its redshift. There are quite a few volumes of books that provide the formulae to calculate a correct result. However, chaos would not be what it is, if these formulae could be practically used in the reality.

Table 12. A part of galaxies with blueshift

	Designation	VLG…(blue shift)
1	VCC237	−423
2	IC3105	−284
3	VCC322	−323
4	VCC334	−350
5	VCC501	−224
6	IC3224	−100
7	VCC628	−540
8	VCC636	−113
9	IC3258	−593
10	IC3303	−427
11	VCC802	−318
12	IC3311	−287
13	VCC810	−470
14	VCC815	−866
15	VCC846	−845
16	NGC4396	−215
17	VCC877	−212
18	NGC4406	−374
19	VCC892	−784
20	VCC928	−395
21	IC3355	−126
22	VCC953	−563

Etc.
Table 12. a part of galaxies with blueshift (and negative speeds) at the distance of about 53.8 ± 0.3 Mly (16.5 ± 0.1 Mpc). (2010. I.D. Karachentsev, O.G. Nasonova) (Haynes M.P. et al) [11]

If there is a distance of ~53 Mly from Earth, our mathematics becomes chaotic. Some authors claim that the *Hubble constant* applies for the distances above 32,6 Mly and its value is from 60 -500 km/s by parsec. This is the reason why I have skipped over our local group and made this checking analysis almost at the double of the distance. It is obvious not only that the redshift does not increase, but also that there is the blueshift. It is impossible to register the blueshift directly (or, the approaching of galaxies) above 70 Mly, but some new research activities point out that 200 000 of galaxies merge or collide. (2019. W. J. Pearson et al.) [12] What is merger and collision if not the blueshift between objects? A large portion of these objects are getting closer to us, but a spectroscope does not provide the correct results above 70 Mly. A complete chaos.

Table 13. Red shift /distance

	Galaxy, Cluster galaxy, Supercluster	Red shift (z)	Distance M ly
1	Leo_Cluster	0,022	368,6
2	ARP 87	0,023726	330
3	Abell 2152	0,041	551
4	Hydra_Cluster	0,0548	190,1
z= 0,0502 to 0,0767, distance 190,1 to 1 063 M ly			
1	Abell 671	0,0502	600
2.	Abell 1060	0,0548	190,1
3	Abell_1991	0,0587	812
4	Corona Borealis Supercluster	0,07	946
5	Laniakea Supercluster	0,0708	250
6	Abell 2029	0,0767	1 063
z= 0,1871 to 0,211, distance 2 485 to 2 645 M ly			
1	Abell 383	0,1871	2 485
2	Abell 520	0,2	2 645
3	Abell_222(3)	0,211	2 400
distance z 0,28 > z 0285041 to z 0,359			
1	Saraswati Supercluster	0,28	4 000
2	HE0450-2958	0,286041	3 000
3	Bullet Cluster	0,296	3 700
4	H1821 + 643	0,297	3 400
5	OJ 287	0,3060	3 500
6	Abell 2744	0,308	3 982
7	CID-42	0,359	3 900
z 0,375 > z 0,542 for 4 000 M ly			
1	Abell_370	0,375	4 775
2	3C 47	0,425	4 300
3	3C_295	0,464	4 600
4	Musket Ball Cluster	0,53	700
5	Abell 754	0,542	766
6	3C 147	0,545	5 100
z 0,586 > z 0,71279 for 3 200 M ly and 0,87 for 2 000 M ly			
1	MACS J0025.4-1222	0,586	6 070
2	Phoenix Cluster	0,597	5 700
3	RX J1131-1231	0,658	6 050
4	SDSS J0927+2943	0,71279	2 860
5	3C 454.3	0,8590	7 700
6	ACT-CL J0102-4915	0,87	4 000
the distance for z 1,26, 127 and z 7,085 is the same; z 1,413 to 6,07 is smaller			
1	Lynx Supercluster	1,26, 1,27	12 900
2	Twin Quasar	1,413	8 700
3	XMMXCS_2215-1738	1,45	10 000
4	Einstein Cross	1,695	8 000
5	3C9	2,0194	10 000
6	TON 618	2,219	10 400
7	EQ J100054+023435	4,547	12 200
8	SDSS J0303-0019	6, 07	12 881
9	ULAS J1120+0641	7,085	12 900
the distance z 8,38 and z 10,0 is same, for 8,6 and 9,4 is smaller			
1	A2744 YD4	8,38	13 200
2	UDFy-38135539	8,6	13 100
3	GRB 090429B	9,4	13 140
4	Abell 1835 IR1916	10,0	13 200

Table 13. As redshift increases, the distance of the objects decreases, increases (faster or slower than "expected") or remains similar. (2020. W. Duckss) [13]

A spectroscope seems to be useless at larger distances. For the same distances it shows different values of the redshift in all known deep parts of the volume today. The larger the observed distance, the more chaotic the results.

Abell 1835 IR1916 (13 200 Mly, 10,0 (z)) is by 300 Mly more distant than *Lynx Supercluster* (12 900 Mly, 1,26, 1,27 (z)), but its redshift is larger by 8,73. If the spectroscope functioned normally, it would show the difference of 0,023726, the value of *ARP 87*, which is 330 Mly away, and instead it states the redshift to be larger by almost 8 times (10 : 1,26).

The section related to the explosions of stars (supernovae) is no exception, on the contrary, a total chaos. Until today, somewhat more than 400 novae – a total quantity – have been discovered in the Milky Way (2019. Harvard.edu) [14], in which there are 200 – 400 billion of stars. The ratio is obvious: there is 0,5 or one novae per a billion of stars. The mainstream of science claims that large stars explode (red stars of the M spectral type, like *Betelgeuse*, blue stars of the O type, like *Melnick 42*, etc.), the quantity of which is (depending on the method used) a few billion or a few hundred million of stars. How do the 400 stars out of 400 million of the similar stars "know" that they have to explode and all the rest of them have no idea about it? Chaos starts again when it is realized there are stars, the mass of which is enormous (*R136a1*, 315 M Sun, R136c, 230 M Sun, *BAT99-98*, 226 M Sun ..) and with a very large radius (*UY Scuti*, 1 708 R Sun, *WOH G64*, 1 540–2 575 R Sun, *Westerlund 1-26*, 1 530–1 580 (–2 550) R Sun ..) but they have not turned supernovae. The existence of *Chandrasekhar limit* 1,44 M Sun shows us that stars that explode are a bit larger than Sun (or smaller than it). How can it be that there is a lower limit, but there is no upper limit for a star to meet the conditions to explode? If we start believing that black holes already exist in some stars, we get a total chaos. A star with a black hole in it explodes and creates a black hole.

When black holes in the centers of galaxies (the diameters of which are from *3 000* do *30* x *40* thousand of ly (*Milky Way* ..)) are analyzed (*Supermassive black hole* has a ø of 0.001–400 AU) (1 ly = 63 241 AU), there is chaos. "In the Galactic Center there are around 10 million stars within one parsec." (Wikipedia) Namely in this time, on the basis of "measurements", the scientists are determining black holes in the centers of galaxies. At the same time it is impossible to measure the centers of the clusters of stars or the core of Jupiter or the core of our own star, but we can measure inside a matter that is several thousand light-years thick. It is so chaotic, to be able to measure very far and deep, but to be unable to measure in the adjacent vicinity...

Black holes are a synonym for suction, but they have no problem with a star or a center of a galaxy as it seems they are not sucked in, but to the contrary, black holes eject matter, radiation and light through the poles of such an object. How can a black hole eject matter through 3 000 to 30 000 ly of matter or stars (10 million stars within one parsec), smaller objects, dust and gas? It would appear that this matter abides by some uknown new "traffic regulations" and "gets off the way". Black holes are not the only one being chaotic – our measurements are chaotic, too. Passing by Pluto revealed how many wrong measurements and unacceptable presentations of measurements have been made so far, but we are "precise" when offering evidence of the objects and planets that are by thousands, millions and billions of light-years away. A typical example of our instruments suffering from "presbyteria".

4. Removing Chaos in Universe

The removing of chaos and the values that are obtained by non-physical fabrications starts with rotation. At the moment, science observes rotation without its effects. An object or a planet that rotates, by its rotation creates correlations with the objects that are in the range of gravity. The speed of rotation determines appearance, temperature levels, the number of the orbiting objects, color, the emission of different types of radiation of objects nad galaxies.

The effects of rotation differ: in the terms of speed, but also in the terms of smaller and bigger quantity of matter that rotates and also in the terms of how rich with matter some part of space is (whether the body is inside a nebula or outside it). Smaller quantities of mass (smaller stars, etc.) have to rotate faster to achieve the effects produced by a rotation of a larger star, due to more layers or belts that rotate at different speeds (with higher compressive forces) and achieve more important effects that way.

Table 14. Galaxies, type / rotational speed

	galaxies	type galaxies	Speed of galaxies
Fast-rotating galaxies			
1	RX J1131-1231	quasar	„X-ray observations of RX J1131-1231 (RX J1131 for short) show it is whizzing around at almost half the speed of light. [22] [23]
2	Spindle galaxy	elliptical galaxy	„possess a significant amount of rotation around the major axis“
3	NGC 6109	Lenticular Galaxy	Within the knot, the rotation measure is 40 ± 8 rad m−2 [24]
Contrary to: Slow Rotation			
4	Andromeda Galaxy	spiral galaxy	maximum value of 225 kilometers per second
5	UGC 12591	spiral galaxy	the highest known rotational speed of about 500 km/s,
6	Milky Way	spiral galaxy	210 ± 10 (220 kilometers per second Sun)

Table 14. galaxies, relationship: type galaxies / rotational speed of galaxies; No 1-3 Fast-rotating galaxies, No 4-6 Slow-rotating galaxies.

A larger quantity of the incoming matter or the matter that collides with a star opposite of the direction of its rotation can slow down the object even to the opposite of the direction of rotation. An object can significantly accelerate its rotation due to the income of a single object, but such occurrences are very rare.

The appearance of a galaxy is determined by the forces of attraction and also the speed of its rotation. Elliptical galaxies rotate slowly and spiral galaxies have a very slow rotation. The size of a galaxy does not influence its appearance – there are galaxies of all sizes with a fast or slow rotation.

Table 15. Galaxies, type/ size

	galaxies	type of galaxies	speed of galaxies
		Large galaxies (fast-rotating)	
1	APM 08279+5255	elliptical galaxy	giant elliptical galaxy [25]
2	Q0906 + 6930	blazar	the most distant known blazar
3	OJ 287	BL Lacertae object	the largest known objects
4	S5 0014 + 81	blazar	giant elliptical galaxy
5	H1821 + 643	quasar	the most massive black hole
		Contrary to: Dwarf galaxies (fast-rotating)	
6	Messier 110	elliptical galaxy	dwarf elliptical galaxy
7	Messier 32	"early-type"	dwarf "early-type" galaxy
8	NGC 147	spheroidal galaxy	dwarf spheroidal galaxy
9	NGC 185	spheroidal galaxy	dwarf spheroidal galaxy

Table 15. galaxies, relationship: type of galaxies/ size of galaxies; No. 1-5 Large galaxies (fast-rotating), No. 6-9 Dwarf galaxies (fast-rotating).

The centers of galaxies (bulges) can have a diameter from 10 000 ly (*Milky Way*) to *30* (*40*) thousand, according to some authors. When objects rotate together around a center ("There are around 10 million stars within one parsec of the Galactic Center", Wikipedia) in a relatively small space (from 10 – 30 thousand ly), they adopt some characteristics of a single object. The rotation of such an object (bulge) creates the appearance of the whole galaxy: a fast rotation creates elliptical galaxies and a slow rotation – spiral galaxies.

When rotations are very fast in the core of the galactic centers (and stars), cyclones are created and their originations are vertical to the direction of rotation, i.e., on the poles of a bulge (of a star).

The cyclones are the inevitable product of the rotation of an object or planet. They disappear (or turn into shallow whirls) when the rotation speed of stars, clusters of stars, galaxies, clusters and superclusters of galaxies and finally the Universe is very slow.

Figure 3. The Sun north pole, Saturn, Venus

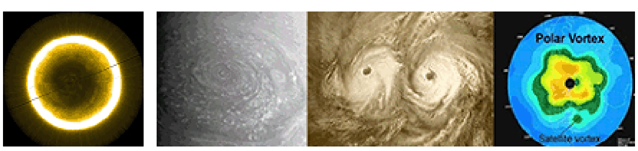

Figure 3. The Sun north pole (2018. ESA/Royal Observatory of Belgium) [15] Saturn, Venus („The winds supporting super-rotation blow at a speed of 100 m/s (≈360 km/h or 220 mph)“ Wiki) NASA

Due to very fast rotations, only a small quantity of stars and galaxies create a cyclone from one pole to another. These cyclones or objects have very strong emissions of radiation through the cyclone openings and their poles rotate faster than the rest of the object.

Figure 4. Pulsar, Quasar

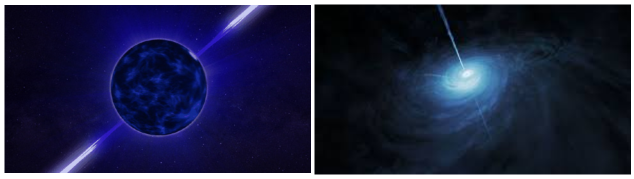

Figure 4. Pulsar, NASA's Goddard Space Flight Center; Quasar, ESA/Hubble, NASA, M. Kornmesser

Here, a difference should be made between the emissions of radiation due to the impacts of smaller objects against the surface of a star and those objects that fall into a cyclone. A fall of a small object of a corresponding mass directly into a cyclone goes deep into the interior parts of a star and because of the explosion it may create a supernova or discard a smaller or larger part of matter and as a consequence speed up or down the rotation of the rest of a star's matter. Due to the explosion, a larger part of matter gets disintegrated and turns into dark matter. More than 96% of all stars in the *Milky Way* are the stars with a slow or very slow rotation (*Harvard spectral classification*) and they do not create supernovae. This is exclusively reserved for stars (independent of their mass) with a fast rotation and significant cyclones. Although an object can hit at the cyclone of a star where the space is not rich with matter, it is generally reserved for the stars in the space rich with matter, because there is a more frequent occurrence of events.

Figure 5. Artist’s concept of interstellar asteroid 1I/2017 U1 (‘Oumuamua)

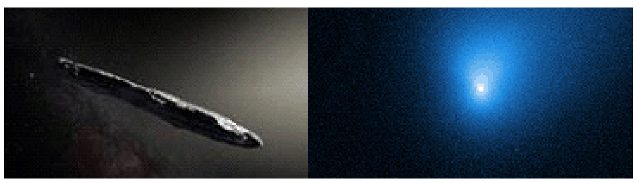

Figure 5. Artist’s concept of interstellar asteroid 1I/2017 U1 Credits: European Southern Observatory/M. Kornmesser; Comet 2I/Borisov, Credits: NASA's Goddard Space Flight Center

The observations of the redshift (and blueshift) have become chaotic and inaccurate, due to the setting of frames that do not belong to physics. It has been pointless for a long ago to hold to the science of a 100 years ago (1929. E. Hubble) [16], the time when there were very few data, as presented in the Table 11.

Our instruments are able to measure the blueshift to 70 Mly (*NGC 4419* dist. 56 Mly, -342 km/s (blueshift); *M90* 58.7 ± 2.8 Mly, −282 ± 4; *RMB 56* 65,2 Mly, -327 (2020. W. Duckss) [13]). New measurements indicate *200 000 galaxies* that merge or collide. Within these 200 000 galaxies there is the blueshift among them and a large portion of them are getting closer to our instruments, which are unable to detect correctly the approaching of an object, but to the opposite: they detect them to be getting away.

Chaos is further removed by introducing real values of the radiation intensity decrease, which are manifested as the redshift. It can be seen during the time of sunrise and sunset, and also during the appearance of the so-called "red moon". („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 on Jupiter. „ *Wiki*).

Figure 6. The decline in the intensity of radiation produces red color

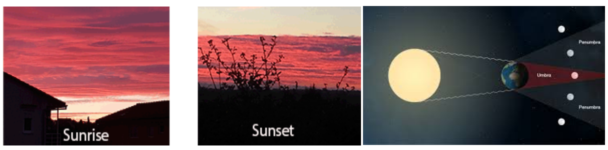

Figure 6. Sunrise, Sunset (Zadar) and red Moon (Total Lunar Eclipse, nasa.gov)

Abell 671 has the redshift of 0,0502, it is 600 Mly away, *Lynx Supercluster* 1,26 (1,27) and it is 12 900 Mly away. Their combined distance is 13 500 Mly and their combined factor (z) equals 1,3102. To the opposite, *GN-z11* has (z) of 11,09 and it is 13 400 Mly away. The difference in the redshift (z) is 10,5898 on *GN-z11* and it is closer than *Abell 671* and *Lynx Supercluster* with their combined factor (z) of 1,3102.

When a radiation intensity decrease value is set, (*Mean Solar Irradiance* (W/m2) on Mercury is on Callisto it´s 180,522772277 times lower of Mercury.) there are settled distances in the volume and the differences of the speeds will determine whether an object is approaching to the observers or getting away from them. The difference exists because the clusters of galaxies rotate (2014 - Tovmassian, Hrant M.) [17] with the orientation in all directions and their orbits are within a supercluster of galaxies and finally in the Universe ("This is not something we set out to find, but we can't make it go away," Kashlinsky said The clusters appear to be moving along a line extending from our solar system toward Centaurus / Hydra, ") (2010. NASA) [18], "The clusters show a small but measurable velocity that is independent of the universe's expansion and does not change as distances increase, "says lead researcher Alexander Kashlinsky at NASA's Goddard Space Flight Center in Greenbelt, Md. "We never expected to find anything like this." (2008. NASA) [19]).

Figure 7. The first measurements of the direction of rotation of the Universe

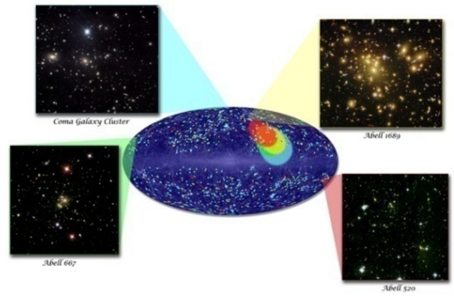

Figure 7. The first measurements of the direction of rotation of the Universe Credit: NASA/Goddard/A. Kashlinsky, et al

There is no room for expansion and old wrong deductions in the rotation of galaxies, clusters and superclusters of galaxies. (1929. Edwin Hubble) [16].

Light is not chaos. Space is dark because light is not detected in it. A basic reason for it is there is no light in the space. There are only waves (radiation) in the space, which are not light, independent of their lenght. It can be seen – although it is not wanted to be seen – inside our system that there is a complete darkness just outside the atmospheres of Sun and Earth. The atmosphere of Sun has light, the space is dark and it only has radiation, the atmosphere of Earth (or other objects, clouds of particles and dust) has light. To make it absolutely clear, due to the decrease of the radiation intensity on large distances the objects are without light (unless they produce it themselves). (*Mean Solar Irradiance* (W/m2) on Mercury is 9.116,4, Earth 1.366,1, Jupiter 50,5, na Pluto 0,878 (2009-2018. Solar Intensity BRSP) [6]). Light originates on the objects depending on the radiation intensity from the source. The power of radiation in the collision with the visible matter produces light. That is the main reason why it is totally dark at the very surface of an object without an atmosphere. The reflected radiation, after impacting against an object, loses its initial intensity and thus weakened produce much less light in the collision with the visible matter (for example, moonlight). The speed of light exists only inside the atmospheres of objects, it disappears in the laboratory-created vacuum and in the space with the insufficient quantity of the visible matter particles. Only the speed of radiation can be measured in the space. One should differ between a laboratory-created vacuum and a vacuum in the outer space, because particles (atmosphere) and vacuum cannot co-exist in a vacuum bottle, unlike in the outer space.

There is no chaos in the process and evolution of stars.

Body growth by constantly collecting materials (Earth: quantity estimates ranging from 50 to 300 tons per day (2017. CODITA) [20], (A permanent asymmetric Moon dust cloud exists around the Moon, created by small particles from comets. Estimates are 5 tons of comet particles strike the Moon's surface every 24 hours. (2015 National Geographic News) [21] Systems growth by constant mergers and collisions. (2015. David Harvey et al.) [22].

Table 16. The relation (of the section of main star types) of rotation, mass, radius, temperature and type

	Star	Speed rotation		Maas Sun=1	Temperature K	Type
	White Dwarf					
1	*GD 356*	115	minutes	0,67	7.510,0	white dwarf
2	*EX Hydrae*	67	minutes	0,55 ± 0.15	/	white dwarf
3	*AR Scorpii A*	1,95	minutes	0,81 – 1,29	/	white dwarf pulsar
4	*V455 Andromedae*	67,62	second	0,6	/	white dwarf
5	*RX Andromedae*	*200*	km/s	0,8	40.000-45.000,0	white dwarf
6	*RX J0648.0-4418*	13	second	1,3	/	white dwarf
	Pulsar					
7	*PSR J0348+0432*	39,123	m. second	2,01 ± 0,04	/	pulsar
8	*Vela X-1*	283	second	1,88	31.500	X-ray pulsar, B-type
9	*Cen X-3*	4,84	second	20,5 ± 0,7	39.000	X-ray pulsar
10	*PSR B0943 + 10*	1,1	second	0,02	310.000	pulsar
11	*PSR 1257 + 12*	6,22	m. second	1,4	28.856	pulsar
	Wolf–Rayet stars					
12	*HD 5980 B*	<400	km/s	66	45.000	WN4
13	*WR 2*	500	km/s	16	141.000	WN2-w
14	*WR 142*	1.000	km/s	28,6	200.000	WO2
15	*R136a2*	200	km/s	195	53.000	WN5h
	Normal hot stars					
16	*VFTS 102*	600±100	km/s	~25	36.000 ± 5.000	O9:Vnnne
17	*BV Centauri*	500±100	km/s	1,18	40.000±1.000	*G5-G8IV-V*
18	*Gamma Cassiopeiae*	*432*	km/s	14,5	25.000	B0.5IVe
19	*LQ Andromedae*	300	km/s	8,0	40.000-44.000	O4If(n)p
20	*Zeta Puppis*	220	km/s	22,5 – 56,6	40.000-44.000	O4If(n)p
21	*LH54-425 O5*	250	km/s	28	45.000	O5V
22	*Melnick 42*	240	km/s	189	47.300	O2If
23	*BI 253*	200	km/s	84	50.100	O2V-III(n)((f*))
	Red Dwarf					
24	*Gliese 876*	96,6	days	0,37	3.129 ± 19	M4V
25	*Kepler-42*	2,9±0.4	km/s	0,13±0,05	3.068±174	M5V
26	*Kapteyn's star*	9,15	km/s	0,274	3.550±50	sdM1
27	*Wolf 359*	<3,0	km/s	0,09	2.800 ± 100	M6.5 Ve
	Normal cool stars					
28	*HD 220074*	3,0	km/s	1,2 ± 0,3	3.935 ± 110	M2III
29	*V Hydrae*	11 - 14	km/s	1,0	2.650	C6,3e
30	*β Pegasi*	9,7	km/s	2,1	3.689	M2.5II–IIIe
31	*Betelgeuse*	5	km/s	11,6	3.590	M1–M2 Ia–ab
	F Type Star					
32	*Beta Virginis*	4,3	km/s	1,25	6.132 ± 26	F9 V
33	*pi3 Orionis*	17	km/s	1,236	6.516 ± 19	F6 V
34	*4 Equulei*	6,2±1,0	km/s	1,39	6.213±63	F8 V
35	*6 Andromedae*	18	km/s	1,30	6.425±218	F5 V

Table 16. The relation (of the section of main star types) of rotation, mass, radius, temperature and type

Figure 8. Craters

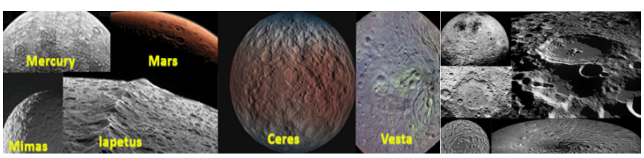

Figure 8. Craters (NASA)

Smaller objects near a larger object, with a constant growth, know the process of hydrogen and helium migration towards the larger object. That is the main reason why Mercury, Earth, Mars, Titan and other smaller objects do not have atmospheres with hydrogen and helium like larger objects (the planets with impressive atmospheres, Sun and the other stars).

Smaller objects have a slower growth than larger objects, because the material incoming onto the smaller objects needs to be reduced by the amount of hydrogen and helium that leave for the larger objects: "The loss of hydrogen from the atmosphere of Earth is estimated to be 3 kg/s and the one of helium 50 g/s." (2013. " István Lagzi et al.) [23].

The amount of hydrogen and helium that migrate is different for different objects, because the processes of creating these elements are different. There is almost no hydrogen on Mars, except in minor quantities as a part of methane (0.00000004% on average, that it's barely discernable even by the most sensitive instruments on Mars) (2019. NASA) [24] and even less as the part of the aerated water and ice molecules.

When analyzing the size of the objects that produce and emit radiation, there are three key factors to it.

Mass creates the force of pressure, which causes the object to create its own temperature and to start emitting radiation. The highest level of temperature achieved by mass and pressure is up to 1 800°K (see Table 4.).

The rotation of a star's mass and close binary effects are responsible for the smaller or larger increase of temperature above the level set by the force of pressure.

The influence of binary effects can be seen from these examples: Sun / Venus, Sun / Earth, Io / Jupiter and Europa, Pluto / Charon, etc. Mercury is closer to Sun than Venus, but it also has lower temperatures, only due to its small and compact mass, in which there are no layers that can have different speeds of rotation, created by higher temperatures with the assistance of tidal forces. It is wrong to ascribe the difference to the atmosphere, because *Titan* has 93.7 K (−179.5°C), 1.221.870 km semi axis orbit, *Dione* 87 K (−186°C) 377.396 km semi axis orbit, *Iapetus* 90 – 130°K (-143 to -183°C) 3.560.820 km semi axis orbit, *Saturn* 0,1 bar 84 K (−189°C).

„In its beginning, every (historic) object is a comet.

Figure 9. Comet

Figure 9. Comet, the influence of binary effects

When an object has made enough number of orbits near a star, it has lost the most of its volatile elements. The objects with a minimum of volatile elements are called asteroids or solid (rocky) objects. Those objects that have not been approaching closer to a star possess the elements' structure of the lower order, which is typical for a cold or colder space. These elements are directly related to the temperature (*operating temperature*) which exists in the space around and on such objects. Therefore, there are objects that are formed in a cold space without approaching a star and there are objects, the structures of which are formed in the interaction with a star. Within these two types there is the heating of an object, due to the increase of its mass (the forces of pressure) and due to the actions of tidal forces. These objects, which possess a melted interior (Jupiter, Neptune, Earth, Venus), create their broad chemical structure and their heat on their own. Furthermore, chemical complexity is influenced by the rotation around the axis (the temperature differences of day and night), the temperature differences on and off the poles, geological and volcanic activity (cold and hot outbursts of matter), etc. Planets emit more energy than they get in total from their stars (Uranus emits the least (1,06±0,08), Neptune 2,61(1,00 stands for zero emission of its own), while Venus emits the most of its own energy and has the most significant volcanic (hot) activity in our system).

The lack of O2 points out that extreme cold does not favor the appearance of that element. It gets replaced by N2. A lack of H2 points out that an object has been near a star for a long time." (2018. W. Duckss) [25].

Figure 10. Stellar Disks

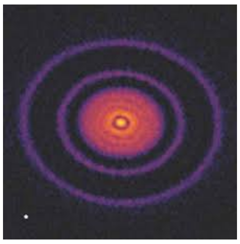

Figure 10. Stellar Disks, credit: iopscience.iop.org Sean Andrews (Harvard Smithsonian Center for Astrophysics) December 2018

When the rotation of an object is not slow and the space is rich with matter, the rings or disks of gas, dust, asteroids and other smaller objects are created. There are parts of space around every object with a fast (or relatively fast) rotation, where matter is concentrated (the most frequently, gas or dust, or it is inside objects). In our system, such spaces are from Jupiter to Neptune, at Jupiter: from Io to Callisto, at Uranus: from Miranda to Oberon (Major moons), at Neptune: from Proteus to Nereid. Saturn has more smaller spaces and the main disc from Rhea to Iapetus. Asteroid belts are always closer to an object than the disk of gas and dust.

The orbiting objects are getting closer to the main object with the decrease of temperature of the space: the closest orbit of *Jupiter* is 128 855 km, of *Saturn* 117 000, of *Uran* 49 977, of *Neptun* 48 224, and of *Pluto* 19 591 km.

The temperatures of space that are below -268,924°C are significantly further from the source of radiation and they make it possible for the objects to achieve faster orbits or the movement from the closer neighboring objects towards the source, although they are affected by less strong tidal forces. That can be concluded from the acceleration of Voyager at the edge of our system and faster comet speeds that are on the way towards Sun from the Oort cloud and the Kuiper belt (the data state the average speed of 10 km/s), while a part of them have the speeds greater than all other objects

(*Hale-Bopp* 52.5, *Halley's comet* 70,56, *Shoemaker-Levy* hit into Jupiter by the speed of 60 km/s). (2014. W. Duckss) [26].

Dark matter (matter and energy) is nothing exotic, its presence is measured in our system, too ("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 on Jupiter. " Wikipedia).

Removing the current hypotheses from this area is also enabled by the evidence of the existence of thermo zone of Sun, which is similar to the one of Earth's thermosphere (see Table 2. Sun system, temperature deviation).

In the outer space there is a kind of matter that influences the reduction of the radiation intensity. The outer space is no laboratory-created vacuum, which can be concluded from the fact of the existence of an atmosphere and cosmic vacuum one next to the other.

5. Conclusions

Chaos in the Universe only seemingly exists when the processes are not taken as a whole, but the examples to be proven are chosen very selectively and singularly.

The other reason is that in the modern physics all data, obtained by measurements, need to be classified into hypotheses, which are considered to be more important than the real evidence. It is particularly disturbing that these hypotheses – some of them are more than 100 years old – were created on the basis of only a small quantity of evidence, which are often incorrect, but nevertheless they are persistently being put forward and thus the contribution of the contemporary scientists who create new values and present more and more evidence is being marginalized. This is a common case with all renowned publishers. For a single genuine research article they let through, they publish dozens of articles that have a sole purpose to support obsolete theories, which are far from any recent evidence and out of the reality of the Universe.

A rotation of clusters of galaxies automatically disqualifies any claims of expansion and increasingly fast spreading of the Universe. One reason more to it is that there are also superclusters of galaxies, as well as *200 000* objects (galaxies and clusters of galaxies (2015. David Harvey et al.) [18]) that merge or collide.

The lack of nuclear radiation and radioactive pollution on stars (which would be enormous if their hypotheses were based on evidence) shows that the effects of the rotation of objects and close binary effects are responsible for temperature, color, quantity and the speed of the orbiting objects (as well as the asteroid belts and gas disks), the emission of radiation from the poles of an object. A rotation (together with the omnipresent forces of attraction inside matter) regulates star systems, smaller related groups to the creation of the clusters of stars, galaxies and other larger objects.

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