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Unification Theory: Blueshift in the Micro- and Macrocosm

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Abstract
Who addresses the missing blueshift even though the Milky Way is contracting? This phenomenon is the actual reason for the observable redshift when looking beyond the borders of our galaxy. The expansion of the universe derived from the redshift, as well as the back-calculated Big Bang, never really happened. The real reason for the error is ignorance of the cosmic blueshift.

Keywords: Big Bang, Blue Shift, Hallucinations, Mass-Dependent Measure of Length, Gas Model

Invisible Blueshift

A star approaching us shows the well-known blueshift, but receding shows a redshift. Our own galaxy appears to be slowly contracting, resulting in a blueshift. In fact, however, we do not see any blue shift and the stars of our galaxy appear as fixed stars. However, we cannot see the shrinking of the Milky Way, if it actually takes place, because we are looking at the speed of light (which is measured in m/s) and thus shrinks in the same way as the distance (in m). We have to accept that over time our galaxy, the solar system, the earth and the measuring laboratory are slowly getting smaller without us having the slightest chance of observing the phenomenon.

The Misinterpreted Redshift

Other stars and star systems outside the Milky Way, on the other hand, show a redshift according to our observations, as if the universe were expanding. In reality, the light takes longer and longer to reach us, the expansion of the universe is just as wrong as the assumed big bang, which also didn't happen. In fact, the measurement laboratory and its measurement technicians shrink a little every day. Simultaneously and equally, the speed of light is also decreasing, which is why we don't see a blue shift. The Milky Way visually maintains the spacings, although we know they contract over time. However, the light from celestial bodies located outside our galaxy takes longer and longer to reach the earthly laboratory, which causes the redshift. If all the stars outside of our galaxy are changing in the same way, then that should give you food for thought.

Stars Talking to Each Other?

Assuming our sun was a pulsar and we were going along with the pulsation, then the starry sky would blink synchronously, with the exception of the pulsar and its planets. "Physicists" left behind in the Middle Ages even claim that the simultaneously blinking stars communicate with each other.

The time when the measurement technician could place himself at the center of the universe is actually long gone. He should learn that he and his entire measurement laboratory are subject to cosmic laws and influencing factors. For the example of the blue shift, this means exactly describing the mutual influence of two masses without having the chance to observe it properly.

So if a planet orbits the sun, then according to Newton we would need two equations, the mass attraction and the centrifugal force, which should be equal and opposite. However, if we are not optically fooled, all we need is an equation describing an attraction:

$$m \sim 1/r^2 \qquad (1)$$

The gravitational effect of a point mass decreases at a distance r with 1/r2 [1]. Conversely, the radius r also depends on the mass:

$$r \sim 1/\sqrt{m} \qquad (2)$$

What applies here in the macrocosm also applies to the microcosm. We give another example from current research.

Charge Radius of the Proton

An experiment should provide clarity. The radius of the proton has been known for a long time and has been checked in various ways. It was only detected in 2012 during an e-bombardment at 0.886 fm [2]. In 2013 the light electron was replaced by the 207 times heavier muon. Now, inexplicably, the radius was 5 percent less [3]. The researchers measured only 0.84087 fm for the radius of the proton:

$$\frac{\text{Pohl 2013: } R_p\{\mu\text{-}\}}{\text{Sick 2012: } R_p\{e\text{-}\}} = \frac{0{,}84087 \pm 0{,}00039 \text{ fm}}{0{,}886 \pm 0{,}008 \text{ fm}} = 0{,}949 \text{ measured} \tag{3}$$

Since, according to the field theory, the sum of the particles involved in the scanning play a role

$R_p\{e\text{-}\} \sim 1/\sqrt{(m_p+m_e)}$ and with $R_p\{\mu\text{-}\} \sim 1/\sqrt{(m_p+m_\mu)}$, applies to the ratio:

$$\frac{R_p\{\mu\text{-}\}}{R_p\{e\text{-}\}} = \sqrt{\frac{(m_p+m_e)}{(m_p+m_\mu)}} = 0{,}9483 \text{ ; calculated,} \tag{4}$$

The good agreement between the measurement and the calculation is convincing. The field physics proves to be superior. While quantum physics, where the quanta occur as natural constants, have no explanation for the difference. But it gets worse.

The final secret of ß-decay

The classical electron radius is r_e classic $= 2{,}82$ fm, where as the radius of the proton r_p codata $= 0{,}8775$ fm and that of the neutron is only slightly larger. For the fact that the electron comes out of the neutron during ß-decay, it is three times as big. Even by the rules of quantum physics, the proportions are a mystery.

$$\frac{R_e\{p\}}{R_e\{e\}} = \sqrt{\frac{2\, m_e}{m_e + m_p}} = \frac{1}{30} \tag{5}$$

If the electron is sampled by a proton, then it is 30 times smaller and fits in easily when it becomes a neutron. Since the first publication of my derivation of the field-dependent mass of elementary particles with its confirmation, there have been some innovations. The group of muses has become remarkably quiet. One still hopes to be able to save the current way of thinking. But in the face of massive setbacks, one wants to continue "researching". Next, they want to sample the helium core in the tried and tested way and determine the size. Again a natural constant changes, and not only that, it changes in the direction I predicted, and moreover, it obeys the predictions exactly. Now it's better not to announce anything at all. If they initially commented on Researchgate, it's better to remain silent than to publicize your own defeat. There are numerous examples where the so old and yet highly modern field theory can be applied [5].

Space Travel Experience

During the Apollo 14 mission, astronaut Roosa discovered that a decrease in field strength in the sky causes linear measurements to increase accordingly. Orbiting the moon alone in his capsule, he told the control center that he could see the lunar module and his two colleagues at work on the moon. Nobody wanted to believe the astronaut because he flew at an altitude of 180km.

During the first moon landing, Commander Armstrong (Apollo 11) stated that the target crater Mackensen, measured from Earth with a diameter of 4.6 km, was just about the size of a soccer field. Astronaut Scott (Apollo 15) referred to the supposedly 3-mile-high Mount Hardley as a ski practice hill. Maybe they exaggerated a bit, but there is a kernel of truth in the statements in any case.

In fact, the gravitational field of our satellite is much smaller than that of the earth. The acceleration of gravity on the lunar surface is only a sixth of that

$$\frac{\text{Gravitational acceleration}}{\text{Lunar acceleration}} = \frac{g_E}{g_m} = \frac{M / R^2}{m_m/R_m^2} = \frac{M}{m_m} \cdot \frac{R_m^2}{R^2} = 6{,}0375 \tag{6}$$

On the moon, this gives the elongation:

$$L_{m\ (Moon)} : L_{E\ (Earth)} = \sqrt{6{,}0375} = \underline{\underline{2{,}457}} \tag{7}$$

In order to be able to compare, if we stick to the dimensions as measured by our laboratories on Earth, then the astronauts on their way to the moon together with the lander and their rover had grown by a factor of √6, then the first footprint 2.5 times larger than on Earth, then the astronauts moved like giants in the landscape of a "model railway".

There is almost no atmosphere on the moon, so the astronauts had imagined a wonderful view of the starry sky, at least before their launch. After landing, however, they were bitterly disappointed. The sky was black and not a single star could be seen. They brought many photos with them, but nowhere were stars photographed, they are obviously out of sight [6].

Hubble Telescope

As many will remember, the first images taken by the Hubble Space Telescope in 1990 were blurry. The problem, apparently, was that the mirrors had been aligned on Earth, not in space. Only after the optics were fitted with glasses in 1994 could sharp images be transmitted to earth. Somehow the distance to the stars had changed. The telescope had become short-sighted, or the distance to the starry sky seemed to have increased. We already know why. As we move away from the earth's gravitational field, the field strength decreases and the observable distances increase. The 5% deviation that should have been expected in the near-Earth orbit was already fatal for the highly sensitive telescope. Experts are familiar with the problem of changed length ratios under the term "spherical aberration". But that is not to be understood either qualitatively or quantitatively. Only the new theory justifies why the astronaut Roosa saw his colleagues almost 3 times larger, why weather satellites at an altitude of 1500 km are about 25% larger and communication satellites in a 36000 km high geostationary orbit are even 6.64 times larger grow to its original size. It also explains why the neutral point between the earth and the moon, where the gravitational pull of both celestial bodies cancel each other out, was not reached by the lunar rockets where it had been expected [7].

Gas Structure

As a next example we will deal with the gases, based on the aspect ratios depending on the mass. In this way, even the contradictions in Bohr's atomic model can be resolved. Individual elements of the periodic table reach the gas phase by sending at least 8 electrons into a ring, which wrap around the rest of the nucleus in a Bohr orbit. They cling to each other magnetically, preventing them from falling back into the core. In addition, the ideal gases are equal in size, which is confirmed by Avogadro's law. The 8 lined-up ring electrons are responsible for this, which, inflated to the dimension of a halo, take the path according to Nils Bohr. Half the diameter of the ring is $r_2 = 212$ pm (for n = 2). With a further supply of energy, the radius can be increased (for n = 3) to $r_3 = 477$ pm, possibly only for a short time. If the electron or electrons jump back onto their orbit (at n = 2), then the characteristic glow occurs. The different paths determine the color (Balmer series, Rydberg formulas). The size of an atom on the periodic table of elements poses some difficulties. In general, one assumes a spherical structure and determines the atomic radius. This in turn is determined from the distance between the atomic nuclei in the chemical compounds of the respective atom [8]. The difference in radii values for noble gases is particularly striking. If we compare the van der Waal radius with the covalent radius, the result is 1.5 to 4.4 times the value, depending on the noble gas. The electron shell suggests that it has been remodeled not just slightly, but significantly. This is probably due to the fact that the gaseous form is relevant for all noble gases in particular. But what is this gaseous state?

The Gaseous State

Bohr's atomic model, although officially abandoned, provides a useful answer. The Bohr radii are much too large, larger than the heavy radon atom. This irritated science and the model was rejected. But perhaps this only describes another, the gaseous state. It is possible for individual electrons to adopt a Bohr orbit. The radii are calculated conventionally [8]:

$$r_n = \frac{4\pi\varepsilon_0 \cdot \hbar^2}{m_e e^2} \cdot n^2 \qquad (8)$$

In the gaseous state, the electrons would first occupy the 2nd shell (n = 2) with the radius $r_2 = 212$ pm. (for n = 3: $r_3 = 477$ pm, for n = 4: $r_4 = 848$ pm, etc.). $Z_e = 2n^2$ electrons have space on the respective orbit in a circle, for n = 2 that is 8 e-. (There are 18 e- for n = 3; and 32 e- for n = 4; etc.). According to classical mechanics, the electron can be anywhere, while classical electrodynamics counters that the electron would lose energy on the centrally accelerated orbit, radiate it in the form of light and finally fall into the nucleus in a spiral motion. Bohr saved his model with a postulate. Now the electrons are only allowed to move radiation-free on very specific paths. These are the orbits with n = 1, 2, 3, 4, etc. (at $Z_e = 2, 8, 18, 32$, etc. e-). For example, the noble gas neon has all 8 electrons in its outermost shell. In principle, this is what the gas looks like:

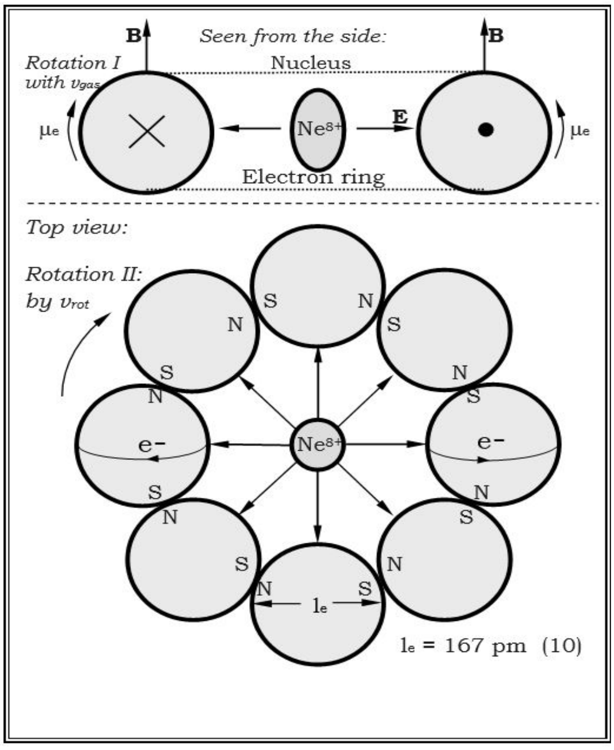

Figure 1: Eightfold ionized noble gas (neon) with 8 ring electrons (in the structure of a halo).

To close the ring, everyone "holds hands". In total, Z_e electrons are involved and therefore the circumference of the ring is:

$$2 \pi r = Z_e l_e . \quad (9)$$

and the space conditions result in the length of each electron:

$$l_e = 2 \pi 212 \text{ pm} / 8 = 167 \text{ pm} \quad (10)$$

This appears as if it were an electron halo, comparable to the halo nucleus, in which protons or neutrons are released from a nucleus and remain at a relatively large distance from the nucleus. They showed an (anomalously) large expansion. Electrons only show their tiny size when they are sampled by one and the same species. If, on the other hand, the scanning particles are changed, different radii result. The further away the ring electrons are from the nucleus, the larger they become. Because of the spin, the rotation I with vgas, each electron forms a north and south pole. They attach to each other via their magnetic poles and thus stabilize their ring structure.

The postulate given by Niels Bohr is no longer necessary

The electrons prevent each other from falling back into the nucleus through their spin. (The nucleus is clearly smaller than drawn, since positively ionized particles always decrease in radius).

Law of Avogadro

Stationary, without rotation of the ring, all noble gases are diamagnetic. Only at rotation II do the 8 electrons now create their own magnetic field, which opposes the external one.
An indexed magnetic field is created according to the relationship:

$$\mathbf{E} = \mathbf{v} \times \mathbf{B} \quad (11)$$

The size of the atom for n = 1 was already given by Bohr

$$r_1 = 52{,}9 \text{ pm}, \quad \text{liquid} \quad (12)$$

This fits quite well for the spectrum of hydrogen and is generally accepted.

For n=2 the value is: $r_2 = 2^2 r_1 = 212 \text{ pm}$, gaseous (13)

For n=3 the value is: $r_3 = 3^2 r_1 = 477 \text{ pm}$, Gas_3 (14)

For n=4 the value is: $r_4 = 4^2 r_1 = 848 \text{ pm}$, Gas_4. (15)

From this we conclude that any gas that has 8 electrons in the ring and that is called "ideal" has the identical radius $r_2 = 212$ pm. So all these gases have the identical volume. Of course, this only applies to the gas that we breathe (= Gas_2). According to Avogadro's principle (1811), all gases have the same number of particles at the same temperature, pressure and volume. They differ only in the weight of the particles. As early as 1814, Ampère spoke of 8 particles, as he called the atoms that, in his opinion, gas must consist of.

The Spectrum of Monatomic Gases

For the spectra of noble gases, one is particularly interested in the frequency (f = E/h according to Planck). The natural frequency of each shell can be determined using the Rydberg constant R (for n = 1):

$$f_1 = \frac{m_e e^4}{8 \varepsilon_o^2 \cdot h^3} \cdot \frac{1}{n^2} = R \cdot \frac{1}{n^2} = 3290 \cdot 10^{12} \text{ Hz},$$

$$\text{For n=2 is:} \quad f_2 = 822 \cdot 10^{12} \text{ Hz},$$

$$\text{For n=3 is:} \quad f_3 = 366 \cdot 10^{12} \text{ Hz},$$

$$\text{For n=4 is:} \quad f_4 = 206 \cdot 10^{12} \text{ Hz},. \quad (16)$$

Without external stimulation, the noble gases will place their eight shell electrons on the n = 2 ring and not yet glow. In the case of neon, however, it jumps from the ring at n = 3 to n = 2 with the appropriate excitation

$$f_{23} = R \cdot \left(\frac{1}{4} - \frac{1}{9}\right) = R \cdot \frac{5}{36} = 457 \cdot 10^{12} \text{ Hz} , \quad (17)$$

thus the electron will emit an intense red light at 457.10^{12} Hz with a wavelength of about 656 nm when jumping back.

When the noble gas argon is excited, a jump from ring 4 to 2 takes place:

$$f_{24} = R \cdot (\frac{1}{4} - \frac{1}{16}) = R \cdot \frac{3}{16} = 617 \cdot 10^{12}\ Hz \ , \quad (18)$$

and this gives the characteristic blue color of argon at 617.10^{12} Hz, or 486 nm.

With the noble gas krypton, both the red coloration of neon and the blue coloration of argon occur, resulting in the mixed color yellow:

$$\frac{f_{neon} + f_{argon}}{2} = (\frac{457+617}{2}) \cdot 10^{12} = 537 \cdot 10^{12}\ Hz \quad (19)$$

With xenon and the other noble gases, there are already so many jumps that evaluating the color is causing increasing problems. In the end, all colors are involved, which is what characterizes the color white.

Oxygen, with a total of eight electrons, can exist in both the atomic and gaseous structure. All 8 electrons are needed for the ring. However, since the two inner ones are very tightly bound, the gas structure of O occurs only under extreme conditions and is extremely rare.

Diatomic Gases

Starting with lithium and moving down the periodic table of elements, lithium 3Li, beryllium 4Be and boron 5B have too few electrons to send into a ring. In principle, this also applies to carbon 6C and nitrogen 7N, which is why these substances can only be gaseous in molecular form. Specifically, nitrogen commonly uses its 7 electrons, sending four electrons into the ring at a time, using one for a single bond, and using the remaining two electrons for the innermost pair of electrons. It is striking that nitrogen never occurs as a monatomic gas and always only as a diatomic N_2. This structure is also preferred in the case of oxygen with a double bond. The innermost orbit remains occupied by one pair of electrons, while another pair of electrons is required for the double bonds and the remaining 4 are each sent into the ring. The molecule O_2 consists of two such oxygen atoms, i.e. it has eight ring electrons like N_2. The kinetic gas theory is confirmed in the model.

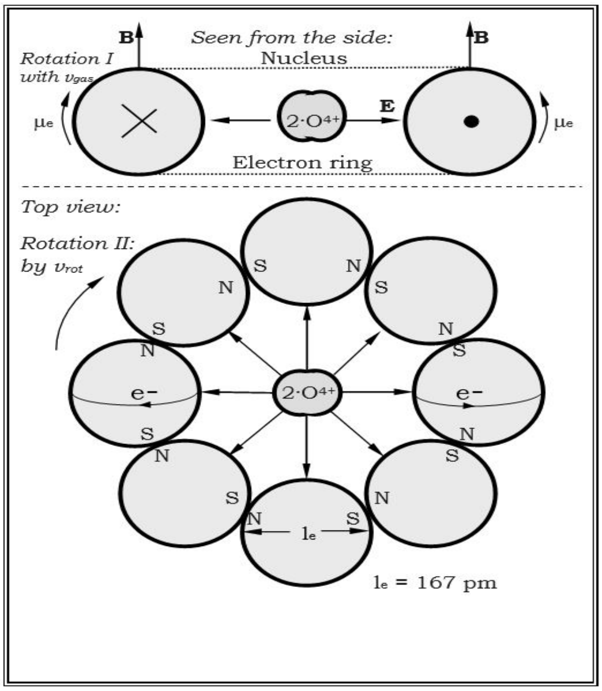

Figure 2: Two quadruply ionized oxygen gas atoms, with 2-fold bond O = O and electron ring (comparable to two nitrogen atoms N ─ N).

If you fill a volume with any ideal gas, you always have the same number of atoms or molecules at the same temperature and pressure, regardless of the type of gas and regardless of the mass. According to Avogadro, there are 6.022×10^{23} gas particles in a volume of 22.4 liters (1 mol under normal conditions).

The Atmosphere

If we analyze the air we breathe, it consists of 78% nitrogen (N_2), 21% oxygen (O_2) and the rest water vapor, noble gases and carbon dioxide (0.04% CO_2). When you exhale, the oxygen goes down by 4% and the CO_2 increases accordingly. That doesn't sound like much. However, when it is related to the 12 cubic meters of air we breathe each day, it is significant. The same applies to the amount of rotational energy that we can tap from the rotating gases (v_{rot}) with each breath, which is largely unnoticed. Apparently nothing changes in the amount of nitrogen (78%), in any case the amount of substance remains the same when breathing. This also applies to all noble gases. However, we do not receive any information as to whether anything has changed in the rotation. It can and must even be assumed that the N_2 will not remain uninvolved. Nature will not let such an offer go untapped. She will use any form of energy that is offered to her. Nevertheless, this question must remain open at this point as long as it is still unclear how large the contribution is that the ring of 8 electrons contributes. Both have such a ring to offer, the N_2 as well as the O_2.

Triatomic Gases

The currently most prominent among the triatomic gases is CO_2. Here the two oxygen atoms contribute the necessary 8 electrons.

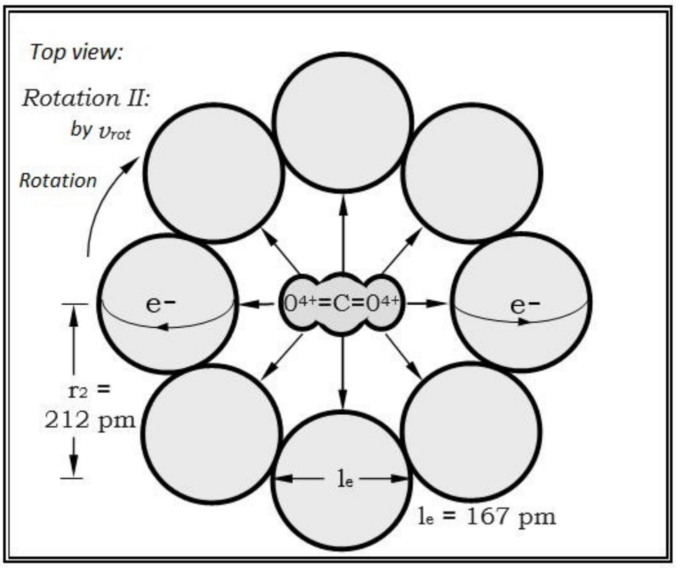

Figure 3: Two quadruply ionized oxygen gas atoms and a carbon atom with a common electron ring

Attaching another oxygen atom to an O_2 results in high-energy ozone formation. There are two distinguishable structures. First, the ring of 8 electrons with a double bond and a single bond, as we find it on the surface of the earth. Since there is one pair of electrons left in this structure, it cannot decide whether it belongs to one oxygen atom or the other. It will consequently occupy both places one after the other (mesometry).

In the higher energy structure, found only at high altitude, up to 18 available electrons are sent into the ring (at n = 3, Gas_3). However, three oxygen atoms have 6 additional electrons, which are used to form a tightly packed nucleus from the 3 ionized oxygen atoms.

The Ozone

Because of the size (r_2 = 477 pm instead of 212 pm) and because of the low density, this structure is, as mentioned, primarily to be found in the upper air layers (stratosphere 20 – 30 km above sea level). But now it has -50° in the so-called ozone layer, i.e. less than the critical temperature, which is at -12.1°, and this supports the conversion of Gas_3 into Gas_2 (i.e. from n = 3 to n = 2). If an air mixture formed from O_3 is allowed to change between the two states, the blue coloring that occurs during condensation occurs. This blue color is typical of the presence of ozone.

We can admire the blue; all we have to do is look at the blue sky. This is because at a certain level, the ozone in the ozone layer changes from one structure (Gas_3) to the other (Gas_2), which we also call "dioxygen" or "active oxygen", and which is classified as harmful to health . The reason for this is the strong oxidation effect, which is minimized by the fact that on the surface of the earth, normally at plus degrees, the gas_2 changes back into gas_3 and rises again without causing any damage.

Most of the gas turns into the oxygen we need to breathe

$$2\ O_3 \rightarrow 3\ O_2 \qquad (20)$$

Although here a gas is stable in two different forms, and this fact was first described by C. Schönbein in 1839, it has not received general recognition [9].

Energy-Technical Use of Ozone

Today, 180 years later, we can estimate what contribution the air itself makes to our oxygen requirements in the world. Also, we can use the difference in gas volume energetically by igniting a small volume and letting it expand while moving a piston. We want to use this in the same way as petrol, although it emits CO_2. We, on the other hand, replace the carbon with oxygen.

If we replace the liquid fuel with air, which an ozone generator makes flammable, we send that into a combustion chamber and ignite the oxygen. Then the volume increases and drives the piston. This characterizes the displacement, which usually indicates the size of the engine. In this case, the ozone escapes through the exhaust (as gas_3), which neither smells nor oxidizes. It will not stay close to the earth either, but will rise up to the ozone layer. It would be an extremely environmentally friendly drive, which also obtains its fuel from the air or from water in order to convert it back into oxygen 0_2 at the end. However, ozone also plays an important role in fertilizer production. On August 4th, 2020, 2750 tons of the substance ammonium nitrate exploded in Beirut and caused total devastation, especially in the port and in the entire surrounding area.

The fertilizer ammonium nitrate (NH_4NO_3) is produced from ammonia (NH_3) and nitric acid (HNO_3). When heated, it will first decompose into:

$$NH_4NO_3 \Longrightarrow 2H_2O\ \text{(Water)} + N_2O\ \text{(Laughing gas)} \qquad (21)$$

In Beirut, this had been observed as a "smaller" explosion in the port area, which was mistakenly attributed to a neighboring stockpile of fireworks.

What followed was far more powerful. Through particularly strong heating, the nitrous oxide is further broken down into:

$$3\ (NH_4NO_3) \Longrightarrow 6\ H_2O + 3\ N_2 + O_3\ \text{(Ozone)} \qquad (22)$$

The expansion of the ozone gas (Gas_3) creates a level of explosive power that has not been understood to this day. In Beirut one got an impression of the power of the ozone gas_3 (n=3) compared to the gas_2 (n=2). Only at the end is the ozone converted into trioxygen and partly into oxygen O_2.

$$2\ (NH_4NO_3) \Longrightarrow 4\ H_2O + 2\ N_2 + O_2\ \text{(oxygen)} \qquad (23)$$

Luminous Solids

In general, color tells us something about the inner structure of atoms and molecules. I'm thinking of the solids, which can also glow when excited. As far as we know today, solid bodies do not have rings. However, there are some substances that release individual electrons when they are excited and send them into a ring. They reveal this property by possibly being able to glow. This applies, for example, to compounds from group IIa with group VI. Zinc oxide ZnO is enjoying increasing popularity, e.g. in fluorescent tubes or in flat screens. This group also includes cadmium sulphate CdS, cadmium selenide CdSe and cadmium telluride CdTe, as well as the mercury compounds HgTe, etc. They are all solids, some of which are present as fine dust or powder. It is striking that the substances become lighter in the luminous state. This also applies to elements from group III with those from group V, e.g. for GaAs, which glows red like neon (when jumping from n = 3 to 2). Others are GaP and GaN. An increasingly popular method is doping with foreign substances. For example, the green glowing gallium phosphite is doped with zinc oxide and glows red at a wavelength of 700 nm. The focus of current research on nanoparticles is the increase in volume during the transition to the ring structure, the so-called "size quantization effect". This effect is supposed to satisfy a formula, which, however, is usually not applicable, since the rings are not always reached.

The size problem has been identified, but is currently still considered unresolved.

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