The Kha theory of Galaxy structures 12 Juni

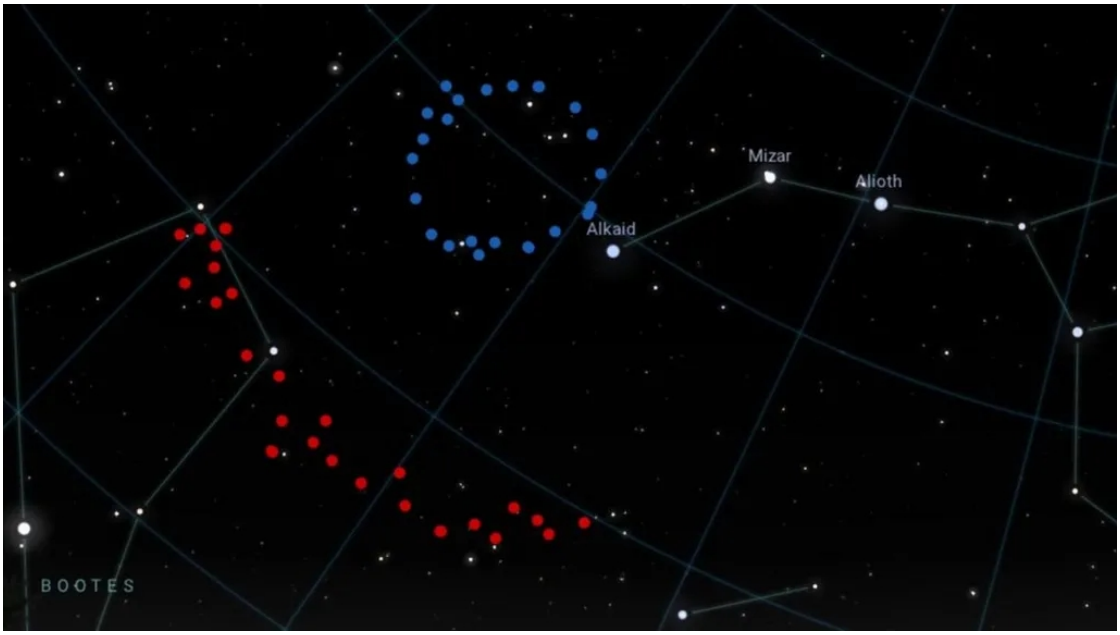

Figure 1.

In 2021 scientists at the University of Central Lancashire discovered a gigantic ring of galaxies in space. They also discovered a giant arc of galaxies. Figure 1. is an artist's impression highlighting the positions of the Big Ring (in blue) and Giant Arc (in red) in the sky. It cannot be seen with the naked eye, as it is very distant. Identifying all the galaxies that make up the bigger structure has taken a lot of time and computing power.

Large structures of galaxies like this should not exist, according to the generally accepted ’Big Bang’ theory, which is based on the principle that the original universe is uniform.

However the Kha theory might be able to explain these large structures. Kha is a new theory of everything, developed by myself, and within it an explanation of the creation of these galaxies can be found. This explanation will be outlined in the present article. The Kha theory is described on my website khateorien.dk where a short film about the extraordinary results of the Kha theory is also available.

The word “Kha” means “unbounded space” and, according to the Kha theory, the universe is limitless and eternal. The primeval universe ’soup’ had an enormous energy density, and mainly consisted of neutrinos. The Kha theory explains how neutrinos everywhere in this universe produced partons and pairs of neutrons and anti-neutrons. Partons, neutrons and anti-neutrons later collided, annihilated and ended up as neutrinos again.

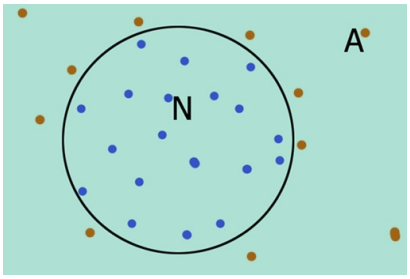

Figure 2.

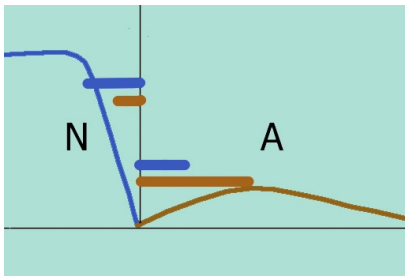

Figure 3.

The primeval soup was uniform and could not change, unless neutrons and anti-neutrons became separated. The Kha theory offers the following mechanism for how that could have happened. Coincidentally, at some point in time and space, it happened that a small area N in the unbounded space had an excess of neutrons marked as blue dots (figure 2). The surrounding area A had an excess of anti-neutrons marked as brown dots. Cosmic neutrinos were everywhere in the universe, symbolised by the green colour of the background.

In Figure 3. the blue curve marks the excess of neutrons in N near the border between N and A. The brown curve marks the excess of anti-neutrons in A. Neutrons and anti-neutrons were produced everywhere. Figure 3 looks at four typical neutrons and anti-neutrons produced at the border. The tracks of these particles are marked with coloured bars. The anti-neutrons were annihilated by neutrons in N and thus had a short brown track. However the neutrons had a longer blue track since they were not annihilated by the few anti-neutrons in N. These neutrons caused an increase in the excess of neutrons in N. The increase in excess of neutrons was spread by diffusion in the outward direction. Consequently the radius of the area N slowly increased.

In A the anti-neutrons had a longer track and created an increased excess of anti-neutrons. But the situation in A was different because A was infinite. There was an essential diffusion of anti-neutrons in the outward direction and a moderate diffusion in the inward direction. Here we have outlined a mechanism that separates matter and antimatter. Calculations on this mechanism might be done by other physicists in the future.

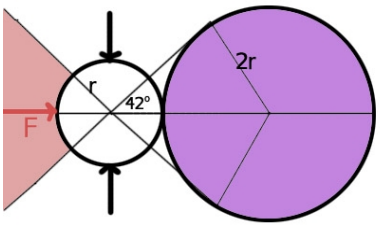

Figure 4.

In the period of slow increase of the area N, black holes were created in N. A black hole is composed of neutrons. It is probable that there is a black hole inside every galaxy because it was necessary for the creation of that galaxy, but it has no significance for contemporary galaxies. In figure 4 we see a neutron (white) and a black hole (violet). In the Kha theory the reason for gravity is the pressure of neutrinos. The neutrinos from the brown space angle (figure 4) exert a force F (red) on the neutron. The neutrinos from the opposite space angle exert a minor force because the

neutrinos have lost some energy by passing through the black hole. Consequently there is a Shadow Effect from the black hole.

The resulting "force of gravity" can be calculated, and the result is 10^{21} times the "force of gravity" calculated with Newtons law of gravity. This is because the energy density of the primeval soup was about 10^{21} times the energy density of the cosmic neutrinos in our contemporary universe. It is remarkable that the gravity from the Earth and from any other body can be calculated in a similar way, using the Shadow Effect.

Many neutrons and anti-neutrons were attracted by the black holes (marked black in figure 5). The anti-neutrons annihilated neutrons in the black holes, and the many neutrons made the black hole grow. Black holes could arise because there was an excess of neutrons in N. The many particles in a cloud around the black hole increased the number of annihilations, and the kinetic energy of the annihilation particles increased the temperature. Thus "Fireballs" (in red) were created around the black holes (figure 5).

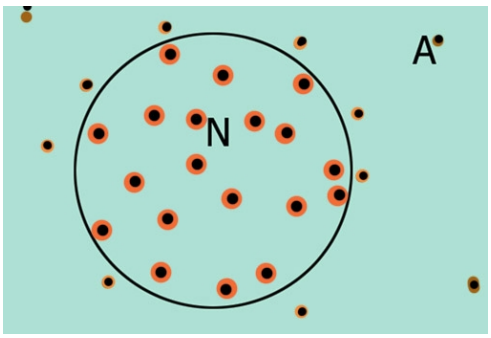

Figure 5.

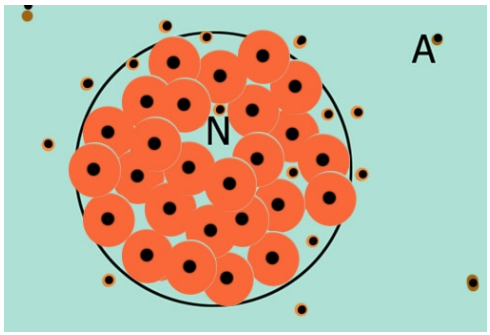

Figure 6.

The huge gravity of the black holes attracted all particles and created a cloud of particles around it. More particles were attracted by the cloud, where many annihilations took place and the temperature rose. Fireballs ,made of these clouds, were the first form of the galaxies. The fireballs are marked with red in figure 5.

The high temperature in the fireballs and the excess of neutrons caused more frequent annihilations and a rising temperature. The fireballs absorbed the neutrons around them and grew in size. At some point they started exerting pressure on the adjacent fireballs. See figure 6. These fireballs were proto-galaxies. At this point the whole area N exploded with a Big Blast.

From the temperature estimated to be $5*10^{11}$K the acceleration and velocity of the galaxies is calculated. The energy density of neutrinos became reduced in N during the Big Blast and at a certain point the production of particles stopped. The pressure fell, the acceleration stopped and the galaxies continued outwards with the velocity they had achieved at the Big Blast. The velocities of the galaxies at the end of the Big Blast is pretty much the same as their present velocities.

We have now briefly described the creation of the galactic universe. However something might have interfered in this process. Since the appearance of the area N was coincidental, it might have happened anywhere and at any time. Another galactic universe might have been created in the neighborhood. There might have been many interesting dramas when two neighboring area N's grew into each other.

Let us take the example of area A' (in figure 7), having an inside excess of anti-neutrons. The area A' started later than the area N, and was swallowed up by the area N as it grew bigger (see figure 7).

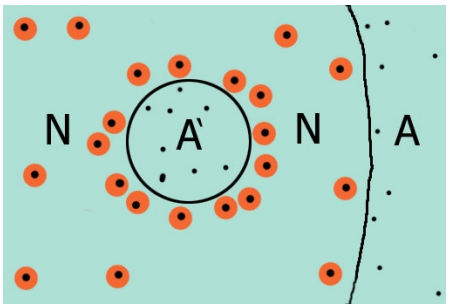

Figure 7.

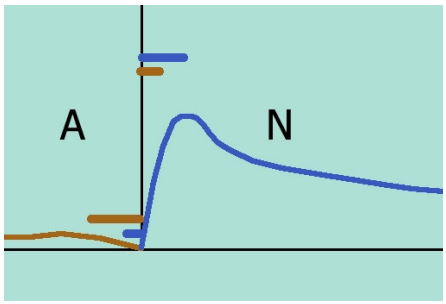

Figure 8.

In figure 8. we see an estimate of the excess of anti-neutrons and neutrons near the border of A'. The typical neutrons moving in an outward direction from the border had a long track, and created an increase in the excess of neutrons. Together with the excess of neutrons inside area N there was an extra high excess outside the A'. The consequence was that many fireballs were created outside the border of A' as seen in figure 7. Simultaneously the diffusion of neutrons in the inward direction reduced the excess of anti-neutrons inside area A', and therefore hardly any fireballs were created inside A'.

The fireballs outside A' (figure 7) created a globular shell. As the fireballs grew bigger they made contact and exerted pressure on each other. As they were close, this pressure made the shell grow. The rest of the fireballs in N eventually made contact, and the resulting high pressure and high temperatures brought about the Big Blast of the galactic world.

During the Big Blast there was a storm in the outward direction of N. Imagine that the centre of the Big Blast is positioned to the left of figure 7. and the vertical line in figur 7 depicts the limit of area N. Thus In figure 7. the direction of the storm is from left to right. The fireballs depicted to the left and right of area A' in figure 7. had no 'backup' from other fireballs (there were no other fireballs directly adjecent to them), and they were therefore pushed away with the storm. However the fireballs depicted directly above and below A' in figure 7. had 'backup' from other fireballs, and thus they were not pushed away with the storm. In that way the globular shell around area A' ended up being a huge ring of galaxies.

In figure 1. we have seen a drawing of a huge ring of galaxies (blue). We have now briefly described how that ring could have been created. The huge ring was created before the expansion of the universe. The creation of the giant arc of galaxies (red) could have happened in a similar way, before the expansion.

The expansion of the universe has lasted 13,8 billion years. In this period gravity has changed the position of the galaxies. However the huge structures of galaxies did not form during the expansion of the universe. During the expansion a web of galaxies and voids was created. Especially in the first part of the expansion the energy density of cosmic neutrinos was very high, and gravity was very strong.

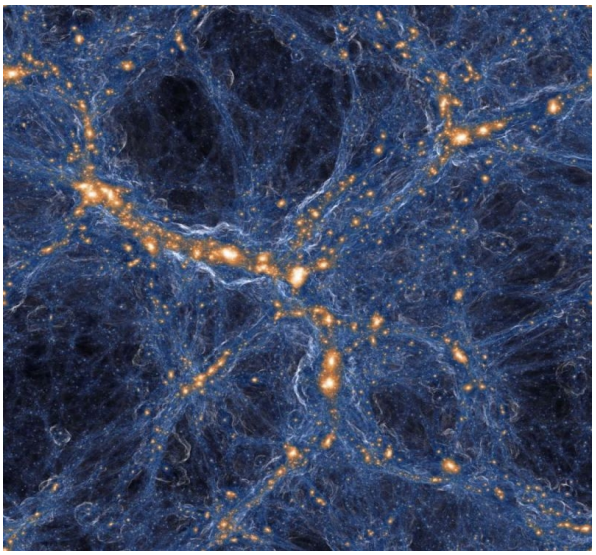

Figure 9

Figure 9. is a map of matter of observed galaxies (yellow) by the University of Chicago, 2023. In the generally approved Big Bang theory gravity is the work of a mysterious Dark Matter. Based on this theory the distribution of Dark Matter has been calculated and illustrated with blue colour in figure 9.

In the Kha theory gravity is the work of cosmic neutrinos and the shadow effect. The missing shadow effect from the voids in figure 9. could probably explain the web of galaxies, using this theory.

Gravity did not have any significance before the expansion, as the universe was homogenous with no shadows (see figures 5,6 and 7). Thus the huge structures of galaxies in figure 1. were not created by gravity. The current inhomogenous universe arose from the random creation of new large universes (see figure 7).

It is my hope that other physisists will develop this and other ideas of the Kha theory in the future, using computer calculations based on scientific observations.

Finn Rasmussen, MS from Niels Bohr Institute, Copenhagen. f@finse.dk May 2025