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Short communication

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Table of chemical elements constructed according to the charges of atomic nuclei

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This article presents views on the classification of all known chemical elements, those fundamental components that make up the Earth and the entire Universe.

The innovation of this work lies in the fact that in the table of elements, built according to Mendeleev's law and Van den Bruck's rule, new chemical elements with atomic numbers 72-75 and 108-111 were supposedly identified, and it was also shown that heavy elements, starting from hafnium, the nuclei of atoms contain more protons than is generally accepted.

A model of the atomic nucleus has been developed, which explains the ratio of the number of protons to the number of neutrons. It is shown why there are more neutrons in the nucleus than protons. All table cells are filled. If this table takes place, then I would like to name the groups of elements with numbers 72-75 and 108-111, the islands of Filipenka H.R.

Probably James Chadwick made a mistake when measuring the charges of atomic nuclei. More precisely, not an error in measurements, but in the fact that he agreed with the periodic table and the result obtained for platinum 77.6 was interpreted as a nucleus charge equal to 78, according to the table. For copper, the result was 29.3 - more than true by 0.3, for silver 46.3 is already less than true by 0.7, and for platinum it is less than "true" by only 0.6. The decrease is due to the screening of protons by each other during measurements. Therefore, for platinum with a charge of 78, the result should have been less than that obtained, or in other words, the platinum atom has a nuclear charge greater than 78 and equal to 82.

Let's build a model of the atomic nucleus. We know that there are protons and neutrons in the nucleus. In each subsequent element, there is more proton and several neutrons. Why? The volume grows faster than the surface. With alpha radiation, helium nuclei of approximately the same energies are emitted from the nucleus. Placing helium nuclei in the surface layer of the atomic nucleus, we obtain with some accuracy that the remaining neutrons are inside the nucleus. And the question is, can and when is the proton inside the nucleus. According to Mendeleev's law and Brook's rule, as well as the resulting model of the nucleus, a table of elements is developed.

physical table of elements

H_1	He_2	Li_3	Be_4	B_5	C_6	N_7	O_8	F_9	Ne_{10}	Na_{11}	Mg_{12}	Al_{13}	Si_{14}	P_{15}	S_{16}	Cl_{17}	Ar_{18}
K_{19}	Ca_{20}	Sc_{21}	Ti_{22}	V_{23}	Cr_{24}	Mn_{25}	Fe_{26}	Co_{27}	Ni_{28}	Ku_{29}	Zn_{30}	Ga_{31}	Ge_{32}	As_{33}	Se_{34}	Br_{35}	Kr_{36}
Rb_{37}	Sr_{38}	Y_{39}	Zr_{40}	Nb_{41}	Mo_{42}	Tc_{43}	Ru_{44}	Rh_{45}	Pd_{46}	Ag_{47}	Cd_{48}	In_{49}	Sn_{50}	Sb_{51}	Te_{52}	I_{53}	Xe_{54}
Cs_{55}	Ba_{56}	La_{57}	Ce_{58}	Pr_{59}	Nd_{60}	Pm_{61}	Sm_{62}	Eu_{63}	Gd_{64}	Tb_{65}	Dy_{66}	Ho_{67}	Er_{68}	Tu_{69}	Yb_{70}	Lu_{71}	$?_{72}$
$?_{73}$	$?_{74}$	$?_{75}$	Hf_{76}	Ta_{77}	W_{78}	Re_{79}	Os_{80}	Ir_{81}	Pt_{82}	Au_{83}	Hg_{84}	Tl_{85}	Pb_{86}	Bi_{87}	Po_{88}	At_{89}	Rn_{90}
Fr_{91}	Ra_{92}	Ac_{93}	Th_{94}	Pa_{95}	U_{96}	Np_{97}	Pu_{98}	Am_{99}	Cm_{100}	Bk_{101}	Cf_{102}	Es_{103}	Fm_{104}	Md_{105}	No_{106}	Lr_{107}	

Platinum is numbered 82 in this table. Protons begin to be located inside the nucleus from 72 to 75 elements. Items not yet open. All cells are filled in the table. DI Mendeleev does not have a table, but a complex chemical structure. Lanthanides and actinides, which should be arranged vertically according to their chemical properties, are located horizontally under the table in a "home" way. Brook's rule includes the periodic law and is more general.

Please repeat the experiment of James Chadwick in measuring the nuclear charge of the platinum atom. The charges of the copper and silver nuclei are beyond doubt. But according to this table of elements, built both according to Mendeleev's law and also according to van Brook's rule, starting with hafnium, the charges of nuclei can be 4 units more than is accepted today with the same mass. To set the regimes at nuclear power plants, it is probably important to know the true charge of the uranium nucleus.

Dmitry Ivanovich intuitively felt that there should be a table of elements, and not a complex structure, like his, but he probably did not have enough knowledge of the structure of the atom and the nucleus of an atom. Therefore, lanthanides and actinides are located horizontally. The rule of Van den Bruck, an amateur nuclear physics, turned out to be more general than the periodicity of Mendeleev and the calculations of quantum mechanics. A table, by definition, must have all the cells filled in according to a law or rule, and if you do not fill in any, there must be an explanation of this by this law or rule.

Therefore, the cells of the physical table were filled as at http://physicaltable.blogspot.com and unknown items numbered 72-75 and 108-111 appeared. Which demanded an explanation. When reviewing the results of measuring the charges of nuclei or atomic numbers by James Chadwick, I noticed that the charge of the platinum nucleus is rather equal not to 78, but tends to 82, which corresponds to the developed table. For almost 30 years I have been raising the issue of repeating measurements of the charges of atomic nuclei, since uranium probably has a higher charge than is accepted, but it is used at nuclear power plants. Lithium and beryllium, depending on temperature, change the crystal lattice in much the same way as scandium and titanium [1-4].

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