



SOUTH-WEST UNIVERSITY "NEOFIT RILSKY"
CENTRE OF BIOPSYCHOPHYSICAL PHENOMENA IN MAN

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**Investigation of the activity of water, treated by the equipment of
PWS AG, Switzerland**

The treatment of the water has been made at March 22nd., 2010 and the experiments have been carried out at March 24th. 2010. Three types of water have been used:

1. Water, treated by the equipment.
2. A water at the entrance of the equipment.
- tap water (a control for water 1)
3. Distilled water – second control.

Simultaneously the distribution functions on the energy E intramolecular bonds between a part of water molecules have been measured, called: **water energy spectra: $f_1(E)$, $f_2(E)$ and $f_k(E)$.**

The differential energy spectra are calculated:

$$\begin{aligned}\Delta f_1 &= f_1 - f_k \\ \Delta f_2 &= f_2 - f_k \\ \delta f_1 &= f_1 - f_{eq} \\ \delta f_2 &= f_2 - f_{eq} \\ \delta f_k &= f_k - f_{eq}\end{aligned}$$

Where f_{eq} is the standard energy spectrum of a deionized water.

From the spectra above the following parameters are calculated:

1. $\bar{E}_1, \bar{E}_2, \bar{E}_k$ - the middle bond energies of a pair water molecules.
2. The changes of the energies:

$$\begin{aligned}\Delta \bar{E}_1 &= \bar{E}_1 - \bar{E}_k \\ \Delta \bar{E}_2 &= \bar{E}_2 - \bar{E}_k \\ \Delta \bar{E}_{12} &= \bar{E}_1 - \bar{E}_2\end{aligned}$$



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4. The coefficient of linear correlation:

$R(\Delta f_1, \delta f_k)$ – a measure for possibility of the treatment process to compensate the fluctuation of the control water spectrum under the influence of environmental factors.

On Fig 1 the differential spectra $\Delta f_1(E)$ and $\delta f_k(E)$ are shown. The parameters calculated are:

$$\bar{E}_1 = -0,1096 \pm 0,0011 \text{ eV}$$

$$\bar{E}_2 = -0,1084 \pm 0,0011 \text{ eV}$$

$$\bar{E}_k = -0,1118 \pm 0,0011 \text{ eV}$$

$$(A) \Delta f_{12} = (-1,2 \pm 1,1) \cdot 10^{-3} \text{ eV}$$

$$f_1' = 55,3 \pm 4 \text{ eV}$$

$$f_2' = 15,4 \pm 4 \text{ eV}$$

$$(B) \Delta f_{12}' = f_1' - f_2' = 39,9 \pm 8 \text{ eV}$$

$$(B) f_1'/f_2' = 3,6$$

$$(C) R(\Delta f_1, \delta f_k) = 0,57, P < 0,01$$

Conclusion:

The water treated by the equipment under investigation has the following quantitative characteristics:

- A. The water treatment increases slightly the middle energy of the intramolecular bonds in water. The effect is in order of the experimental error (see (A) above).



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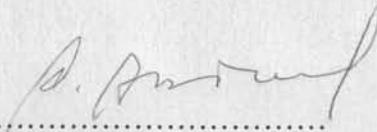
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- B. The peak of activity in the spectrum after activation is 3,6 time greater than the same peak for the initial tap water. The difference between both peaks is 5 time greater than the experimental error (see(B) above).
- C. The treatment process compensates very good the fluctuation of the control water spectrum under the influence of environmental factors.

The investigations are performed by Prof. DrSci Anton Antonov from South West University in Blagoevgrad and Chem. Eng. Tatyana Galabova from Medical University of Sofia.

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