Influence of Info-Imprinting on Work Functions of Metallic Matrixes

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The paper considers studying influence of a human-oriented info-imprinting on a work function of carriers of the imprinted information – metallic matrixes. The matrix-imprinted information proved its efficiency in a reduction of a thermal impact of a radiation of mobile phones, to which the matrixes were attached.
Seebeck effect and Kelvin Probe installations were used and modified for the research.
The study revealed a prevailing (but not the total) increase of the work function after info-imprinting. This is attributed to an ordering action of the information. Basing on the development of the experimental means, new info-thermo detectors are proposed.

Introduction

The research was done in 2011-2012 for studying a physical base of biological influence of the info-imprinted aluminum matrixes, developed earlier by MobileTek-BodyWell company [1].
The company uses the card-like matrixes for mitigating harm, inflicted by a mobile phone radiation to humans. The method is based on injecting biological stabilizing information into the matrixes in nodes of standing electromagnetic waves. The detailed information on the process was available to public few years ago, but currently the company removed it due to patenting process. The company recommends carrying these cards attached to a mobile phone.

The technology was before developed by an Austrian physicist Walter Zapf, who early passed away and the specific questions on the physical base of this phenomenon were left open.

It sounds logically, that the very first steps toward studying this phenomenon had to be directed to water as our biological base.
The special research, conducted by the author, has revealed that the matrix-imprinted information affects a structure of water and its solutions [2,3].
Then, a special certified SAR (*specific absorption rate*) testing proved the efficiency of the method with the attached cards as a remedy for reduction of high–frequency heating human tissue by the mobile phone radiation [1].

The question, addressed to the author of this publication by the management of the company was like that: *where this biologically-positive information is recorded in the matrixes?*

One of the conceptions of the author was in that the information is recorded in a collective electron gas in a lattice of the matrix. Another conception was based on storing information inside the energy levels of nuclei.

Measuring a Work Function was one of the methods to prove the conception of the electron gas as a carrier of the imprinted information.

As the Nuclei-Storage-Information conception is concerned, it could be verified with Messbauer resonance phenomena, employing resonance absorption of the gamma-radiation. Unfortunately, that was not easy to find an institution practicing experiments with a radioactive Co57 or other sources during the limited terms dictated by the company.

By this reason, the efforts were focused on studying the variation of the work function as an indicator of the info-injection.

Seebeck effect and Kelvin Probe are used to study the work function. Actually, a set of thermo-electro-magneto-galvanic effects can be used for studying this phenomenon.

Technical realization of the Seebeck effect is a thermocouple.
The modern versions of the Kelvin probe are special instruments containing a vibrating electrode of the reference metal next to the studied sample. The voltage across the sample and the vibrating electrode is being amplified and recorded.

Variation of work functions of aluminum cards after special info-imprinting is just one of manifestations of their potential to change structure of an exposed matter.

As examples from [3], Fig.1 shows an influence of the info-imprinted cards on Differential Thermal Analysis, DTA of water; Fig.2 shows influence of a drawn spiral on DTA of water; and Fig.3 – differential pH of identical portions of water, exposed to opposite curled drawn spirals.

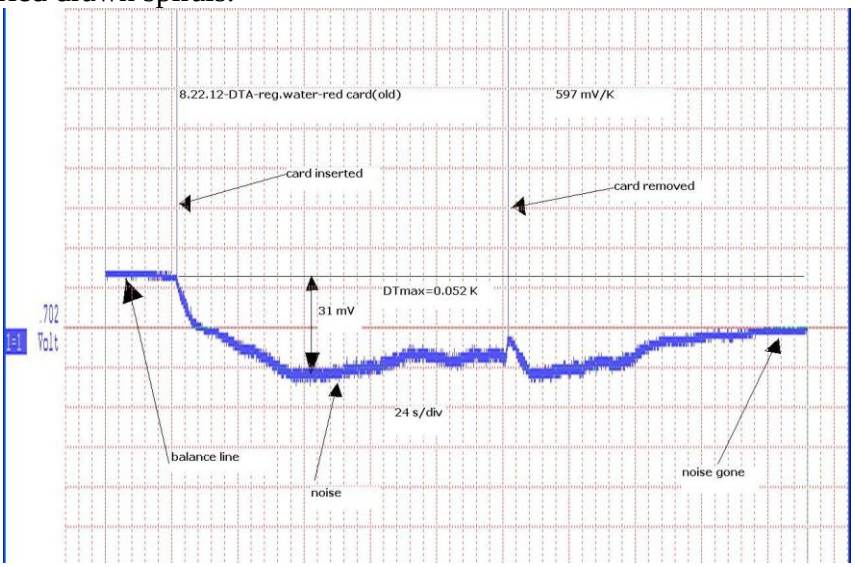

Fig.1. DTA –indicated structure changes in water exposed to one of the info-activated matrixes. The emission of a heat witnesses in a favor of an info-induced structure arranging. Appearing the noise is a result of the transfer process.

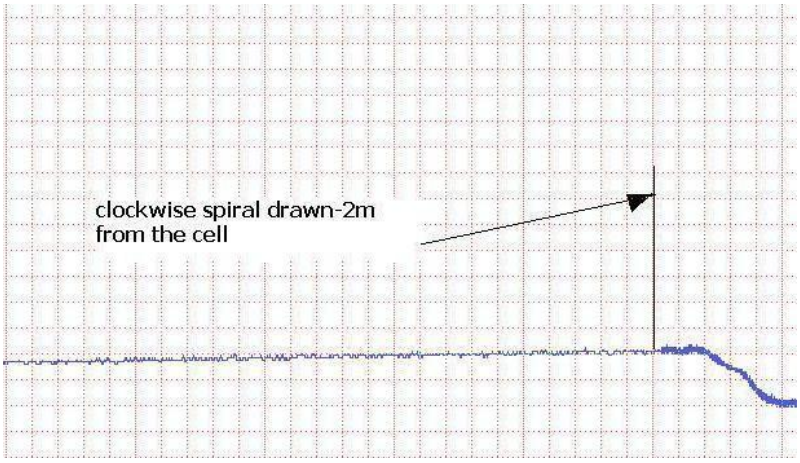

Fig.2. DTA –indicated structure changes, induced by appearing (the vertical line) the drawn spiral in immediate vicinity of water. Vertical axis- the temperature. The heat is emitted, what says in a favor of a structure arranging. 0.022 K/div; 24 s/div. The induced structure variation is accompanied with a clearly visible noise on the right.

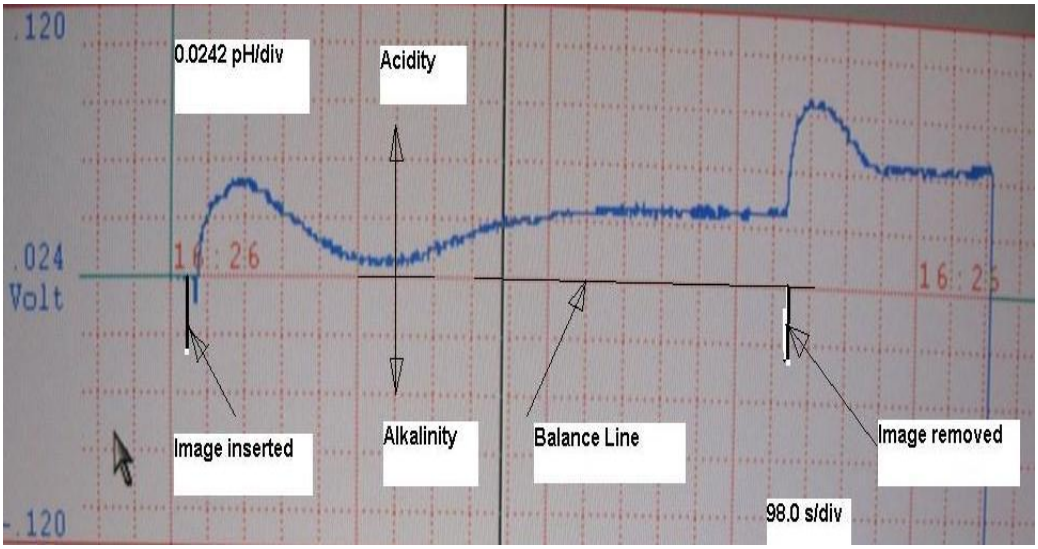

Fig.3. Differential pH of identical portions of water, exposed to opposite curled drawn spirals.

In a parallel way, works of Perm Research Group, Russia, on an influence of weak electromagnetic fields and Torsion Fields generators on a metal melt, improving a quality, proved this info-approach as a fruitful one [4,5].

The reality of Shape-Effect information, existing itself in an independent way, was shown in work [6] where its author measured a value called him a Torsion Contrast with its special TCM-021 instrument. He showed in a conclusive way that basic symbols of a Human archetype and that of alphabet bring the reading of different values and signs.

The examples above show that the information itself, no matter – imprinted in the matrixes or graphically presented, changes a structure of the matter. The variation of a work function of the metals can be one of manifestation of this info-influence on the structure.

1. Experimental Installations

1.1. Seebeck Effect Approach

For the experiment with the specific info-induced variation of the physical properties by the Seebeck effect, the following setup was developed, Fig.4.
A flat electric heater is placed over a joint of the sample and the reference matrixes. If the reference and the sample are absolutely identical, heating their joint will bring zero-EMF, otherwise, if they are not physically identical, the resulting voltage will be produced and recorded.

The temperature sensor of the joint temperature is not shown here. One of the implementations is shown in Fig.5.

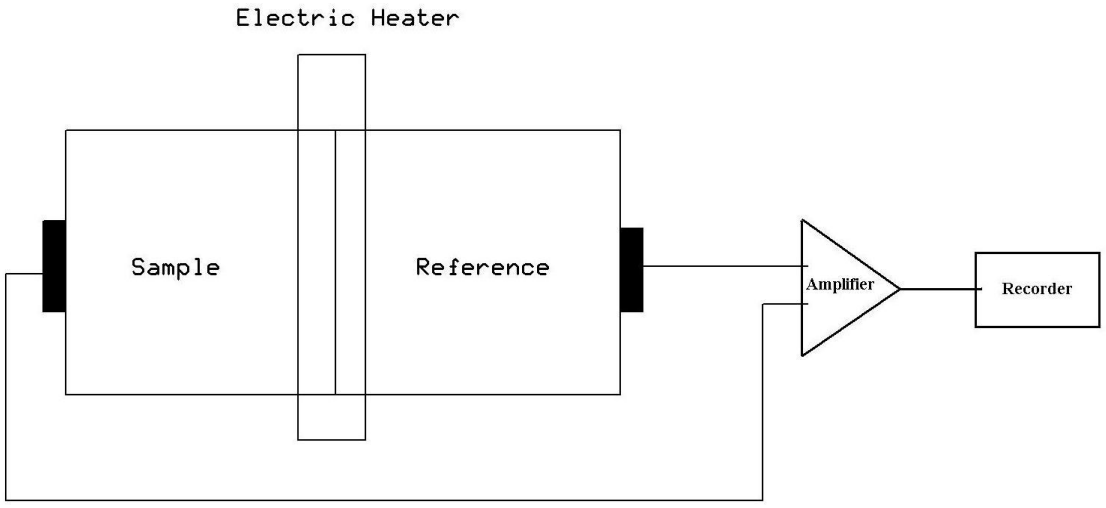

Fig.4. Conception of comparing work functions of two samples of metals basing on Seebeck effect. Being heated at the joint, the system works as a thermocouple if the work functions are not equal.

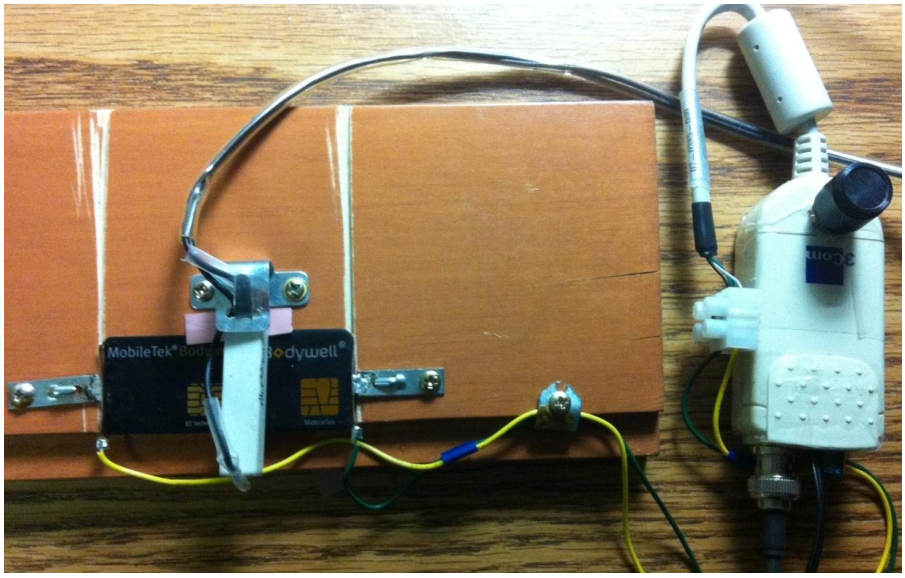

Fig.5. Experimental installation for comparing the work function of two samples of metals basing on Seebeck effect. Under heating they work as a thermocouple. The ceramic heater is placed over a joint of the samples. The unit on the right amplifies the signal.

This approach also can be realized in the version shown in Fig.6. Unlike the above, it uses a monolithic metal strip rather than two pieces. The monolithic metal strip works as an info-detector. If the info-action makes changes it a structure of the portion of the strip, the following heating at a centre of the strip will result in origination of a thermo-EMF.

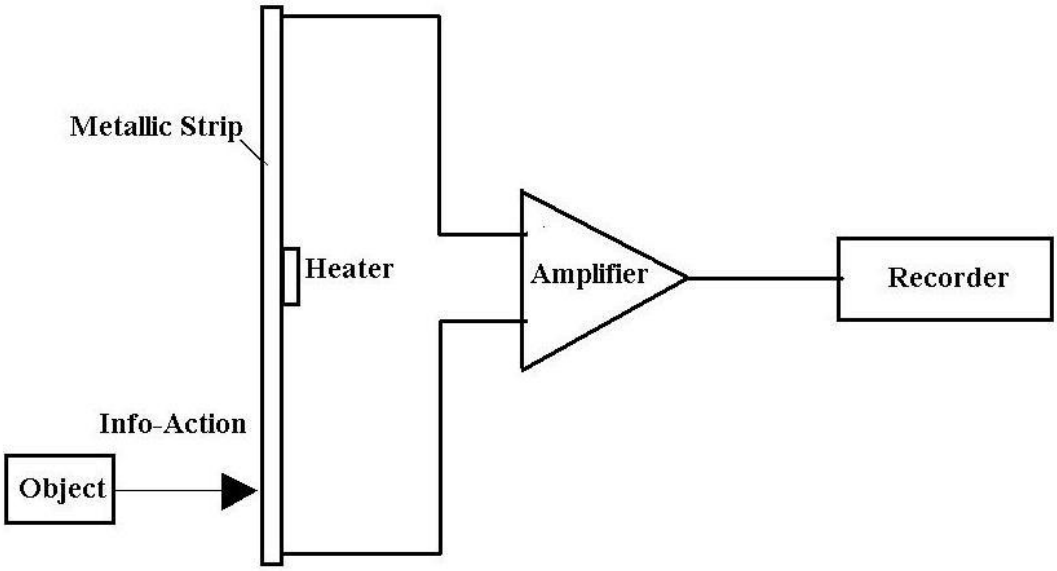

Fig.6. Modification of the installation of Figs. 2 and 3 for detecting influence of info-injection on the work function of metals basing on the Seebeck effect. The info-action changes properties of the foil/strip that converts the upper and lower portions into a thermocouple when the heat is applied at the centre.

1.2. Comparing Work Functions with Kelvin Probe

The modern implementation of the Kelvin probe is based on conversion of the constant difference of potentials between different metals into AC voltage by means of a variation of space between them with the following processing the signal by means of synchronous detection and linear amplifiers. One of the metals, having a known work function, serves as a reference.

The installation on this base was developed by the author, Fig.7.

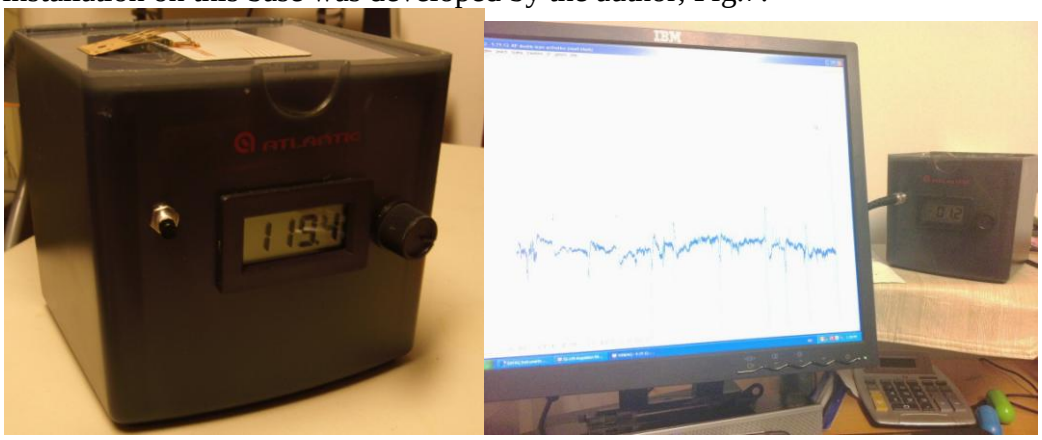

Fig.7. Kelvin Probe used for the experiment was developed by the author. The samples were placed on the upper platform having a contacting electrode. There was a vibrating copper plate under the platform. The processed signal entered the computer recorder DATAQ.

The vibrating, 12 Hz, copper electrode was placed under a sample platform. Both the vibrating electrode and the sample were connected to the input of the processor. The output was connected to the DATAQ recorder.

2. Results

2.1. Seebeck Effect

Fig. 8 shows the thermo –EMF of two jointed inactivated aluminum cards. Fig.9 shows that for the inactivate-activated pair. The heating was done from a room temperature up to 80 C for the inactivated pair and up to 100 C for the activated one.

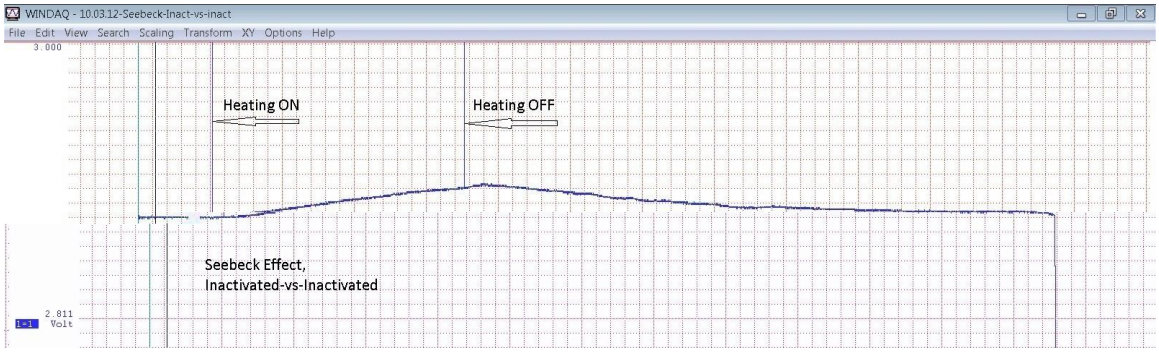

Fig.8. Amplified thermo-EMF of two aluminum matrixes with no info-activation. 4.4 mV/K. Amplification A=100.

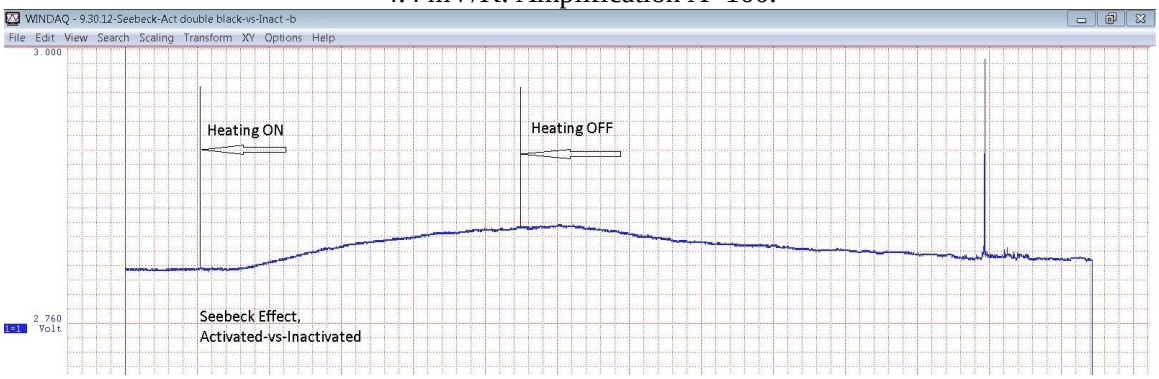

Fig.9. Amplified thermo-EMF of a pair composed of activated-non-activated aluminum matrixes. 4.5 mV/K. Amplification A=100.

Preliminary experiment with the conception according to Fig.6 has revealed origination of thermo-EMF with a primitive installation of Fig.10. In this experiment, heating (200-300 C) a centre of the image–imposed aluminum foil was done with a preliminary heated rod. Before superimposing the heat, the image was exposed during few minutes. The signal of the info-exposed system was tens μV.

Fig.10. Primitive preliminary installation for developing info-induced shift of the work functions in the originally homogeneous foil according to Fig.6. The info-induced shift was developed by exposing the foil to the image, then it manifested itself as the thermo-EMF at the heating the centre from 200-300 C metal rod.

2.2. Kelvin Probe

Figs. 11-17 show the processed contact voltage between the reference copper plate and the aluminum matrixes of a different extent of info-injections.

BodyWell company marked them with special names which can be read on the upper portion of the blue frame.

It has to be said, that ON/OFF spikes on the records are caused by inertia of the electromagnet, driving the reference copper plate. Initial sleeping of the frequencies took place in this case.

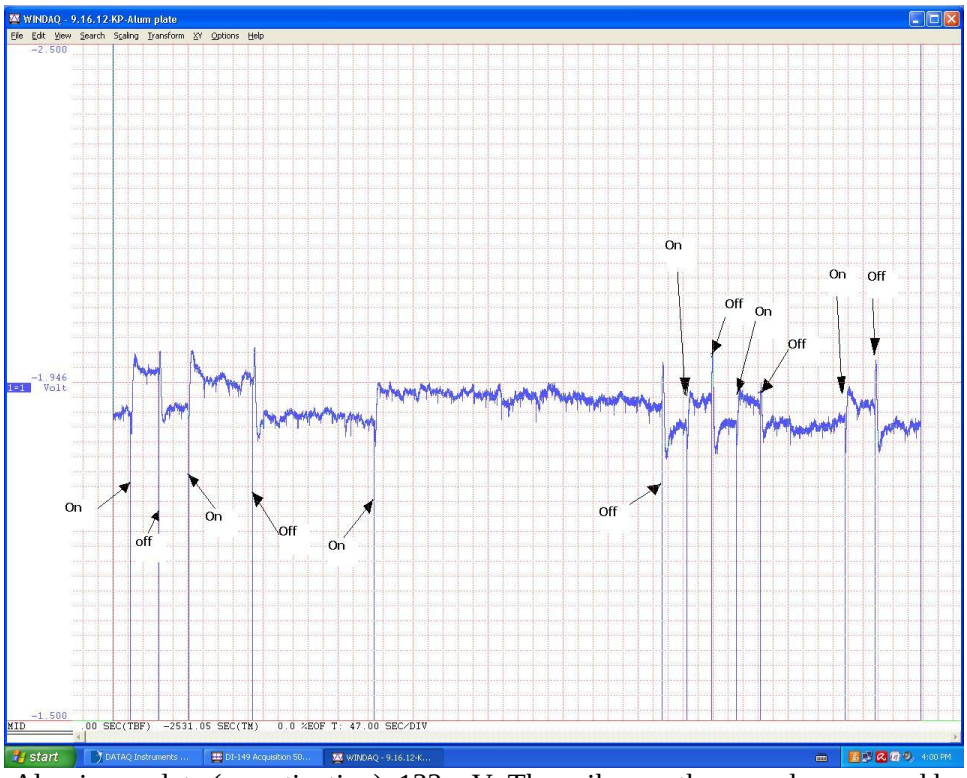

Fig.11. Aluminum plate (no activation), 133 mV. The spikes on the record are caused by inertia of the electromagnet, vibrating the copper reference.

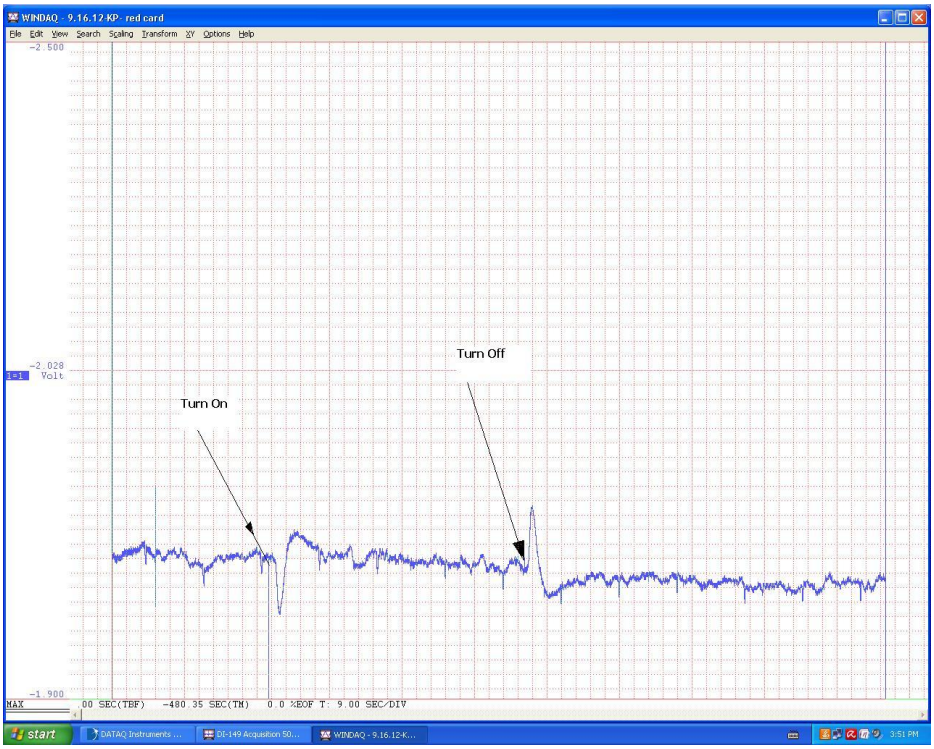

Fig.12. Activated aluminum matrix, 30mV

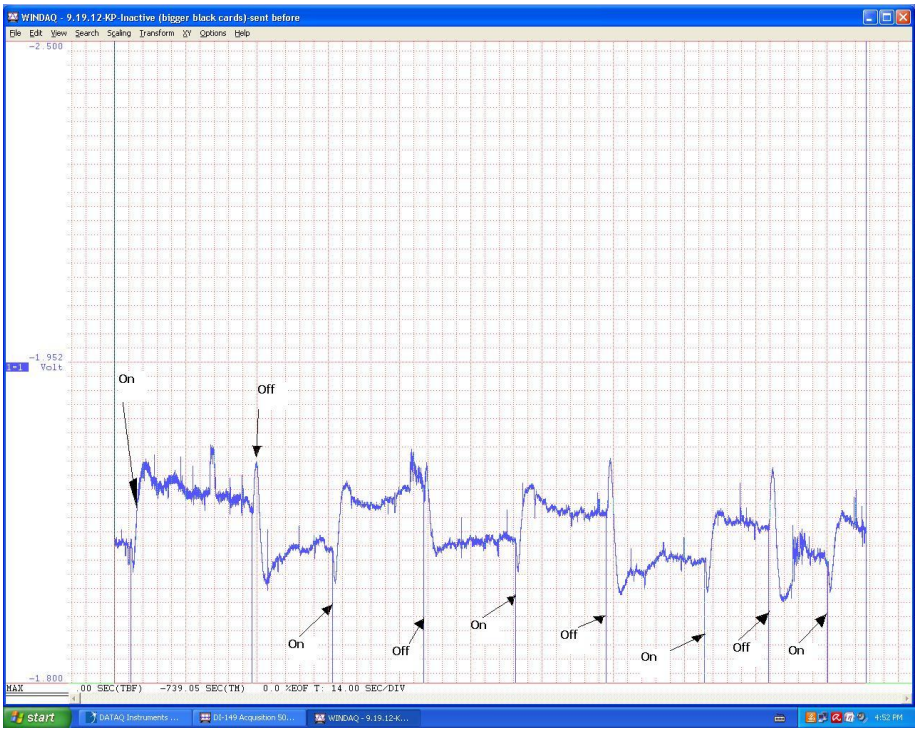

Fig.13. Non-activated placebo matrix, 240 mV

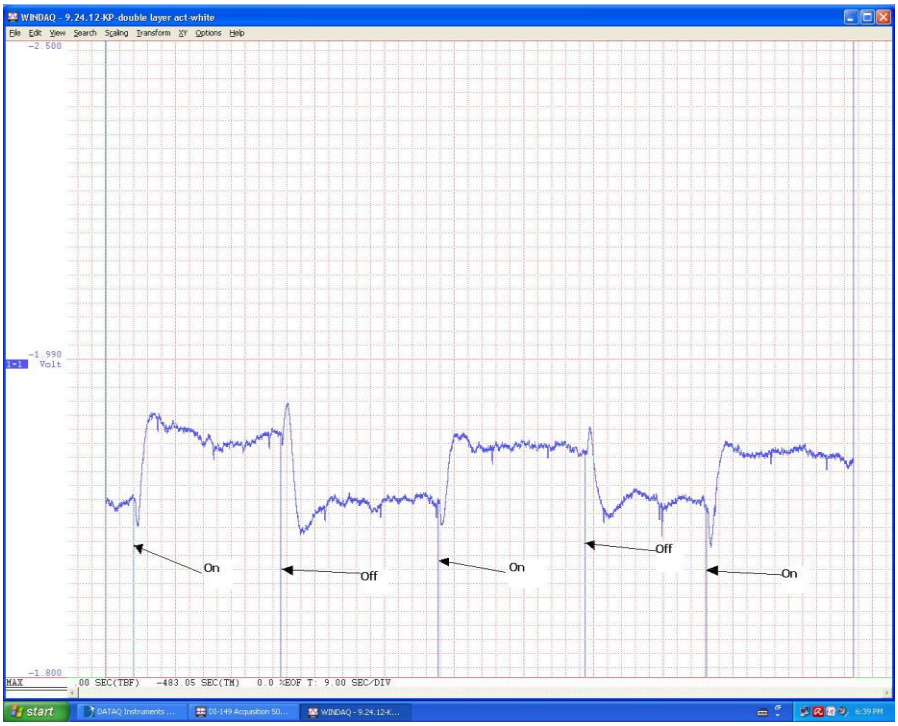

Fig.14. Activated aluminum matrix, 335 mV.

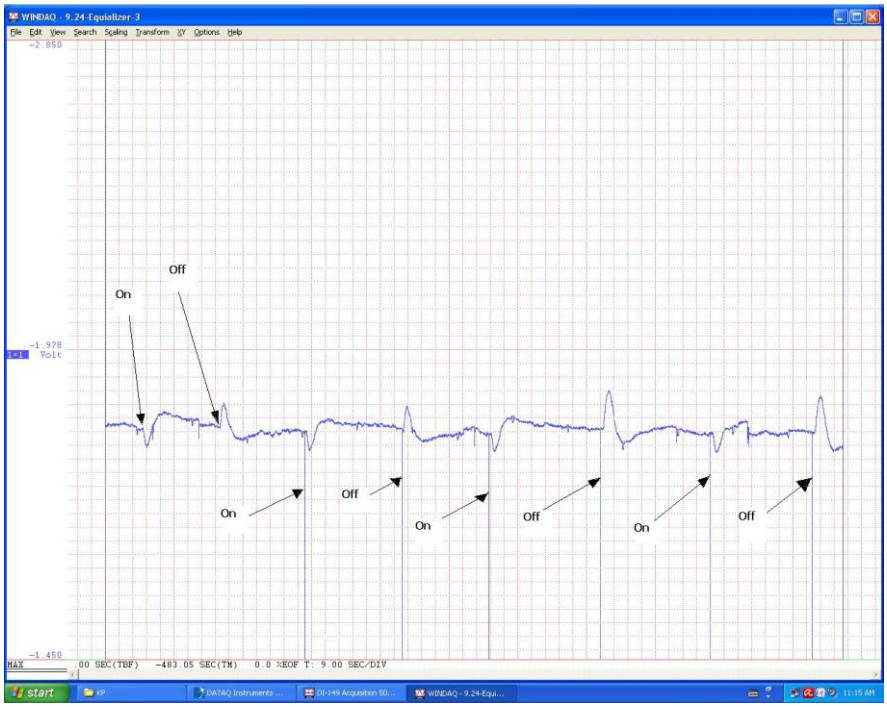

Fig.15. Activated aluminum matrix, 48mV.

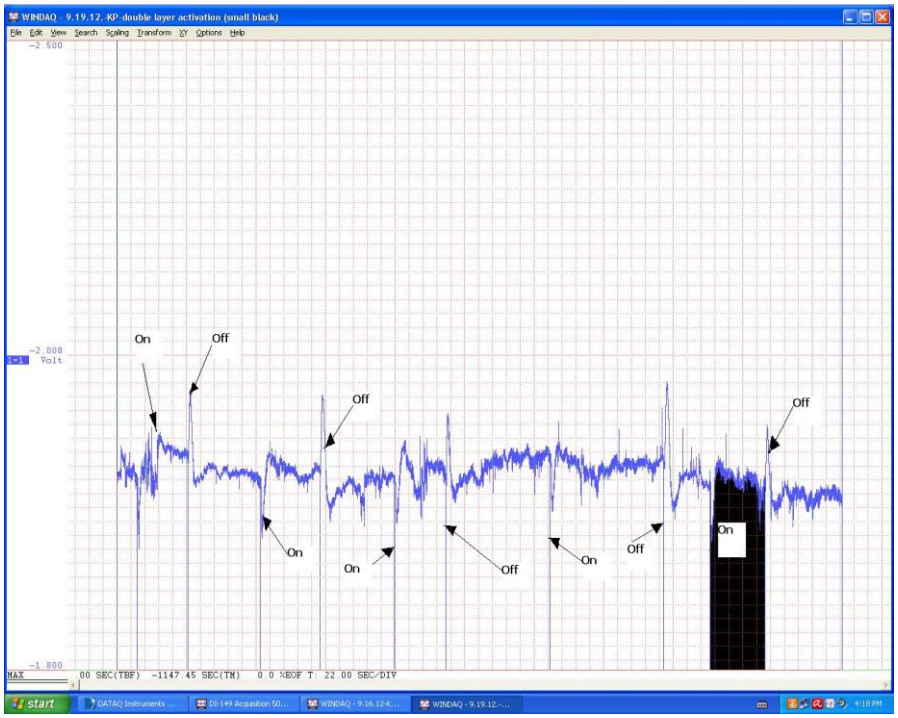

Fig.16. Activated aluminum matrix, 48 mV.

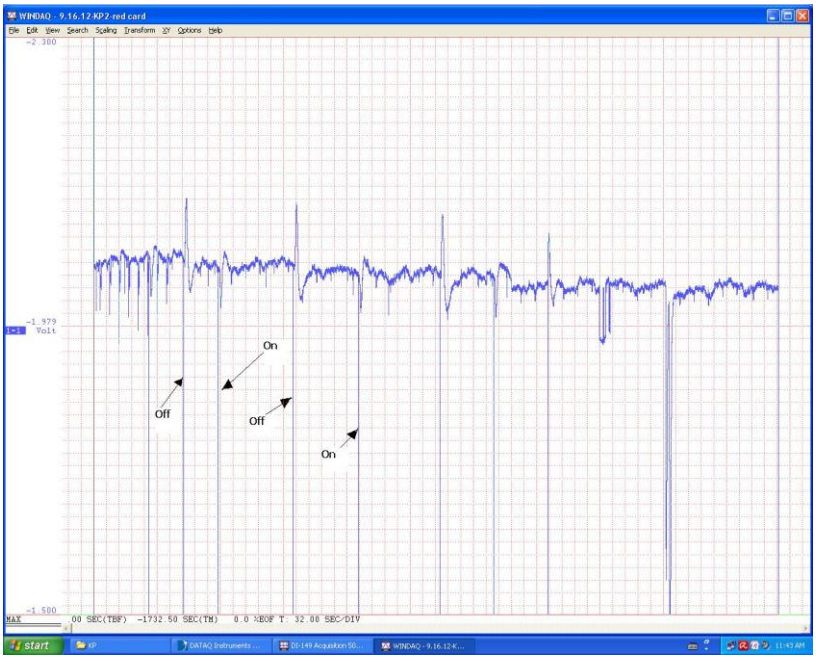

Fig.17. Activated aluminum matrix, 45 mV

3. Discussion.

We can logically expect that the informational treating metals will result somehow in their physical properties after a series of works of a group of Russian scientists who have

improved structures of the metals under an influence of Torsion Fields generators, injecting some specific information into melt of the metals [3,4,5].

The results of Seebeck test show a pretty close thermo-EMF rate for the non-activated and activated pairs. Theoretically, two absolutely identical matrixes do not have to produce EMF at the heating their joint. Origination of EMF of the non-activated pair can be explained by possible differences in mechanical treatment of the matrixes. Another reason of origination of thermo EMF is a mechanical stress caused by a thermo-dilation process in the limited inter-electrode space of Fig.2.

However, the thermo-EMF rate of the activated pair exceeds that of non-activated one: 4.4:4.5 mV/K. This gives a hope that, after elimination of the possible artifacts above, Seebeck effect can be used to detect an info-imprinted structure variation of the materials.

As far as the Kelvin Probe results are concerned, there is a clear difference in the contact EMF between the samples, subjected to different kind of the activation and non-activated ones. On the other hand, so called non-activated samples still carry some features of info-intruding like special marks on them, chemical cover and so on. The average work function of the aluminum is 4.16eV, while the copper has 4.82eV. Reduction of the output voltage says that the work function of the aluminum matrix increases. This takes a place in a majority of the experiments. By its nature, the information opposes a chaos related to a thermal action, which can release an electron from the lattice. Therefore, the induced information opposes the thermo-action and, therefore, can increase the work function.
The observed variation of the results can involve the natural spread of the work functions of the metals. Great percentage of the metals has a spread of the work functions according to the Table bellow [7].
The legitimate question arises: Why these metals have the scattered work function? Taking into consideration results of [4,5] and this research, we can assume that the info-exposure is one of the reasons of these gaps. It can take a place alongside natural allotropic variations in the metals. It's interesting to note that aluminum, used by BodyWell for the info-imprinting, is one of these metals, possibly sensitive to info-injection.

Work function of elements, in units of electron volt (eV).

Ag 4.26 – 4.74	Al 4.06 – 4.26	As 3.75
Au 5.1 – 5.47	B ~4.45	Ba 2.52 – 2.7
Be 4.98	Bi 4.31	C ~5
Ca 2.87	Cd 4.08	Ce 2.9
Co 5	Cr 4.5	Cs 2.14
Cu 4.53 – 5.10	Eu 2.5	Fe: 4.67 – 4.81
Ga 4.32	Gd 2.90	Hf 3.9
Hg 4.475	In 4.09	Ir 5.00 – 5.67
K 2.29	La 3.5	Li 2.9

Lu ~3.3	Mg 3.66	Mn 4.1
Mo 4.36 – 4.95	Na 2.36	Nb 3.95 – 4.87
Nd 3.2	Ni 5.04 – 5.35	Os 5.93
Pb 4.25	Pd 5.22 – 5.6	Pt 5.12 – 5.93
Rb 2.261	Re 4.72	Rh 4.98
Ru 4.71	Sb 4.55 – 4.7	Sc 3.5
Se 5.9	Si 4.60 – 4.85	Sm 2.7
Sn 4.42	Sr ~2.59	Ta 4.00 – 4.80
Tb 3.00	Te 4.95	Th 3.4
Ti 4.33	Tl ~3.84	U 3.63 – 3.90
V 4.3	W 4.32 – 5.22	Y 3.1
Yb 2.60 [13]	Zn 3.63 – 4.9	Zr 4.05

4. Prospective of the Methods.

The considered methods for studying influence of info-activation on properties of metals look promising after elimination of some drawbacks.
In particular, in Seebeck effect experiment with metal matrixes, picking up the signal has to be done with elastic spring electrodes rather than firmly fixed ones to prevent dilation mechanical stresses provoking an unwanted signal.

The modification of the Fig.3 can be further advanced by a battery-like conception of the info-sensor, Fig.18.

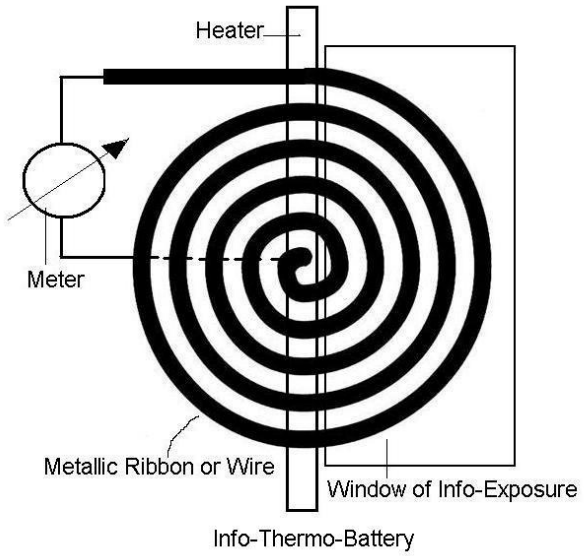

Fig.18. Info-Thermo-Battery as a sensor of exposure to information. Action of information on a metal can be multiplied by a series connection of the metal elements, working like connected in series thermocouples at the heating.

Conclusion

1. Methods of Seebeck Effect and vibrating Kelvin probe can be used for estimation of an ordering action of the information, imprinted in metal matrixes.

2. In Seebeck Effect/thermocouple installation it's needed to provide elastic contacts for sampling a signal to avoid artifacts caused by a thermal dilation of contacting matrixes during heating their joint.

3. Further developing application of thermocouple installation for info-detection is possible as a monolithic strip of metal, exposed to the information in one half of it and heated at the centre. A series connection of such elements, for instance – in a shape of a spiral, will increase the signal of the info-system.

4. Info-injection increases a work function in majority of the cases.
   The relation between presence of the information and variation of the work function says that the information can be encoded in the upper electron shells of the atoms.
   The increase of the work function can be explained by an ordering action of the imprinted information, which opposes to a chaotic thermal motion which stimulates electrons to leave the lattice.

5. The sensitivity of the developed model of Kelvin probe can be increased due to shielding measures reducing influence of extremely low frequencies of Earth interfering with operating frequency of the instrument.

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