

# Journal of Food Agriculture & Environment

SCIENCE AND TECHNOLOGY



WFL PUBLISHER



HELSINKI, FINLAND



## Influence of energetic water on the quality of life

Edward Krizhanovsky<sup>\*,\*\*</sup>, Lim Kwong Choong<sup>†</sup> and Tan Shiew Chian<sup>†</sup>

<sup>\*</sup>Saint-Petersburg Institute of Physical Training and Sport, Dinamo ave, 2, Saint-Petersburg, Russia; <sup>\*\*</sup>KTI Association, Drovianoi, 22, Saint-Petersburg, Russia; <sup>†</sup>BAE International Inc.SDN BHD, Plaza Pengkalan, 3rd Mile Jalan Ipoh, 51100 Kuala-Lumpur, Malaysia.  
e-mail: edward@ek9247.spb.edu; kc13@tm.net.my; my-bae3@streamyx.com

### Abstract

The normal functioning of the organism depends on water and its properties. However, water should be not only safe and "not harmful", but also well suited for constant daily use, rendering beneficial effect on the organism. The influence of different types of water on the quality of life was studied by using profile of mood state (POMS) questionnaire and gas discharge visualization (GDV). These methods were applied during 6 weeks to people drinking usual water, during other 6 weeks when mineral water was used and during other 6 weeks when the same water was taken but after stay in the natural energetic deposit (BAE liquid). After using BAE liquid, the statistically significant decrease was obtained for the following POMS parameters: tension-anxiety, depression-dejection, anger-hostility, fatigues-inertia and confusion-bewilderment. At the same time, force-activity parameter was increased, as well as GDV parameters: area and intensity at the background of back to normal state GDV activation. The use of mineral water from the energetic deposit (BAE liquid) reduces anxiety and aggression, raises the emotional tone, and also raises the general energetic state of the organism. The GDV method allows revealing of statistically significant distinctions between mineral water and mineral water from the energetic deposit while chemical structure remains the same.

**Key words:** Gas discharge visualization, profile of mood state, bioactive energy, mineral water, energized water, quality of life.

### Introduction

The water is a substance which is used in all processes occurring in our organisms. As a universal solvent, the water provides delivery of nutrients and oxygen to all cells of the organism. It plays a key role in the mechanism of thermoregulation and carries out a function of clearing. The normal functioning of the organism depends on water and its properties. If the organism is dehydrated only by 2%, the working capacity and concentration of attention are reduced by 20%. In years the quantity of water in organism becomes less: the water in the newborn child amounts to 75% of his weight and will be no more than 65% after the next five years.

Very likely that quality of drinking water is the most complex and delicate question. According to the World Organization of Public Health Services more than 80% of human diseases are connected with poor quality of water. Annually there are about 500 million people in the world which are falling ill because of polluted water. Thus, water can be divided into two types. One type is the water sustaining life, and the second type is the water which reduces the quality of life. The first type includes water from natural sources (springs, artesian chinks, and so forth), while boiled water and tap water formed the second type. Though the boiling still remains the most popular way for improving the quality of water to make it safe, many doctors recommend drinking of special drinking water extracted from the natural sources. Mineral water, passing through the soil strata, is enriched with various mineral substances and becomes completely disinfected. Such water possesses certain specific physical and chemical properties, which provide beneficial effect on the organism. It has been supposed that the healing properties of mineral water are defined by those salts which are dissolved in it. Such approach assumes an opportunity of artificial preparation of curative mineral water. Obviously, the point is not only in the dissolved substances, but also in the ability of water to accumulate the information. Being pulled out from the high depths (800 m and deeper), being exposed by high temperatures and high pressures, the water has passed currently unknown physical-chemical and information processing. It is just the informational component of water that does not manage to be revealed unambiguously using physical and chemical methods. In the present work the gas discharge visualization method (GDV-graphy) is proposed for registration of the informational component of liquid<sup>1,2</sup>. The information is understood here as a specific configuration, state of energy. This method allows revealing of the weak distinctions of chemically close liquids<sup>3</sup>. It is possible to reveal distinctions directly (by using the GDV images of a liquid) and indirectly (by measuring the GDV images of biological objects during receiving of various liquids).

### Materials and Methods

At the first investigation phase, the chemical composition of mineral water was determined by physico-chemical analysis. The comparison of mineral water, mineral water after the presence in the energetic deposit and NaCl solution were performed by the GDV-graphy method. At the second stage, the group of volunteers of seven people has been investigated to detect their reactions to drinking of mineral water and 100 dilution of BAE liquid. During six weeks the volunteers were drinking mineral water from a source in Malaysia, during next six weeks they were drinking the same water which was in the natural energetic deposit (so called dilution of BAE liquid). At the end of each week, the volunteers passed the POMS test and the GDV images of their fingers were measured.

**Physico-chemical methods:** To reveal physical and chemical characteristics of mineral water, the complex analysis was performed with application of the following methods: determination of electroconductivity, acidity, the refraction parameter, photocalorimetry, atomic absorptive spectroscopy, emission spectroscopy, ionic chromatography and qualitative chromatographic analysis.

**GDV-graphy:** The principles of GDV-graphy are described in Fig. 1<sup>3</sup>. The subject 1 is placed on a dielectric plate 2. A transparent conductive grid of a special design is applied to the reverse side of this plate. Voltage impulses are then applied by the generator of electromagnetic field (EMF) 5 between the subject 1 and the dielectric plate.

Under the high intensity field, the subject emits a burst of electrons and photons. In the gaseous medium of the contact between subject 1 and plate 2, an avalanche and/or sliding gas discharge (GD) develops, which serves as amplifier of the weak subject's emission<sup>4,5</sup>. This process is very similar to the amplification processes in photomultipliers. With the help of an optical system and a CCD-camera 3, (charge coupled device) the discharge's

fluorescence is transformed into video-signals, which are recorded in the form of single shots (GDV-grams) or AVI-files in the memory unit 4, connected with computer data processor. The data processor represents a specialized software complex, which allows the calculation of the system of parameters and, therefore, the possibility of drawing diagnostic conclusions.

Despite the variety of technical explanations, the essence of the visualization procedure might be summarized as follows: As a result of the interaction of the electromagnetic field (EMF) with the subject, the emission of charged particles causes the gas discharge to occur from the surface of the subject. It is important to note that the gas discharge itself might influence the subject's state, causing secondary emission and thermal processes. Thus, within the gas discharge visualization procedure, informative transformations are being formed as follows. A bio-subject's state is characterized by physiological and biochemical processes. From the standpoint of the GDV procedure, the key role is played by quantum emission processes, as well as by the gas release. The gas release depends on the activity of sweat glands, i.e. on the autonomic nervous system functioning. Emission processes are dependent on the bio-subject's level of impedance (resistance or reactivity to the current), impedance of the surface areas, and the bio-subject's structural and emission characteristics. Change of the latter parameters is actively manifested on the skin at the expense of reflexogenous zones and biologically active points. During the course of their investigations, researchers discovered that a complex of parameters and peculiarities of the organism, relating both to the processes of homeostasis of the whole organism and to the local electro-chemical phenomena, occurring on small part of the skin, are manifested on the GDV image<sup>3</sup>. Using this technique it is easy to measure not only biological object, but also any object of different physical nature.

The technique of the research of liquids by way of investigation of characteristics of the gas discharge around the drops of those liquids has been shown in previous works<sup>1,2</sup>. The GDV image represents a complex two-dimensional figure (Fig. 2). Geometrical and brightness parameters of GDV images bear the information on characteristics of the object. They are the area of the image, determined as the sum of pixels which have brightness higher than a certain threshold; intensity of images – average intensity of image of all points with a non-zero intensity, changing within the range from 0 (absence of glow) to 255 (maximal brightness of glow); form coefficient, determined as the ratio of the perimeter length of the image to its average radius multiplied by  $2\pi$ ; informational entropy by isoline of image – determined as

$$S(M) = - \sum_{j=1}^{J^M} P_j(M) \ln(P_j(M))$$

where  $P_j(M) = N_j/N_M$  denotes the distribution function of values of intensities of points by the image isoline, i.e. the probability of revealing the value of intensity  $j$  ( $N_j$  – quantity of points with the same value of intensity in the image isoline) in the range of points of isoline with length  $M$  ( $N_M$  – number of all the points in the image's isoline); fractality – fractal dimension of isoline of the image) and others<sup>3</sup>. The GDV images of liquids have been received with the help of the special device (Fig. 3). The liquid in this device is suspended as a drop above the surface of the screen at the distance of 3 mm. The following most reproducible parameters of GDV image were measured during studies of liquids: the glow area and intensity, form coefficient, informational entropy and fractality. All explorations were carried out in a temperature range of 30.5-32.5°C with the help of the GDV camera device.

**POMS test:** The psychoemotional status was obtained with the help of the POMS (profile of mood state) test by definition of six parameters (factors): tension-anxiety (T), depression-dejection (D), anger-hostility (A), force-activity (V), fatigues-inertia (F) and confusion-bewilderment (N)<sup>6</sup>. The following parameter TMD (total mood disturbance) was used to characterize the psychoemotional potential:  $TMD = [(T + D + A + F + C) - V]$ , where V, T, D, A, F, and C are values of the POMS test factors.

### Results and Discussion

Properties of BAE liquid A100 after the presence in the energetic deposit are presented in Tables 1 and 2. The mineral water here is the 100 dilution of A100. The studied liquid represents a strong salt solution, with sodium chloride as the basic background component. The concentration considerably exceeds the maximum permissible concentration (maximum concentration limit), and other components are not pronounced. The presence of sodium chloride in such high amounts assumes full preservation of the solution; the presence of silver is also an additional factor for the preservation. The physical-chemical analysis, however, does not allow revealing of a component representing the influence of the energetic deposit.

The GDV-graphy method allowed determining of significant distinctions between mineral water and the BAE liquid. Fig. 4 shows the distinctions in dynamics of the informational entropy parameter of the GDV image during the 3 second exposition of drops of the BAE liquid, A100, and NaCl solution. The volume of sampling for each liquid consisted of 15 measurements. The informational entropy of the BAE liquid dilution has higher value in comparison with other liquids.

It was shown on the basis of the POMS test that T, D, A, V, F, and C parameters did not significantly change during the 6-weeks use of regular mineral water. At the same time, after the 2-weeks use of the BAE liquid dilution the significant decrease of values of T, D, A, F, and C parameters took place. The significant growth of parameter V value occurs after the fourth week of use of the BAE liquid dilution. This fact characterizes the increase of the positive emotional component and the general energetic state of the volunteers. The total parameter TMD is shown in Fig. 5. GDV parameter activation did not show significant changes after taking of regular mineral water but had significant distinctions after the use of the BAE liquid dilution (Fig. 6). The glow area and intensity of GDV images of the volunteers' fingers were significantly increased after the fourth week of the use of the BAE liquid dilution.

Basing on the analysis of the results of the POMS test and the GDV-graphy method, it is possible to draw a conclusion that the use of mineral water from the energetic deposit BAE liquid reduces anxiety and aggression, raises the emotional tone, and also raises the general energetic state of the organism. The GDV-graphy method allows revealing of statistically significant distinctions between mineral water and mineral water from the energetic deposit while chemical structure remains the same.

**Table 1.** Physico-chemical properties of BAE liquid.

Electroconductivity	$245 \times 10^{-4} (\text{Ohm} \times \text{sm})^{-1}$
pH	6.82
Refraction index	1.3356
Minerals	2.5 g /100 g of liquid

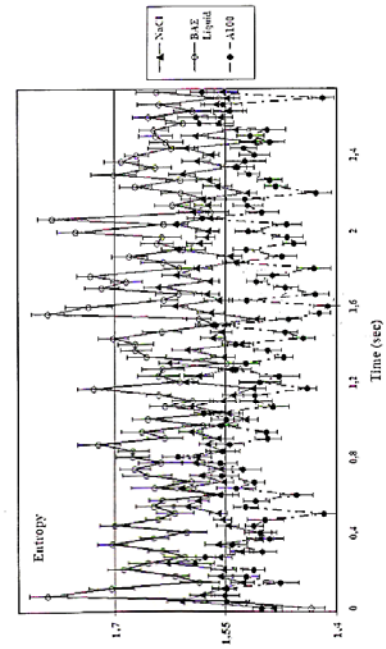


Figure 4. Dependence of parameter GDV information entropy on time of exposition.

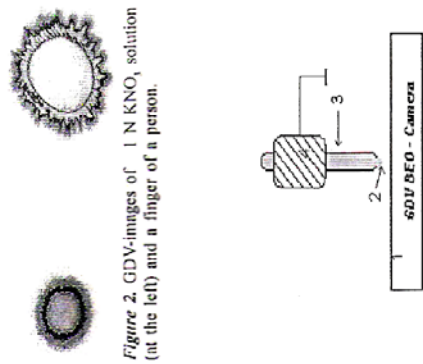


Figure 2. GDV-images of 1 N KNO<sub>3</sub> solution (at the left) and a finger of a person.

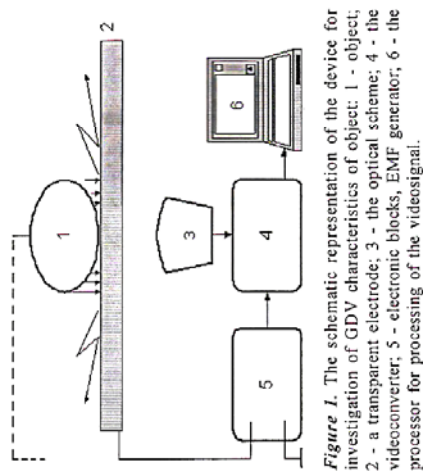


Figure 1. The schematic representation of the device for investigation of GDV characteristics of object: 1 - object; 2 - a transparent electrode; 3 - the optical scheme; 4 - the videoconverter; 5 - electronic blocks, EMF generator; 6 - the processor for processing of the video signal.

Figure 3. Experimental set for liquid measurement by GDV-graphy: 1-window of the device; 2-drop of a liquid; 3-syringe; 4-grounding.

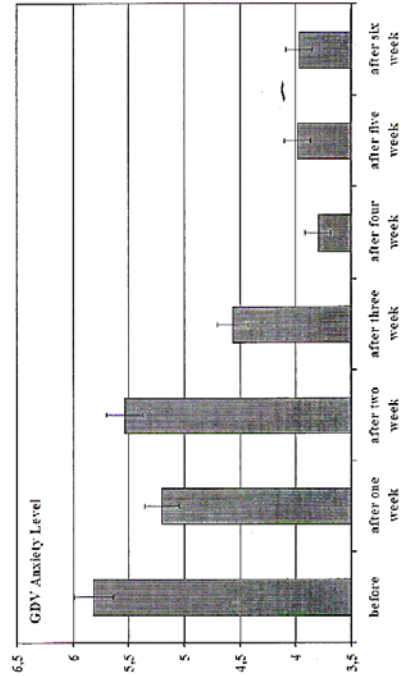


Figure 6. Change of average of GDV anxiety level during six weeks.

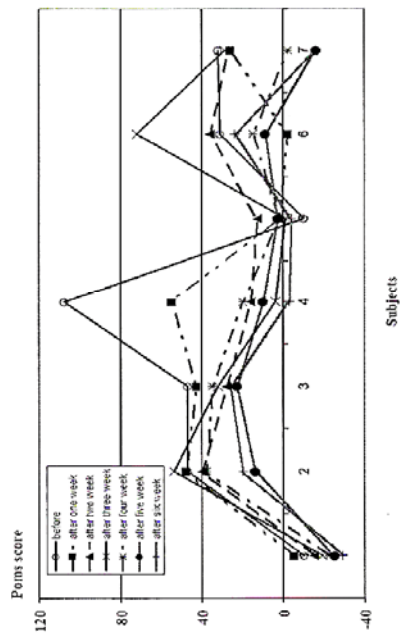


Figure 5. Change of a parameter tension-anxiety for seven volunteers during six weeks.

**Table 2.** Chemical composition of BAE liquid. Abbreviations: C – Conductometry, Ph – Ph-study, R - Definition of refraction index, M - Mineralization of dilution, Pc – Photocalorimetry, AA - Atomic absorption, EA - Electronic absorption, IC - Ionic chromatography, QC - Qualitative chromatography analysis.

	Name	mg/l	Maximum allowable concentration, mg/l	Conclusion	Method used
Si	Silicium	0.25	10	Conformity	EA
Al	Aluminium	0.03	0.5	Conformity	EA
Mg	Magnesium	1.1	40	Conformity	EA, AA
Ca	Calcium	0.45	180	Conformity	EA
Fe	Iron	0.06	0.3	Conformity	Pc, EA
Mn	Manganese	0.05	0.1	Conformity	EA, AA
Ni	Nickel	0.008	0.1	Conformity	IC, EA
Ti	Titanium	0.04	0.1	Conformity	EA
Cr	Chromium	0.02	0.05	Conformity	QC, EA
Cu	Copper	0.025	1	Conformity	EA, AA
Ag	Silver	0.01	0.05	Conformity	EA
Zn	Zinc	0.02	5	Conformity	EA, AA
Sr	Strontium	0.05	7	Conformity	EA
Na	Sodium	5500	200	Non conform	EA
Cl	Chlorine	8700		Non conform	QC, EA
SO <sub>4</sub>	Sulphate-ion	4.5		Conformity	QC, EA
Co	Cobalt	N. d.	Consequently	<0.01	QC, EA
Mo	Molybdenum	N. d.	Consequently	<0.01	QC, EA
V	Vanadium	N. d.	Consequently	<0.01	QC, EA
Pb	Plumbum	N. d.	Consequently	<0.01	QC, EA, AA
As	Arsenic	N. d.	Consequently	<0.01	QC, EA
Cd	Cadmium	N. d.	Consequently	<0.001	QC, EA
Sn	Tin	N. d.	Consequently	<0.01	QC, EA
P	Phosphorus	N. d.	Consequently	<0.5	QC, EA

#### Acknowledgements

We thank the staff of BAE International Inc. for their participation in this study. Mr. FK Lim, Director of BAE International Inc., for his continued support of scientific study of BAE. Mrs. Svetlana Korotkina, Director of KT1 and Dr. Konstantin Korotkov for supporting this investigation and fruitful consultancies.

#### References

- <sup>1</sup>Korotkov, K. and Korotkin, D. 2001. Concentration dependence of gas discharge around drops of inorganic electrolytes. *J. Appl. Physics* 89: 4732.
- <sup>2</sup>Korotkov, K., Krizhanovsky, E., Borisova, M., Hayes, M., Matravets, P., Momoh, K.S., Peterson, P., Shiozawa, K. and Vainshelboim, A. 2004. Time dynamics of the gas discharge around drops of liquids. *J. Appl. Physics* 95: 3334-3338.
- <sup>3</sup>Korotkov, K. 2002. New human energy field. Backbone Publishing. N.J.
- <sup>4</sup>Nasser, E. 1971. Fundamentals of gaseous ionization and plasma electronics. Wiley-Interscience. N.Y., Toronto.
- <sup>5</sup>Boyers, D.G. and Tiller, W.A. 1973. Corona discharge photography. *J. Applied Physics* 44:3102-3112.
- <sup>6</sup>McNair, D.M. 1992. Profile of Mood States. San Diego, California.