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Edited by Nadiya Skotna, Svitlana Voloshanska,
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This research work belongs to a group of authors, contains an in-depth study of the health preservation problem and the use of bioecology and nanobiosensors for this purpose, fixes the scientific priority, provides society with the primary scientific information on health promotion, the formation of environmental responsibility.

The monograph is intended primarily for scientists and meets by its content and form of publication, but will be interesting for a wide range of public. The clarity of the wording and presentation of the material, the logic of coverage for the basic ideas and concepts in it are of particular importance. Requirements to the essence of the presentation of the material in the sections of the monograph, similar to the requirements of other scientific publications with certain features of their purpose. Moreover, the issues raised in this monograph are still the subject of lively discussion among contemporary domestic and foreign scholars.

We will be glad if the monograph will not leave you indifferent and you will want to share your impressions of it.

CONTENTS

CHAPTER 4. CHANGES IN THE ELECTROPHYSICAL PROPERTIES OF NATURAL DRINKING WATER IN ITS EXPERIMENTAL COHERENCE WITH DIFFERENT POLARITY AND DEGREE

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Abstract. *The article presents experimental studies results on electrophysical properties changes of natural drinking water after its coherence according to the results of Kirlian photography. The study issue is relevant to connection between health water properties and its coherence. The coherent state determines nonlinear effects occurrence, which leads to the water molecules total response to Kirlian irradiation. Gas–discharge glow of 50 drops of each water sample was received on an X–ray film. Water coherence was carried out by using a quantum teleportation system. A coherent state of water was created with different spin directions (right and left) and the degree of coherence (1–3). Computer processing of the Kirlian water droplets photographs was carried out by building brightness histograms. The results were compared with the previously developed by us criteria for median values and the medians difference of the parameters of 12 histogram subranges for experimental standard water samples – distilled, tap water, from natural drinking sources outside and from the territories of monasteries. The indicators differences degree was analyzed according to the Euclidean distances for medians values and differences in medians with each typical water sample. Distilled water was used as an incoherent standard. Various changes patterns of the studied values were obtained for the left and right water polarization of the samples and with an increase in its degree. A step–by–step change in the electrophysical properties of the control samples was observed for both types of their coherence with a smaller interval for the left direction. Levorotatory coherent water acquired new stable properties already during the first impact degree. The established experimental Kirlian characteristics can be used as a water coherence express–test.*

Keywords: *coherent water, Kirlian photography, X–ray film*

Introduction

Until recently, the role of electronically excited states was not taken into account. Nevertheless, the dependence on these states of the biological water properties is known. On the basis of quantum electrodynamics, it was proved that liquid water is a coalition, a set of coherent domains. If the domain is in the lowest energy state (the main state), all electrons are firmly connected. So for water ionization it is required that it receives an energy pulse that corresponds to a soft x–ray radiation. Therefore, in the excited state, many electrons are almost free, and low energy is needed for the electrons to become completely free. In the incoherent state, the water molecule cannot act as electron donor recover, and coherent water is a good reducing agent.

We earlier reported on the use of Kirlianphotography, as a method based on the effect of gas–discharge Kirlian glow around the water droplets, to assess its health properties. Today, some ideas are being developed about connections of the latter with the coherent water state.

Informative signs of images of gas–discharge radiation of water droplets from different natural sources on an X–ray filmwere analyzed, previously scanned. The samples of Kirlian (KI) were formed out of more than 900 drops of typical water samples (TW): distilled – TW 1, plumbing – TW 2, from natural sources – TW 3 and from the territories of monasteries – TW 4).

Since the method of classical Kirlian photography is easy to perform with high informativeness and high sensitivity to external influences, it is advisable to study possibilities of its use in express assessment of water samples coherence condition according to theuse results of Kirlian photography method.

The purpose of the research was to study the changes in the electrophysical properties of experimental coherent natural drinking water at different degrees of opposite polarization in comparison with its control samples.

Material and research methods. Natural drinking water (CDW) was used as a control sample. Its coherenization was performed by using the developed quantum teleportation system described in, with the help of which at a distance of about 500 km (from Kiev to the city of Dnipro) a coherent state of DW with different spin orientation (right and left) and degree of coherencewas created. (1, 2, 3).

A special chip represented the element of a singlent pair with a translation symmetry in the form of a metal plate, 5x5 mm, which was attached to the outside of a glass cup, which was filledwith packed, natural drinking water. The water volume for research was taken in the amount of 50 ml. At the beginning, a L–chip (left–sided orientation of spins) was taken to activate the water, and then the R–chip, which was attached to another cup with the same packaged water. After filling the initial DW into the cups, using measurements of water physical properties, it was observed in the dynamics of "guidance" using chips of the water coherent state.

This method lies in the fact that the introduction of water into the coherent state occurs through spin saturation of water, which is carried out before the process of Kirlian irradiation. Spin saturation is achieved by contacting water with a chip inducer placed on water tanks, and the exposure to water occurs continuously to the irradiation process. As a result of the spin saturation and interaction of the spin–grid (spin–molecule), the water molecular structure begins to oscillatrate with one frequency and with one phase, which leads to the coherent state.

The coherent state determines nonlinear effects appearance, which leads to the total response of water molecules on Kirlian irradiation.

Kirlian photographing was carried out with 50 drops of control and experimental water samples. An X–ray film was used, an experimental device with a console for liquid–phase objects was developed with participation of the "National University of Ukraine's Health Protection. L. Schupika" (Kiev) and NTU "Dniprovskaya Polytechnica" (Dnipro, Ukraine).

To study water properties histograms of image brightness were built, which allow to identify geometric and bright–light (photometric) image parameters. Specific radiation features are highlighted for a specific water type by analyzation and parametrization of brightness histograms. Averaging specific radiation signs for samples within one water type based on calculations of medians and their differences. From the point of view of mathematical statistics it allowed us to implement a steady (robust) approach to the processing of experimental data, since the median is an experimental assessment of the mathematical expectation, which ensures resistance torandom emission and misses.

As the most likely value of the column height, the magnitude of the median was used, calculated for the corresponding sample of images. The further classification procedure was based on the use of metric – the Euclidean distance between the heights of the corresponding histogram columns. As an additional criterion, the difference of histogram column elements in adjacent intervals were used to compare water samples. They were calculated by subtracting the magnitudes from the subsequent height – the height of the previous interval. The physical meaning of the application of this indicator consists in the possibility of tracking dynamic changes in the brightness indicators from one interval to another histogram interval.

Maximum amplitude in the histogram of brightness corresponds to the background of the X–ray film. For distilled water, without impurities, this peak turns out to be the only extremum for the graph of the image brightness histogram. It is the worst version from the point of view of its quantum and biological properties and can be used as a standard of non–coherent fluid. Its molecular structure is constructed in such a way that it cannot act as a source of free charge carriers. Itis manifested in a weak streamer crown of the luminescence around the drop and the smallest luminescence intensity, compared with other types of water.

For water with impuritiesinclusions, the histogram is multimodal. For a sample of tap water, a substantially pronounced grainy structure in the inner circle of the glow corresponding to the drop itself is inherent. Water samples from natural sources have higher biological indicators of the gas–discharge glow criteria. According to the results of the previously conducted experimental data, together with professor Kurikom M.V., in biological properties the most highly functional was monastic water. Figure shows examples of Kirlian images of different water samples.

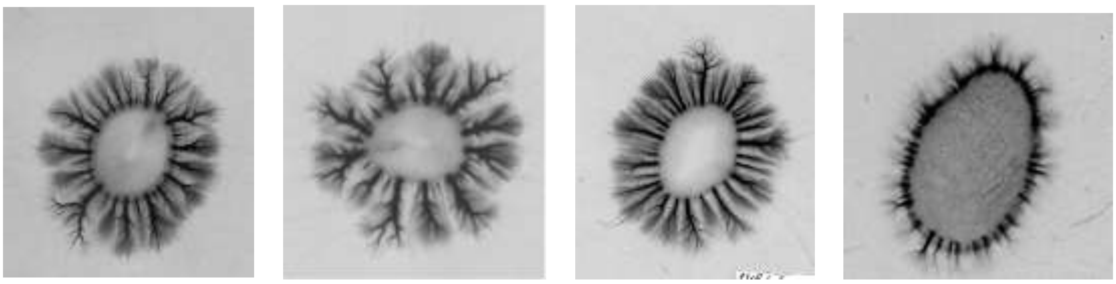

Figure. Kirlian images examples of various water samples

We conducted computer processing of Kirlian images of control samples of natural drinking water (CDW) before and after coherence. The results were compared with the magnitudes of the median and the difference between the parameters for experimental typal water developed by our early criteria for experimental typal water – distilled (type 1), plumbing (type 2), from natural drinking sources outside the territories of monasteries (type 3), from natural drinking sources on the territory of Kiev Pechersk Lavra (type 4). Degree of differences in the indicators was analyzed by the Euclidean distances for median values (EDM) and median differences (EDDM) when compared with each sample of typal water (TW 1–4).

The obtained results and their discussion. Table 1 presents the analysis results of brightness histograms for control and experimental samples of coherent drinking water for different coherence types and degrees.

Note: EDM – Euclidian median, EDDM – Euclidian distance median difference, CDW– control water drinking, CHD – coherent water on drinking water, (+) – right–sided coherence polarization, (–) – left–sided, (1–3) – coherence degrees.

Table 1

Data of brightness histograms for control and experimental samples of coherent drinking water for different coherence types and degrees

Water samples, pH	EDM 1 type	EDM 2 type	EDM 3 type	EDM 4 type	EDDM 1 type	EDDM 2 type	EDDM 3 type	EDDM 4 type
CDW (+1) pH 4,8	49125	54103	53974	45404	48127	53177	52370	47036
CDW(+2)pH 4,7	35131	33667	34661	33413	38316	38539	38740	39502
CDW(+3) pH 4,6	43717	50367	52534	41264	60884	67972	69808	56605
CHD (+1) pH 4,99	60565	58376	56928	58613	86096	81763	81309	88793
CHD (+2) pH 4,76	57203	54211	52714	55666	84356	79472	79137	87409
CHD (+3) pH 4,79	43953	51586	53270	40457	56581	64559	66147	51715
CDW (–1) pH 4,6	59904	69156	70951	56964	80328	88529	90449	74956
CDW (–2) pH 4,5	69146	71361	69267	67152	95668	95728	93303	97978
CDW (–3) pH 4,7	34597	37580	38233	31667	39799	44933	44567	38920
CHD (–1) pH 4,61	42313	43143	41353	41970	49435	49526	45320	54186
CHD (–2) pH 4.42	46163	50623	49530	43896	50899	53843	51524	52891
CHD (–3) pH 4,76	33351	35172	36126	33512	37595	41597	41200	38104

To eliminate the effect of the initial characteristics of the control samples on the characteristics of coherent water samples, the values of the control samples were subtracted from the latter values, which is presented in Table 2.

Table 2

Differences between histogram indicators of DW control samples brightness and the corresponding samples of CHD of different degrees and polarization compared with typical water samples

The difference between the CDW and the CHD	pH	EDM 1 type	EDM 2 type	EDM 3 type	EDM 4 type	EDDM 1 type	EDDM 2 type	EDDM 3 type	EDDM 4 type
For +1	0,18	–11439	–4274	–2955	–13209	–37969	–28586	–28940	–41757
For +2	0,11	–22073	–20544	–18052	–22253	–46040	–40932	–40397	–47907
For +3	0,24	–236	–1219	–737	807	4304	3413	3661	4890
For –1	0,05	17592	26012	29599	14995	30892	39003	45128	20771
For –2	0,09	22983	20737	19736	23257	44769	41885	41779	45087
For –3	–0,09	1247	2408	2107	–1844	2205	3335	3367	816

Note: the same

Table 3 presents data of comparative analysis of brightness histogram of control and experimental samples of CHD of both types with samples of typical water.

Table 3

Comparative analysis of EDM and EDDM brightness histogram of the control and experimental samples of CHD with samples of typical water

Samples	EDM 1 type	EDM 2 type	EDM 3 type	EDM 4 type	EDDM 1 type	EDDM 2 type	EDDM 3 type	EDDM 4 type
CDW (+1) and (+2)	13995	20435	19312	11990	9810	14638	13629	7535
CDW (+2) and (+3)	–8587	–16699	–17872	–7850	–22568	–29433	–31067	–17104
CDW (+1) and (+3)	5408	3736	1440	4140	–12758	–14795	–17438	7535
CHD (+1) and (+2)	3361	4165	4215	2946	1739	2292	2172	1385
CHD (+2) and (+3)	13250	2626	–557	15210	27776	14912	12991	35693
CHD (+1) and (+3)	56169	6791	3658	18156	29515	17204	15163	37078
CDW (–1) and (–2)	–9242	–2205	1685	–10188	–15341	–7198	–2854	–23021
CDW (–2) and (–3)	34549	33780	31034	35485	55869	50795	48736	59058
CDW (–1) and (–3)	25307	31575	32719	25297	40528	43597	45882	36037
CHD (–1) and (–2)	–3851	–7480	–8178	–1926	–1464	–4316	–6203	1295
CHD (–2) and (–3)	12813	15451	13405	10384	13305	12245	10324	14787
CHD (–1) and (–3)	8962	7971	5227	8458	11841	7929	4121	16082

The change in the degrees (+) coherence of natural drinking water in the magnitude of the EDM in comparison with TW 2 and TW 3 demonstrated similar trends among them, but different from TW 1 and TW 4. There are greater differences of all TW indicators in CHD (+2) and the smaller – in CHD (+3), compared with CHD (+2), but higher than of Water CHD (+1), the wave process is observed. Namely, compared with TW 2 and TW 3, as well as with TW 4, but changes in magnitude unlike TW 4 "delay". The latter is natural, because TW 4 water initially has ahighlyordered structure.

The difference in EDM in CHD indicators of dextrorotatory polarization with typal water at the 2nd degree is less than at the 1st degree. Large differences were when compared with tap water, which is explained as the most structurally different from other typical water as a result of technogenic effect. Smaller differences were when compared with monastic water (TW 4), as the most structured and initially coherent. Moreover, the difference between the control samples was significantly higher in EDM with all kinds of typal water.

In contrast to the dextrorotatory (+) coherence of natural drinking water, with left–side (–) coherence, there is a clear increase in the differences from TW 2 (tap water) and TW 3 (natural) according to the degree of coherence and, less – from TW 1, minimally – from TW 4. At the same time, the control samples of them, on the contrary, were as different as possible on the EDM with the latter and slightly from TW 2 and TW 3.

Thus, the levorotatory coherence water prepared on natural drinking water, with the initially determined coherence, with a smaller (–) effect on it acquires properties, which more significantly distinguish it from the tap and typical natural water. At the same time, the 1st and 2nd degrees differ a little among themselves. Namely, having a smaller impact, it reveals quite stable other physical properties, as with (+) polarization. It changes in parameters of the latter, in contrast to changes in CHD samples (–), did not reveal the distinctiveness from more coherent TW monastic water.

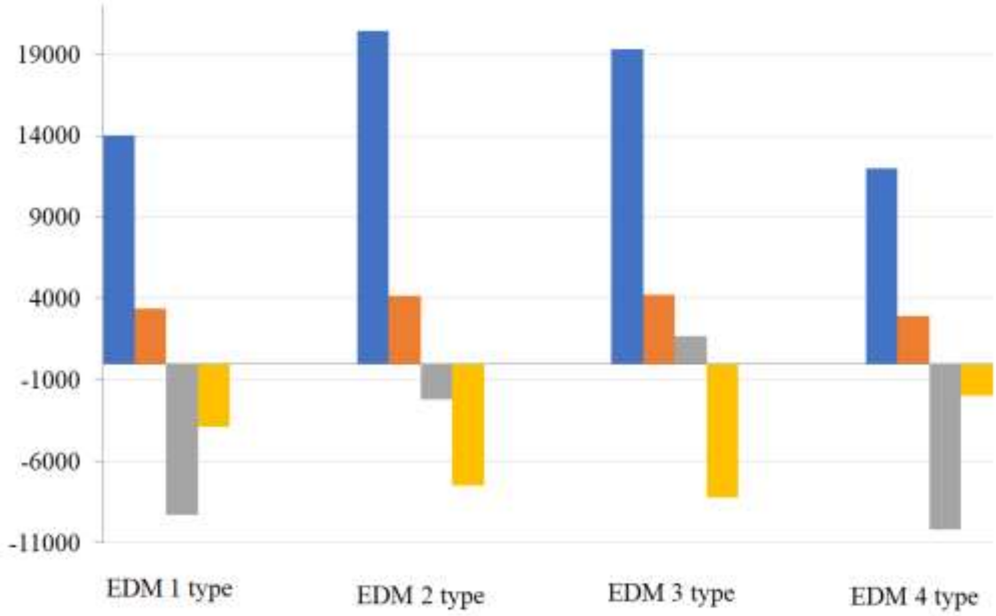

Chart 1. The indicators difference in the EDM control and experimental samples of CHD with typal water (1 column – between CDW (+1) and CDW (+2); 2 column – between CHD (+1) and CHD (+2); 3 column – between CDW (–1) and (–2); 4 column – between CHD (–1) and CHD (–2)

With the 3rd degree (+) of coherence the differences from CHD (+2) revealed the same as in CHD (–2), the differences between monastery water from TW2 and TW3. Differences on EDM with TW between samples (–) CHD 2nd and 3–step degrees were insignificant. Between the samples of CHD (+2) and CHD (+3) were explicit withTW4, with the smallest differences from it. At the same time, in control samples of the CDW, the opposite patterns were observed in them, which demonstrates competence of the water coherence method.

When analyzing the EDM values between the samples of CHD (–2) and CHD (–3) with typal water, there was a decrease in differences with all typal water. They were 2 times more than among control samples. Water coherence changes them, making them more similar. Smaller differences between CHD (–3) and CHD (–2) were on the EDM with monastic water, but exceeded the difference between the parameters of CHD (–1) and CHD (–2). There is a step–by–step change in the physical properties of drinking natural water at both types of coherence, with a smaller interval at (–) polarization.

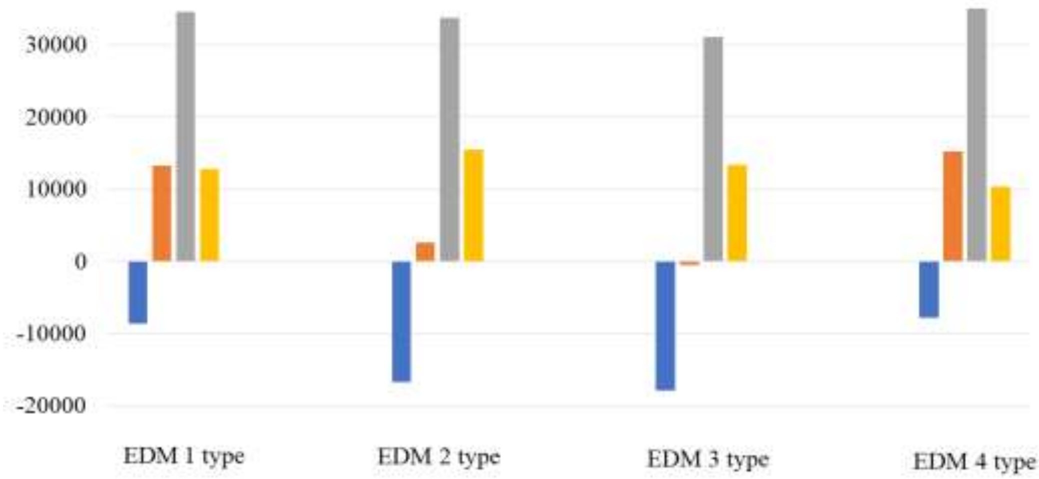

Diagram 2. The difference in indicators of the EDM of control and experimental samples of CHD with typal water (1 column – between CDW (+2) and CDW (+3); 2 column – between CHD (+2) and CHD (+3); 3 column – between CDW (–2) and (–3); 4 column – between CHD (–2) and CHD (–3)

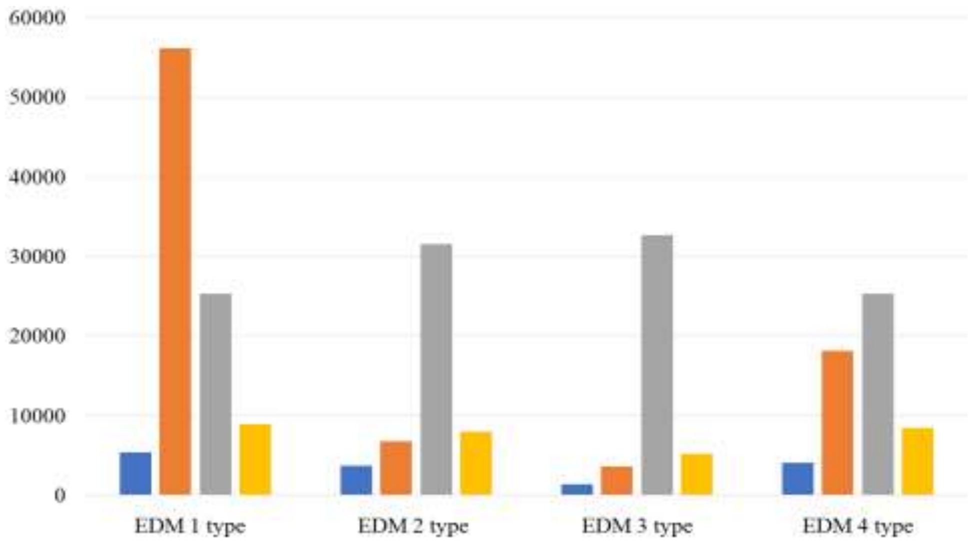

Diagram 3. Differences of indicators of the EDM of control and experimental samples of CHD with typal water (1 column – between CDW (+1) and CDW (+3); 2 column– between CHD (+1) and CHD (+3); 3 column– between CDW (–1) and (–3); 4 column – between CHD (–1) and CHD (–3)

As a result, while comparing the 1st and the 3rd degrees of samples (+) CHD of water, there are pronounced differences in their EDM with TW1 (distilled) and TW4 (monastic) water, compared with CHD (+2). Differences with TW1 –can be explained, since the distilled water is not coherent and during coherenization process it will differ less from the initial. CDW as initially having a certain coherence degree and polarity, already at (+) the 1st degree of coherence with our method, is easily rebuilt and acquired certain resistant electrophysical features that distinguish it from typical water 2 (tap water) and 3 (natural sources outside monasteries). With the 3rd degree of coherence, they are moderately and little differ from (+1) degrees, respectively. Control samples of DW for these degrees of coherence are close to each other by moderate differences of their EDM with typal water.

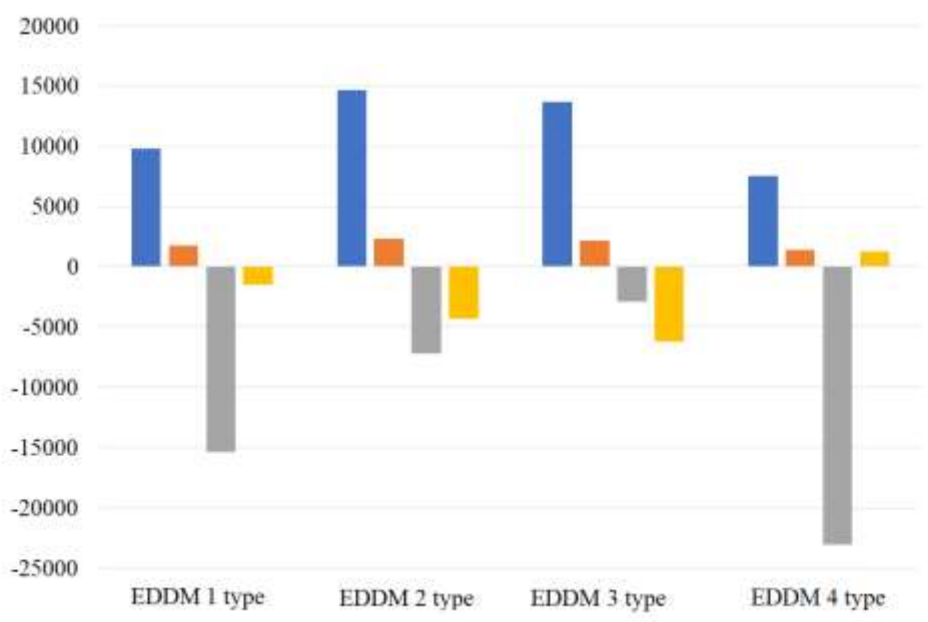

Diagram 4. Differences of EDDM indicators of control and experimental samples of CHD with typal water (1 column – between CDW (+1) and CDW (+2); 2 column – between CHD (+1) and CHD (+2); 3 column – between CDW (–1) and (–2); 4 column – between CHD (–1) and CHD (–2) (Table 3)

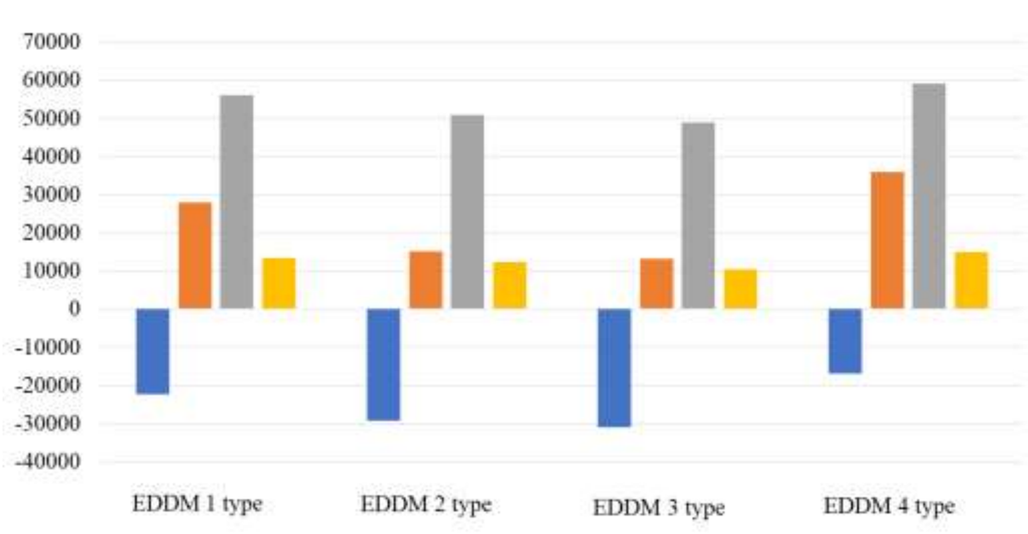

Diagram 5. Differences of EDDM indicators of control and experimental samples of CHD with typal water (1 column – between CDW (+2) and CDW (+3); 2 column – between CHD (+2) and CHD (+3); 3 column – between CDW (–2) and (–3); 4 column – between CHD (–2) and CHD (–3)

During levorotatory coherence as well as during (+) the smallest differences between the degrees were with respect to TW3 (natural sources outside monasteries). It is connected to a certain extent with preserving of natural water initial structural features. At the same time, at (–) coherence stable differences from the initial nature of DW and the approach to the monastic water was observed already at the 1st degree of coherence, while these differences decreased in the subsequent degrees. Differences from other TW were more demonstrative as compared with the 1st and 2nd degrees of CHD water. With (+) coherence, they are more pronounced when comparing the 1st and 2nd degrees of CHD water with the 3rd.

There are similar to EDM consistent patterns –are of minor differences, but smaller between EDDM indicators with all the TW between the samples of the 1st and 2nd degrees of CHD water.

At (–) polarization in CHD (–2) water differences with TW 2 and TW 3 more than at CHD (–1), with TW 1 and TW 4 they are not significant.

From the data similar patterns were observed. They were obtained while analyzing the EDM values. In particular, the differences between the 2nd and 3rd degrees of CHD (+) in EDDM with TW1 and TW4 are pronounced. The differences in EDDM with TW 2 and TW 3 are 2 times less, which confirm the different structural and electrical properties of water from natural sources outside and on the monasteries territory. Differences of the values at (–) coherence between the 2nd and 3rd degrees of typal water, as well as of EDM, were less demonstrative. Also we revealed parameters differences in the samples of the control water taken from one source.

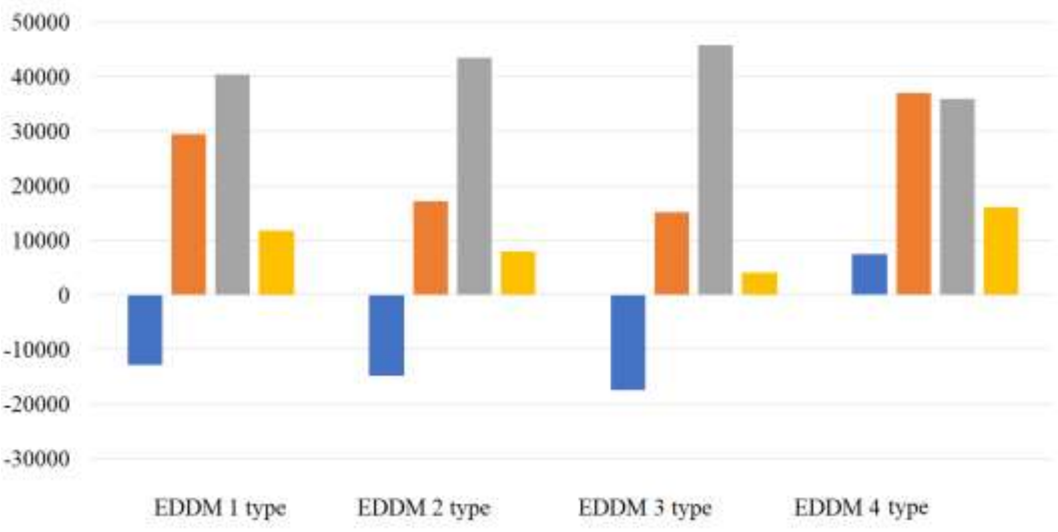

Diagram 6. Differences of EDDM indicators of the control and experimental samples of CHD with typal water (1 column – between CDW (+1) and CDW (+3); 2 of column – between CHD (+1) and CHD (+3); 3column – between CDW (–1) and (–3); 4 column – between CHD (–1) and CHD (–3).

As in the ECM indicators, there are significant differences on the comparative analysis diagram of EDDM during the (+)of drinking water between the 1st and 3rd degree with typical TW 1 and TW 4 samples and two fewer differences with TW 2 and TW 3. The differences between natural and monastic monastery are discovered again. At (–) coherenceof CDW, as well as according to the results of EDM, the differences in degrees were the smallest with TW 3. However, in EDDM, we obviously observe the maximum differences with TW 4, compared with the less pronounced on EDM. Thus, when assessing the type and degree of water coherence, it is necessary to analyze both parameters of the brightness histogram of Kirlian photography of water.

Also, as in EDM, with (+) coherence, more explicit differences between the quantities were observed when compared with the 1st and 2nd degrees of CHD of water with the 3rd one. At (–) coherence, the resistant magnitudes approximation to monastic water was observed at the 1st degree of coherence, with the differences decrease in the subsequent degrees. Differences from other TW were more demonstrative also when compared with the 1st and 2nd degrees of CHD water at (–) polarization and the 1st and 2nd degrees of CHD of water with the 3rd one.

Conclusion

1. Kirlian photography of water is a rather informative method for evaluating its electrophysical properties.

2. Method of computer analysis of the Kirlian images, applied by us for allocation of 4 classes of typal water, characterized by the coherence degree, with the highest coherence degree from monastic sources, can be used as an express method to estimate coherence of water prototypes.

3. In the research of the electrophysical water properties, a comparative analysis with control water samples is necessary, including water sampleswhich were taken from one water source.

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