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The Periodic Table of Elements and the Teleronki
Freeing the Periodic Table from Artificially Created Elementary Particles

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Abstract- The fundamental mass m_0 [1] is asymmetrically split into the electron mass m_e and the teleronci mass m_t. Both masses fit, as will be shown, into the periodic table of the elements – This is in essence not possible for artificially created elementary particles.

Keywords: Teleronci, electron, proton, neutron, fine-structure constant, periodic table of the elements.

1 Introduction

The teleronci model has been ready for publication since December 1982. Alas, there has not been a single peer review journal in Europe, Russia or the US who has been willing to publish the paper. They are obviously not open to new paradigms. If they replied at all they left it at empty platitudes. The word Teleronki goes back to a spoonerism, switching the sounds in the word „electron“. (German: Elektron → Teleronki, English electron → teleronci). The teleronci's mass exactly fits as integer into mass of proton and neutron meaning that the masses of the nuclei represented by the periodic table of the elements can be calculated on the basis provided by the teleronci mass. The atom does therefore now consist of two elementary particles. We thus do not need artificially created elementary particles to explain the world.

The mathematical effort is so low that all calculations can be made by using an ordinary pocket calculator.

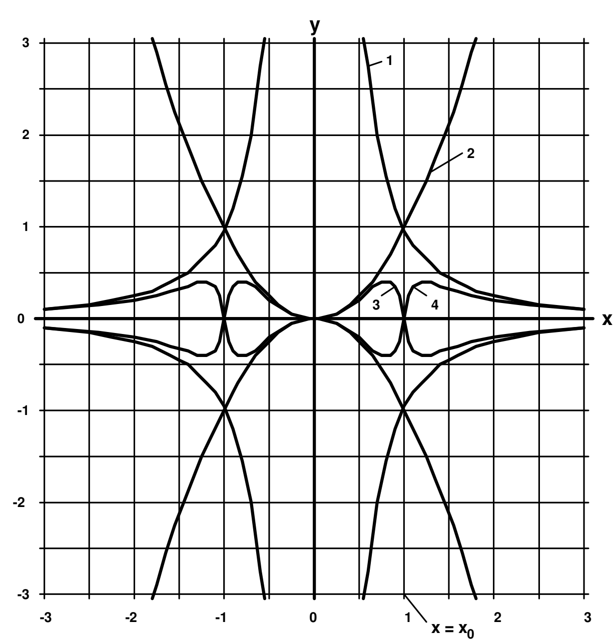

Fig. 1 Functions of free fall and rotation [1] in the neighbourhood of point $x = x_0$

Functions: 1: $= \pm\frac{1}{x^2}$; 2: $y = \pm x^2$; 3: $y = \pm x^2\sqrt{1 - x^2}$; 4: $y = \pm\frac{1}{x^2}\sqrt{1 - \frac{1}{x^2}}$

Starting from the basis provided by the relativistic laws of force [1] (FIG 1), their integrals in point x=x_0 are analyzed. The mass of a new particle, the teleronci, is calculated – it fits exactly into the periodic table of the elements. This mass can also be calculated from experimental values. The proton contains the teleronci mass exactly 1444 times and the neutron contains it 1446 times. This provides a basis on which it will be possible to develop a shell model of proton and neutron. The shell model is in principle different from the standard model and allows for the stability of the proton and the neutron in relation to the elements of the periodic table. According to the standard model, proton and neutron would have to decay as fast as the other elementary particles since they too are supposed to consist only of quarks.

The standard model's elementary particles are of a fundamentally different composition and structure than proton and neutron and they have also different properties (e.g. very rapid decay). The mass defect in the nuclei of the elements – which is their individual property – can also be calculated with sufficient exactitude.

This given mass can be calculated from merely two fundamental constants, c and ±e, and one number. The somewhat tedious derivation, e.g. the derivation of another approach to elementary particles, shall show that an alternative model will likewise fail in bringing order into the elementary particles.

These derivations are needed only once as we can always refer to them afterwards. However, those who really want to get into the matter can always check the computations. It is important to note that we do not require artificially created elementary particles for the periodic table of the elements. The derivations are intended to show this. We can conclude that the artificially created particles have nothing in common with the periodic table of the elements (distinction between physics and chemistry).

2 Energy and Mass Relations

By integrating equations (3.1.10) and (3.1.11) in [1] we get the energy

$$E_{frF} = \frac{1}{2} E_0 \frac{x_0}{x} (\sqrt{1} - \frac{x_0^2}{x^2} + arcsin \frac{x^0}{x}) \qquad (2.1)$$

and

$$E_{Rot} = -\frac{1}{8} E_0 \frac{x}{x_0} [\left(\frac{2x^2}{x_0^2} - 1\right) \sqrt{1} - \frac{x^2}{x_0^2} + arcsin \frac{x}{x_0}]$$

(2.2)

Whereby it is that $E_0 = F_0 x_0 = m_0 a_{max} x_0 = m_0 c^2$. Since arcsin x is a periodic function, we take here the principal value (Arcsin x).

In the point $x = x_0$ we get

$$E_{frF} = \frac{\pi}{4} E_0 \qquad (2.3)$$

and

$$E_{rot} = \frac{\pi}{16} E_0 \qquad (2.4)$$

Whereas in point $x = x_0$ the force effects of F_{rot} and F_{frF} are equal and disappear, E_{rot} and E_{frF} reach different extreme values and in their sum make up the energy of the elementary system in point $x = x_0$.

$$\sum E = E_{frF} + E_{rot} = \frac{\pi}{4} E_0 + \frac{\pi}{16} E_0 = \frac{3\pi}{16} m_0 c^2 \qquad (2.5)$$

This is the rotational energy of a three-dimensional spherical gyroscope.

For the annihilated mass or dynamic mass m_d we then get

$$m_B = \frac{\sum E}{c^2} = \frac{3\pi}{16} m_0 \qquad (2.6)$$

The rest mass of the rotation axis shall be taken into account. If we consider that the poles of the rotation axis are singular points and are moved merely by the other two directions of rotation, we can now find the following correct term (KT)

$$KT = \frac{\sum E}{\partial c^2} \cdot \frac{P_n}{\omega} \left(1 - \frac{\sum E}{\partial c^2} \cdot \frac{P_n}{\omega} \cdot A_n\right) \qquad (2.7)$$

P_n: number of poles ($P_n = 2$); ω: solid angle (surface of the unit-sphere; ω = 4π); A_n: number of rotation axes ($A_n = 2$)
When we set in the given quantities we get

$$KT = \frac{\pi}{16} , \frac{2}{4\pi} \left(1 - 2 \cdot \frac{\pi}{16} \cdot \frac{2}{4\pi}\right) m_0 = \frac{15}{512} m_0 = 0.06061866551 m_0$$

(2.8)

and for the dynamic mass m_B

$$m_B = m_0 \left(\frac{\partial\pi}{16} - \frac{15}{512}\right) = 0.55975174 m_0 = 1.15819171 \cdot 10^{-20} kg$$

(2.9)

The rest mass m_r follows as the difference to the total mass m_0, from

$$m_R = m_0 \left(1 - \frac{\partial\pi}{16} + \frac{15}{512}\right) = 0.44024826 m_0 = 0.910925053 \cdot 10^{-20} kg$$

(2.10)

A comparison of m_R with the table of fundamental particles [2] will show that the calculated value, within the scope of the experimental error, matches the experimental value of the electron's rest mass m_e (m_e(exp) = $0.91093819 \cdot 10^{-30}$ kg). That's why we can put mr □ m_e. The value m_B is thus the annihilated part of m_0.
Although we do not find a value for m_B in the table of fundamental particles we however can calculate a comparative value from the experimental data. This is

$$m_B(\text{exp}) = 0.5(m_n - m_p) = 1.1527 \cdot 10^{-30} \text{ kg} . \qquad (2.11)$$

Here is m_n – rest mass of the neutron and m_p - rest mass of the proton (see [1] and [3]).

Thus the experimental value for m_0 is

$m_0(\exp) = 0.5[m_n(\exp) - m_p(\exp)] + m_e(\exp) = 2.0637\cdot10^{-30}$ kg

(2.12)

If we condense the dynamic mass m_B and annihilate m_e, we obtain a new particle with a rest mass $m_B = m_t = 1.15819171\cdot10^{-30}$ kg.

m_t is what we call the rest mass of the *teleronci*. The word is inferred from the word "electron" by moving the *t* and *c* to the outskirts of the word and then affixing *i*. Analogously, the word "positron" becomes *iposronti*. Since the mass m_t is in close proximity to the maximum of force, teleronci and iposronti obviously form very strongly bound dipoles which are called *teleronci-dipoles*. The binding energy of these dipoles is two electron masses. The quanta of this interaction can also be called a kind of gluon.

The mass m_0 is *asymmetrically* divided by the masses m_t and m_e.

3 The Shell Model of Proton and Neutron

The fundamental particle masses hitherto known are *not* contained in neutrons and protons in whole numbers. The test with the newly calculated fundamental masses m_0 and m_t results in

$$\frac{m_n}{m_0} = \frac{1674.9286\cdot10^{-30}kg}{2{,}06911788\cdot10^{-30}kg} = 809.48625 \qquad (3.1)$$

$$\frac{m_p}{m_0} = \frac{1672.6231\cdot10^{-30}kg}{2{,}06911788\cdot10^{-30}kg} = 808.37467 \qquad (3.2)$$

$$\frac{m_n}{m_t} = \frac{1674.9286\cdot10^{-30}kg}{1.1580788\cdot10^{-30}kg} = 1446.1571 \qquad (3.3)$$

$$\frac{m_p}{m_t} = \frac{1672.6231\cdot10^{-30}kg}{1.1580788\cdot10^{-30}kg} = 1444.1664 \qquad (3.4)$$

Equations (3.1) and (3.2) have a difference of Δ_1= 1.111585, and (3.3) and (3.4) have a difference of Δ_2= 1.99068 ≈ 2.

The first calculation can be discarded. From the second there follow the natural numbers 1446 and 1444. An analysis of these numbers reveals that $1444 = 2^2\cdot39^2$ is a square number. Due to the difference of 2 we can now assume that the proton and neutron are made up of *teleronci*-dipoles.

The proton therefore consists of 722 and the neutron of 723 dipoles. For 722, we can write the following empirical Formula

$$S_n = \sum_{n=1}^{n=19}[n^2(n-1)^2] = 722 \qquad (3.5)$$

The Periodic Table of Elements is built according to the formula

$$S_n = \sum_{n=1}^{n=19} 2n^2 \qquad (3.5a)$$

There is, as can be seen, a certain similarity between these two formulae. If we now suppose such a shell structure in reference to the proton, then, according to equation (3.5), the 19th shell has $2\cdot(19^2 - 18^2) = 74$ teleronci-dipoles. In case of the neutron, there is an additional dipole on the 20th shell. Since the teleronci-dipole on the 20th shell can move relatively freely the neutron has, as an uncharged particle, also magnetic properties.

If we now take the experimental value of the teleronci according to equation (2.11) as a divisor, we get

$$\frac{m_n}{m_t(\exp)} = \frac{1674.9286\cdot10^{-30}kg}{1.15275\cdot10^{-30}kg} = 1452.9851 \qquad (3.6)$$

and

$$\frac{m_p}{m_t(\exp)} = \frac{1672.6231\cdot10^{-30}kg}{1.15275\cdot10^{-30}kg} = 1450.9851 \qquad (3.7)$$

These are also natural numbers, with the values 1453 and 1451. However, we cannot do anything with these numbers. The theory developed here is obviously so exact that it can help to prove *systematic errors* in *precision measurements*.Now we want to state the relations of a neutron respectively a proton to an electron. We obtain:

$$\frac{m_n}{m_e} = \frac{m_n}{m_t}\cdot\frac{m_t}{m_e} = 1446\cdot\frac{\frac{3\pi}{16}-\frac{15}{512}}{1-\frac{3\pi}{16}+\frac{15}{512}} = 1838.5105 \qquad (3.8)$$

The experimental value is: 1838.6836 (see table 3). Likewise

$$\frac{m_p}{m_e} = \frac{m_p}{m_t}\cdot\frac{m_t}{m_e} = 1444\cdot\frac{\frac{3\pi}{16}-\frac{15}{512}}{1-\frac{3\pi}{16}+\frac{15}{512}} = 1835.9676 \qquad (3.9)$$

The experimental value is: 1836.1526 (see table 3).

We can now also calculate the specific charge of an electron (2.2.5), we get

$$\frac{e}{m_e} = \frac{\sqrt[e]{4\pi\varepsilon_0}}{m_0(1-\frac{3\pi}{16}+\frac{15}{512})} = \sqrt{G_e}\frac{\sqrt{4\pi\varepsilon_0}}{1-\frac{3\pi}{16}+\frac{15}{512}} = 1.75884554\cdot10^{11}Ckg^{-1}$$

(3.10)

The experimental value is $e/m_e(\exp) = 1.75882017\cdot10^{11}$ Ckg^{-1}. We see here that the coupling constant $\sqrt{G_e}$ has the physical meaning of a specific charge.

4 The Mass Defect in the Atomic Nucleus

After we have clarified the inner relations of the fundamental particles of the Periodic Table we can now go on to discuss the inner relations of an atomic nucleus. The most important occurrence in the atomic nucleus is the mass defect. It can be explained from the shell model of proton and neutron if we take into account the teleronci's excess rest mass in relation to the electron. **Chart 2** shows the mass defect of the elements of the Periodic Table in dependence on the equivalent atomic number. The experimental data (points) have been calculated according to the atomic mass table for selected isotopes [3]. We can see that this mass defect aligns on the borderline

$\Delta m = N_A \cdot Z \cdot 2(m_t - m_e) \cdot 2(19^2 - 18^2) = 2.20383022 \cdot 10^{-2} \cdot Z$
(4.1)

Atomic number; m_t and m_e according to (4.3.9) and (4.3.10), and $19^2 - 18^2$ according to equation (4.4.5)). oriented (Δm: mass defect; $N_A = 6.0221367 \cdot 10^{23}$ mol^{-1}: Avogadro constant; Z:

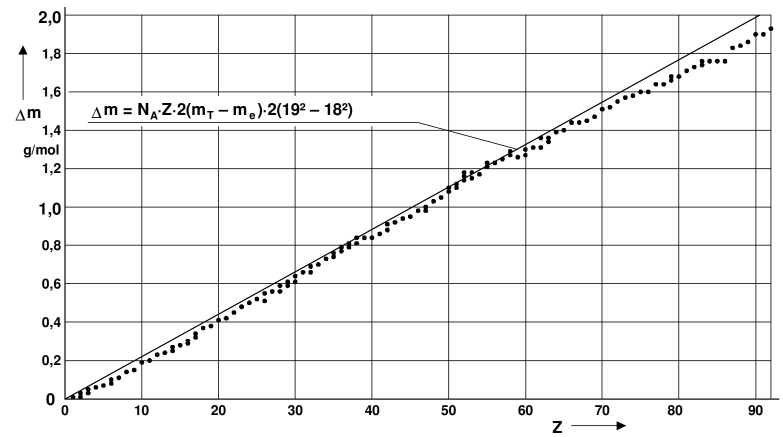

Chart 2. Dependence of the mass defect (Δm) on the atomic number (Z) ($m_T = m_t$)

If we assume the shell model of proton and neutron, there are then 74 teleronci-dipoles on the 19th shell of the proton and the neutron, their negative charges pointing to the outside. The proton's charge is above this shell, not in the center. Due to this charge, the neutrons can now react attracted and are brought so close to the proton (approximately 10^{-15} m) that the outer teleroncis can get in contact with one another and thus can exchange pions. Now the repulsive effect of the dipoles makes itself felt by causing an acceleration of the rotational movement of 10^{31} $m \cdot s^{-2}$. At this acceleration, the teleronci pairs lose their excess mass in relation to the electron. By overlapping, proton and neutron are bound to one another. The released energy appears as kinetic energy of the entire system.

If we spread the mass defect onto all nuclei, we get a curved line instead of a straight one. The proportionality to the atomic number indicates however that the mass defect occurs essentially between one proton and one neutron. If Z = 1, equation (5.1) states the mass defect of the linkage of a proton and a neutron in the middle of an infinitely long proton-neutron chain.

Due to their excess teleronci-dipole, neutrons can also react with one another with a mass defect under a creation of a teleronci-quadrupole.

Outside the nucleus, the neutron is unstable. This obviously originates from the fact that the positive side of the teleronci-dipole of the 20th shell points towards the center. At decay, the electron is hurled outwards whereas the positron moves inwards and is annihilated by rotation on the 20th shell (mirroring at the circle, according to [6], spherical-hyperbolic symmetry). Due to the electrostatic field of the protons in the nucleus the teleronci-dipole is rotated by approximately 90°, which stabilizes the neutron. At a rotation of 180°, positrons are released. In case of other angles, the electron or the positron respectively carries only part of the energy. The other energy part is released as a neutrino.
The teleronci can obviously be fitted into the structure model expressed by the Periodic Table of Elements, thus completing this system as it now consists of two fundamental particles, electron and teleronci. *Artificially created* fundamental particles are based on another structure model, as will be shown further on.

5 The Mass Spectrum of Fundamental Particles

5.1 On the History of Fundamental Particles

Already the ancient Greeks believed that there were elements. In 1803, *Dalton* was the first to experimentally prove the existence of atoms. However, the fundamental particles' actual history begins with the discovery of the electron by *Thomson* in 1897. Shortly thereafter, the hydrogen nucleus was identified as a proton and, on this basis, the BOHR atomic model was developed in 1913. Discovery of the neutron, thus making the atom a complete entity, followed in 1932. Other particles were discovered in cosmic radiation (myon, pion and others). Of particular importance was the discovery of the first antiparticle in cosmic radiation, the positron, by *Anderson* in 1932, which confirmed DIRAC's theory on the vacuum. The development of large and very effective accelerators brought on the discovery of many more new fundamental particles (approximately 200).

5.2 The Standard Model of Fundamental Particles

The sheer number of fundamental particles made it necessary to bring them into a system. However, any attempts to classify the particles into a system similar to the Periodic Table of Elements have failed. In 1963, *M. Gell-Mann* and *G. Zweig* developed the quark model. Quarks are the smallest particles with refracted charge. These particles became an essential part of the standard model. It contains 6 leptons: electron (e), myon (μ) and tauon (τ) with their antineutrinos and 6 quarks: up(u), down(d), strange(s), charm(c), bottom(b) und top(t).
The hadrons, such as baryons and mesons, are represented in different quark combinations, e.g. baryons consist of 3 and mesons of 2 quarks. Details on quark combinations can be obtained from the relevant literature (physical charts, textbooks, also inorganic chemistry textbooks).People have tried but failed to split mesons into their component parts. Experiments going in this direction have ceased. This indivisibility is being called quark-confinement and has been based on a force proportionate to r^{1}. Although this force disappears in infinity its potential (~ln$r$) becomes infinitely big. This potential is called funnel potential.

The quarks' confinement means that their mass cannot be determined by mass spectrometer. All we have are scientifically based estimates regarding their mass. This however has the disadvantage that the mass spectrum of fundamental particles cannot be calculated by using the quark model. What is also noticeable is the structure's primitivity. According to the quark model, mesons are linear (rod-shaped) entities. The three quarks in the baryons can only be arranged in a plane triangle, far off spherical symmetry. If one, for instance, would like to achieve spherical symmetry in proton or neutron, then the quarks would have to be strongly deformed. What force is doing this?

These problems have led the author to look for a different structural model of fundamental particles.In chapter **3**, I developed the spherical-symmetrical shell model of the proton and neutron, which is the basis for the atomic nucleus' stability. Artificially created and unstable fundamental particles have, as will be shown, a completely different structure. It has been particularly important that the calculations correspond *everywhere* to the experimental findings.

5.3 Calculation of the Fine Structure Constant

In order to later on calculate the fundamental mass m_h, which is the main component of artificially created fundamental particles, it is necessary to determine the fine structure constant.

The fine structure constant α is defined as follows:

$$\frac{1}{\alpha} = \frac{2hc\varepsilon_0}{e^2} \qquad (5.3.1)$$

For calculation of the fine structure constant it has been found by trial and error that we can get the correct result when we proceed from the differential equation of the spherical wave (wave-formed potential):

$$y^u + \frac{2}{x}y' + y = 0 \qquad (5.3.2)$$

(The differential equation for the potential in the *Debye-Hückel* theory with κ as screening radius, which is symmetrical to the equation (5.3.2), takes the form:

$$y^u + \frac{2}{x}y^1 - k^{-2}y = 0 \quad (5.3.2a)$$

Its general solution is:

$$y = A\frac{\cos(x+a)}{x}$$

(A: Amplitude; α: distortion of phase). (5.3.3)

Given the boundary conditions A = 1, α = 0 and tan$x$ = 1, we get

$$y = \frac{\sqrt[2]{2}}{\pi} \qquad (5.3.4)$$

This is the relation of the hypotenuse (chord) to the circular arc in the unit triangle / unit circle. If we put equation (6.1.4) as some sort of normalizing constants into (6.1.1), we get

$$\frac{2hc\varepsilon_0}{c^2} \cdot \left(\frac{\sqrt[2]{2}}{\pi}\right)^3 = 100.004606 \qquad (5.3.5)$$

This is within the scope of the experimental error of h and e the natural number 100 (factor 100 had already occurred in calculating the gravitational constant, see equation (2.2.1)).

Therefore

$$\frac{1}{\alpha} = 100 \cdot \left(\frac{\pi}{\sqrt[2]{2}}\right)^3 = 137.0296781 \qquad (5.3.6)$$

The experimental value is α^{-1} = 137.0359998 (see table 3). From here we can define a new fundamental mass (m_h : small *Planck* mass):

$$m_h = \sqrt{\frac{hc}{G_e}} = \frac{e}{\sqrt{2\varepsilon_0}} \cdot \frac{10}{\sqrt{G_e}} \left(\frac{\pi}{\sqrt[2]{2}}\right)^{3/2} = 60.71311110 \cdot 10^{-30} kg = 34.0575417 MeV$$

(5.3.7)

The exponent 3/2 occurs here as in equation (2.2.1).

5.4 Analysis of the Mass Spectrum of Selected Fundamental Particles

When analyzing the mass spectrum we will start from the premise that the masses of the artificially created fundamental particles m_{ET} consist of the following

$$m_{ET} = k \cdot m_h + l \cdot m_0 , \quad (5.4.1)$$

whereby k and l are integers. m_0 is the carrier of the elementary electric charge (positive or negative) whereas m_h is electrically neutral. The results of the analysis are presented in **Table 1**

5.5 On the Structure of Fundamental Particles

The values presented in Table 1 show a fairly good correspondence of calculation and experiment. The composition of the fundamental particles provides us with a basis from which we can draw certain inferences regarding their structure.

Thus, the myon is a plain triangle.

The neutral pion is obviously a tetrahedron with a hole. Since m_0 does not occur, it decays into quanta.The charged pion is a tetrahedron, too. We see however, that it decays into a myon if we write $m_{\pi+} = m_h + (3m_h + 3m_0) = m_h + m_{\mu+}$.

The formula of the charged kaon can also be broken down as follows

$$m_{K+} = 6(2m_h + 2m_0) + (2m_h + 2m_0) + m_0 . \quad (5.5.1)$$

Since the number 6 is occurring, it is obviously a space-centered octahedron with the charge in the middle. It can decay into 2 or 3 particles which are pre-formed here as well.

The neutral kaon can occur in two structural modifications.

$$m_{KO} = 4(4m_h + 5m_0) - (2m_h + 2m_0) \quad (5.5.2)$$

and

$$m_{KO} = 6(4m_h + 3m_0) + 2m_h . \quad (5.5.3)$$

Table 1. Calculated and experimentally determined masses of selected fundamental particles

Fundamental particle	Mass of the fundamental particles		
	Calculation approaches according to equation (6.2.1)	Calculated values in MeV/c²	Experimental values according to [7] in MeV/c²
μ^- Myon	$m_{\mu-} = 3m_h + 3m_0$	105.654694	105.658387
π^o Pi Zero	$m_{\pi o} = 4m_h - m_0$	135.06948	134.9739
π^+ Pi Plus	$m_{\pi+} = 4m_h + 3m_0$	139.71224	139.5675
K^+ Ka Plus	$m_{K+} = 14m_h + 15m_0$	494.216	493.646
K^o Ka Zero	$m_{Ko} = 14m_h + 18m_0$	497.698	497.671
η^o Eta Zero	$m_{\eta o} = 14m_h + 62m_0$	548.77	548.8
τ^- Tau Minus	$m_{\tau-} = 49m_h + 99m_0$	1783.73	1784.1 (+2.7/–3.6)

One is a tetrahedron with a deficit, as in a pion, the other is a space-centred octahedron (excess). The tetrahedron can only decay into two particles whereas the octahedron can decay into 2 or 3 particles.

The eta particle is obviously structurally very similar to the kaons.

The tauon can be broken down as follows

$$m_{\tau-} = 6(7m_h + 14m_0) + (7m_h + 14m_0) + m_0 , \quad (5.5.4)$$

whereby the bracket can be broken down further

$$(7m_h + 14m_0) = 6(m_h + 2m_0) + (m_h + 2m_0) . \quad (5.5.5)$$

Here we are obviously faced with a space-centered octahedron with the charge in its center, which is surrounded by six further space-centered but uncharged octahedrons. It is noticeable that in the myon and tauon (leptons), the structure leaves no deficits and excesses, which however is not the case for mesons.

Now we also want to analyze the very massive bottom mesons. As Table 2 shows, in bottom mesons we find quite a number of combinations within the scope of the experimental error. Considering current experimental precision, a selection seems hardly possible.

Table 2. The bottom mesons (experimental values according to [2])

$B^{\pm}$	B^{o}
$m_{B\pm}$(exp) = 5277.6±1.4 MeV/c^2	m_{Bo} (exp) = 5279.4±1.5 MeV/c^2
$m_{B\pm} = 153m_h + 57m_0$ = 5276.96 MeV/c^2 = $150m_h + 145m_0$ = 5276.93 MeV/c^2 = $147m_h + 233m_0$ = 5276.90 MeV/c^2 = $144m_h + 321m_0$ = 5276.87 MeV/c^2 = $141m_h + 409m_0$ = 5276.84 MeV/c^2 = $138m_h + 497m_0$ = 5276.80 MeV/c^2 = $135m_h + 585m_0$ = 5276.77 MeV/c^2	$m_{Bo} = 152m_h + 88m_0$ = 5278.89 MeV/c^2 = $149m_h + 176m_0$ = 5278.86 MeV/c^2 = $146m_h + 264m_0$ = 5278.82 MeV/c^2 = $143m_h + 352m_0$ = 5278.79 MeV/c^2 = $140m_h + 440m_0$ = 5278.76 MeV/c^2 = $137m_h + 528m_0$ = 5278.73 MeV/c^2 = $134m_h + 616m_0$ = 5278.70 MeV/c^2

However, it is easily seen that, in case of a charged bottom meson, we have an odd number of m_0. For the neutral bottom meson, the number of m_0 is even. One can be persuaded that if we would analyze the other fundamental particles with the suggested method, they would also fit into the system above. Only the quarks will make an exception, i.e. we probably wouldn't be able to integrate them, since their masses cannot be determined experimentally and all we theoretically have access to are legitimate estimates.

The mass relations of the fundamental particles to the electron can be described by the following formula:

$$\frac{m_{LM}}{m_0} = 66.649917 \cdot k + 2.271446 \cdot l \qquad (5.5.6)$$

whereby $m_{L,M}$ is the mass of the leptons, or mesons, and k and l are integers.

7 Summary

It is proved that the teleronci are part of the periodic table of the elements and that they determine their mass. Proton and neutron fundamentally differ both in composition and structure from artificially created particles.

8 Conclusions

The Periodic Table of Elements consists of 2 particles: The electron and the teleronci. While the electrons form the atomic envelope, the teleronci form the nucleus. Artificially created fundamental particles are not needed to create the world. Although the paper presents a new approach to the fundamental particles the artificially created fundamental particles here too cannot be made to fit into a system. If the teleronci model is acknowledged research on elementary particles can come to an end, the larger machines can be dismantled and it will be possible to save or reallocate billions of Dollars every year.

9 Literature

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