

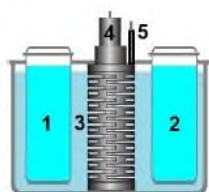


Transformation of chemical elements in non-equilibrium media

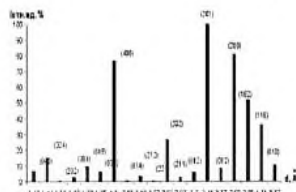
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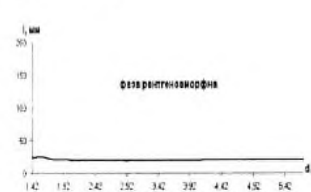
A simple experiment is proposed to explain the phenomenon - the transformation of chemical elements and "Strange Radiation" [1, 2], observed in nonequilibrium media. Such media, in particular, aqueous solutions, as a rule, are in a nonequilibrium thermodynamic state with three-dimensional dissipative structures [3] based on Spin Isomers [4, 5]. The experiment (Pic. 1) is based on the effect of contactless excitation of an aqueous solution of KMnO_4 (1 in a glass container, 2 in a polypropylene one) during electrolysis of an aqueous solution of NaHCO_3 (3). The experiment was carried out according to the technique (patent RU 2316374) on the «Ikar» installation ([mod. 04](#)) with a block of electrodes 4 (KF, patent RU 2299859) with a thermostat 5 (patent RU 138740).



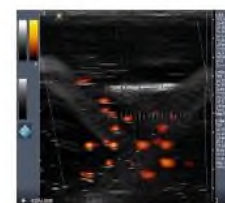
Pic.1. Scheme of experience.



Pic.2. Barcode X-ray¹ KMnO_4



Pic.3. Barcode X-ray² KMnO_4 .



Pic.4. "Ball-light".

The experiment observed the transformation of some chemical elements (Table 1, Pic.2,3) and the appearance of "strange" radiation from the "ball-light" (Pic.4). The composition of the obtained solutions was investigated at the [NMC "Microelement"](#) using an Optima-4300DV atomic emission spectrometer (Perkin-Elmer, USA). Analysis method: Inductively Coupled Plasma Atomic Emission (ICP-AES). The crystallization process (patent RU 2316374) during electrolysis from solutions 1 and 2 obtained substances with bar-X-ray diffraction patterns^{1,2} KMnO_4 (Pic. 2, 3).

Table 1

Element, µg / ml	K	Mn	Ca	Mg	Na	Zn	Ni	Cr
Original solutions 1,2	2.513,48	3.600,72	11,29	6,107	3,887	16,368	0,033	0,834
Solution №1, glass	2.233,15	3.295,92	0	0,609	0	3,261	1,411	0,375
Solution №2, pp	1.929,58	1.929,58	0	0	0	14,509	0,596	0,091

"Strange" radiation was recorded in solutions 1, 2 EMF by the "DSI-2" sensor, "ball-light" was recorded by the ultrasound scanner [LogicScan 128EXT](#), magnetic susceptibility [IMV](#)

An additional study of the electrolysis process when turning on and off the "Ikar" setup (mod. 04) with CF showed the presence of additional gamma radiation on the MB-9200 scintillation camera from GAMMA (Hungary), exceeding the background by 1.5-2 times, and change in magnetic susceptibility $\sim (-800 \dots + 1600) \cdot 10^{-8}$ units. SI in the range $T = 20 \dots 45^\circ\text{C}$ and solutions 2.3.

The physics of the processes of "anomalous" properties of non-equilibrium media, in particular, aqueous solutions (homeopathy, contactless activation of liquids, LERN-CNS, gamma radiation ...) in living and inanimate systems is complex, but generally understandable - the formation of "ball-light" [5] occurs from spin isomers [4].

In conclusion, the authors express their sincere gratitude to the radiologist S.A. Orlov. and Rustembekova S.A., Gorshkov V.V. ([NMC "Microelement"](#)) for help in conducting experiments.

[1] L.I. Urutskoev, V.I. Liksonov, V.G. Tsinoev. Experimental detection of "strange" radiation and transformations of chemical elements. Applied Physics, 2000. No. 4. p. 83 - 100. Journal of Radio Electronics, No. 3. (2000).

[2] E.A. Pryakhin, L.I. Urutskoev et al. Biological detection of physical factors associated with a high-current electric explosion of conductors in a vacuum. Izvestia RAN. Physical series, vol. 84, No. 11, p. 1560-1568, (2020).

[3] E.N. Knyazeva, S.P. Kurdyumov. Foundations of synergetics. Synergetic worldview. Series "Synergetics: from the past to the future". Ed. 2, rev. and add. Ch. 5, p. 240, (2005).

[4] S.M. Pershin. Quantum differences between ortho and a pair of spin isomers of H₂O as a physical basis for anomalous properties of water. Nanostructures. Mathematical Physics and Modeling, Vol. 7, No. 2, 103-120, (2012).

[5] V.G. Shironosov. On the principle of least action, the crisis in modern physics, the physical foundations of quantum mechanics and the structure of water. 10th International Congress "Water: ecology and technology". EQUATEK, (2012).