



# RESEARCH REPORT

## ON THE ACTION OF THE VORTEX ENERGISER ON WATER

DECEMBER 1998

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### ABSTRACT

This small research work carried out with rather modest expenses is intended to serve as a pilot study of conventional physical parameters, but should ultimately lead into a structural study of quantum dynamical features such as vibrational, rotational tunneling (VRT), kinetobaric effects and cluster formation.

Investigation of time series of conductivity and pondus hydrogenii (pH) is pointing at small and systematic changes of pH which tend to increase as we proceed from pure normal water to the water biopolymers. There is an indication that the Vortex energiser promotes formation of a cluster structure which may be basic for the emergence of alive water biopolymers as are prevailing in living organisms.

### INTRODUCTION

Jonathan Stromberg from the Centre for Implosion Research has asked me to update some findings on conventional physical parameters as related to the 'Vortex Energiser' and to consider some of its more subtle effects with regard to colloid formation. Therefore I have to first introduce to you the following:

Procedures of water activation or energising such as implosion and levitation represent manipulations of quantum mechanical states such as vibrations and rotations of water dipoles, tunneling of protons (VRT) and their corresponding VRT-spectra in the far infrared (FIR). The ground states of water enantiomers involving a number of  $n$  monomers  $H_2O$  are at least  $(n! 2n + 1)$ -fold degenerate - that is, a chiral pentamer  $(H_2O)_5$ , for example, involves  $5! 2^6 = 7680$  quantum mechanical ground states - and transitions within this manifold of ground state structures can be excited with little or almost no energy and without changing pH or  $\mu S/cm$  at all. A quite considerable amount of quantum mechanical vigilance of the proton-gas in water, involving FIR-VRT spectral changes and even kinetobaric effects such as local changes of impuls, yet passes off without altering conductivity or pH at all. It is therefore no big surprise if energising devices in the esoteric market do not articulate their effect by a shift of pH.

What, then, is the reason why sometimes, nevertheless, such changes are reported while at others none seem to occur? At the Biofield Laboratory it is well known that

1. levitation and implosion do change pH in water and solvents.
2. Usually the pH-effect is not transmitted by devices encaging water in metal containers or using a cartouche of activated water.
3. Often the devices under test, such as e. g. the 'Getränke-Scheibe' of EURO VITAL, were sunk entirely in water for some considerable amount of time, and a change of pH was documented thereafter. However, this change was not caused by activation, but by the extraction of air (bubbles on the disk).



4. Very often the research design does not suffice to prove the effect with enough accuracy and/or reliability.

It is due to such causes that we have to proceed slowly and to increase the expenses if we really wish to know more about the effects under consideration and about their functional and structural basis.

## PROCEDURE

We have measured the specific conductivity of water in different situations online by our digital conductivity meter DCM2 operating with small RF-signals in the  $\mu\text{V}$ -domain at a frequency of 32,768 kHz and pH by GPH014 from Greisinger electronic/Germany. Measurement errors of these instruments are typically 3 to 5 %-points depending on absolute value, temperature and offset drift, electrokinetic and electrolytic effects, impurity of solvents and initial conditions of measurement. Errors can be lowered considerably by comparing time series of large numbers of measurements. Data was collected in the form of time series and statistically evaluated on an IBM Think Pad 350C by SPSSWIN. More than 40 experiments have been carried out and results compiled in 18 figures. In some cases rapidly fluctuating measurement series have been smoothed by moving average centred in a minute interval.

Measurements have been carried out in tap water, bidistilled water, hydrophilic mixtures and biopolymers containing hydrophobes. The test container was cleaned in hot tap water and cold distilled water. It was either put to the probe unprepared or placed below the Vortex before measurement or connected to the Vortex by a copper wire or it was collecting water that has run over the Vortex surface. In some cases the Vortex tip has been coated by some high Voltage Urethane isolation. Differences between measurement values of 'normal water' and 'acted on water' both tap and bidistilled have been calculated and their significance tested statistically.

## RESULTS

In all cases changes of conductivity were small and within the range of the standard measurement error. They could be explained by the above contributions to measurement error. Though in some cases individual time series of measurement values of tap water conductivity differed significantly, direction of the difference was indefinite. In bidistilled water there occurred small and insignificant differences between time series of normal water and acted on water with a definite tendency towards increasing conductivity. In one experiment we observed a significant effect on tap water when the Vortex was isolated by HV-Urethane coating and a positive correlation with exposition time (figures 1 to 7).

In most measurements of pH the walk of values remained within the accuracy range of the instrument. But there occurred definite and significant differences between time series for both tap water and distilled water. In two experiments with tap water (figure 8) which was in touch with the Vortex a change of pH was observed that could not be explained by the extraction of gas. However, diffusion of metal ions should be measured in addition in order to test the alternative explanation. In two further situations (figures 9 to 11) there were significant effects on aqua bidestilata where the pH was raised towards the 'normal' region of pure water. In two more experiments with bidistilled water (figures 16 & 17) the difference between normal and acted on water ( $\Delta \text{pH} = 0.2$  &  $0.3$ ) was so large that the experimenter could not quite believe this was caused by the action of the Vortex and at least in one case could explain it by the unrealized action of air solvents because the tumbler was open for quite a while. Anyhow, the pH was raised as should have been expected.

After careful exclusion of all visible sources of error (figures 13 to 17) a very last experiment was designed which aimed at both cluster formation and pH-changes respectively.

It should be expected that cluster formation in bidistilled water should ultimately contribute to the constitution of a new pH as soon as a hydrophobic substance is added to the hydrophile 'KCl + aqua bidestilata'. The new test substance is a biopolymer also known as an 'aquarome of eucalyptus oil'. The effect of the Vortex on the formation of the biopolymer 'aquarome euc.' was large and significant. pH raised by  $\Delta \text{pH} = 0.08$  from 4.83 to 4.91 (figure 18). This result significantly points at a positive effect towards cluster formation.

### Effects on Tap Water Conductivity

In a large number of experiments the Vortex Energiser was brought close to the test container (briefly denoted as 'tumbler'). Either the tumbler was put below the Vortex for some chosen period of time or the Vortex was brought into contact with the water under test. This contact was either direct - Vortex tip hung into water, Vortex sunk in water - or indirect - Vortex was connected with water by a copper wire. In two test situations with tap water the interaction was



established in the middle of a measurement series, that is, without interrupting the electronic connection between tumbler and measurement instrument. These tests are shown in figures 1 and 3. In both experiments the drift began with a starting value of 51  $\mu\text{S}/\text{cm}$  conductivity towards an RF- signal of about 300  $\mu\text{Volts}$  tension. In the first experiment (figure 1) the drift covers 1 %-point of the starting value, in the second only about 0.4 %-point and thus both time series amount to the usual accuracy. A short range effect with an amplitude of only 0.05 of the standard measurement accuracy, that is, a random shock of 0.1  $\mu\text{S}/\text{cm}$  in tap water could be easily detected in the series if such an effect would be there.

Note that in figure 2 the appearance of a 2 %-point difference in conductivity moves within the precision limits. It may have been caused by impurities and diffusion of metallic ions from the Vortex copper into the water as the Vortex was sunk in the tap water for one hour before it was put into the tumbler.

### **Effects on Distilled Water Conductivity**

Figures 4 to 6 show that the range of the effect of the Vortex on bidistilled water is close to the limits of the confidence interval which is usual for such long time series. It indicates that the acted-on water has a conductivity raised by a value of the order  $10^{-3}$   $\mu\text{S}/\text{cm}$  which is indeed very small, but unneglectable for bidistilled water which has an extremely small conductivity, anyway. The time series in figure 7 show the correct direction of the action of Vortex on aqua bidestilata. If this effect could be verified in a larger number of measurement series, the meaning of figure 7 would be that the effect of Vortex is transmitted despite the urethane isolation coating.

### **Effects on Tap Water pH**

Consider normal tap water with a pH of about 7. This amounts to a fraction of  $10^{-7}$  mol of dissociated water monomers per 55,5 mol water or 2 protons  $\text{H}^+$  in 109 or 1 billion monomers. That is, we have

$$[\text{H}_2\text{O}] / [\text{H}^+] = 55.5/10^{-7} = 109/1.8$$

Next consider a measurement instrument which responds precisely to a shift of pH from a value of  $\text{pH} = 7$  to, say,  $\text{pH} = 7.03$ . Such a probe is able to 'see' a turnover from 1,8 to 1,68 in a billion. This precision amounts to 1.2 or roughly 1 proton in 10 billion monomers of water. It is therefore that a probe of a pH-meter has a special sensitivity and its preamplifiers have an extremely large input impedance of the order  $10^{10}$  to  $10^{12}$  Ohms. Compared to conductivity, the measurement of pH has a much higher sensitivity where the absence or presence of free charge carriers in water is concerned. As can easily be verified, any pH-meter reacts strongly to the frictional electricity caused by the motion of the probe. Here we speak of 'electrokinetic effects' and 'flow-currents' respectively. So we hope that effects of the Vortex can be detected by time series analysis of pH-measurements. Figure 8 demonstrates such an effect. Its statistical significance can be calculated by a Box-Jenkins time series analysis.

### **Effects on Distilled Water pH**

Aqua bidestilata is a strange substance. Because of the extraction of gases and dissolved substances by bidistillation it evokes an acid response of the probe often close to  $\text{pH} = 4$ . Yet its conductivity is extremely low. If the tumbler is a quartz glass we measure  $C = 1 \mu\text{S}/\text{cm}$  and  $\text{pH} = 4$ . This refers to a rather unstable or 'metastable' physical situation, and it is therefore that we regard bidistilled water as a good test substance which should be sensitive to different types of structural changes such as cluster formation with small chiral enantiomers such as  $(\text{H}_2\text{O})_3$ ,  $(\text{H}_2\text{O})_5$  and  $(\text{H}_2\text{O})_7$ , respectively.

Figures 9 to 11 show statistically significant differences  $\Delta \text{pH}$  between normal and acted on bidistilled water. Yet, the direction of the effect seems to be indefinite. Suppose, such an effect of the Vortex would turn out significant in many more measurement series of pH. Then it may well be that changes into both directions occur.

### **Calculation of Errors & Disturbances**

#### **Electrokinetic effect**

Motion of the pH-probe in water generates frictional electricity which evokes a strong short term response of the measurement value. This effect may continue for a considerable time interval lasting from a few minutes to about one hour. Figure 13 demonstrates such an effect as is related to our measurements of the effects of Vortex on pH.



## Turning in

After the probe has been put into the tumbler there may occur large amplitudes and oscillations of the measurement values (figure 14). The large amplitudes are caused either by the electrokinetic effects and/or by the initial state of the probe (large pH) or by temperature waves or by a sudden contamination or by electronic bias. The oscillations represent the electronic response of the measurement device, provided the computer program does not generate numeric oscillations of time series.

## Contaminations & Air solvents

The air surrounding the probe may bring in hydrophilic substances which can bring about changes of pH in a few minutes. The tumbler may contain impurities. Those can for example be imported by a handkerchief, cleaning paper or cloth. After rinsing with distilled water the tumbler must not be rubbed dry.

## Unexplained Differences

Part of the measurement differences remain unexplained however much we try to explain them.

## Effects on Formation of Water Biopolymers

### pH in weakly bound clusters of an aquarome

It is well known from RF-experiments with water that dielectric properties and electric impedance depend strongly on the frequency of the input signal. Conductivity of water decreases beyond a frequency which is not much above 100 MHz. Usually the RF-currents can be caught by the electron-gas of the water-dipoles. But when frequency is too high, the dipoles cannot follow the currents. Thus we say that the (bio)electronic state of water depends on the availability and mobility of charge carriers. Next we know that any process of activation such as e. g. input of small RF-signals changes the polymere structure of water and causes various responses, such as e. g. the kinetobaric response, but does not necessarily alter the availability and mobility of free protons  $H^+$ . This situation changes dramatically as soon as hydrophobic substances become engaged within the cluster structure. This generates periodically closed local structures of engaged dissociated molecules with charge and magnetic moment. It is due to these structural transitions that we can detect a change of pH. The basic substance we use, has also been used in Kirlian photography. It is an emulsion of eucalyptus oil in a KCl solvent. This biopolymer which we denote the 'aquarome euc.' must be brought into the proximity of a device under test which causes 'structural changes' in water while it is in a metastable state. Figure 18 demonstrates that there is a significant effect of Vortex on the pH of aquarome euc. during cluster formation.

## REMARK

The Vortex Energiser shows subtle but significant effects on the absolute value of pH during formation of cluster structures in waterbiopolymers. The effect should be improved by optimizing material conditions such that the transmission of structural information from the engaged to the acted on water becomes as complete as possible.

Tests to optimize transmission of structural information from imploded water to acted on water require measurements of kinetobaric responses, RF- and photon responses at different temperatures.

### About the Centre for Implosion Research

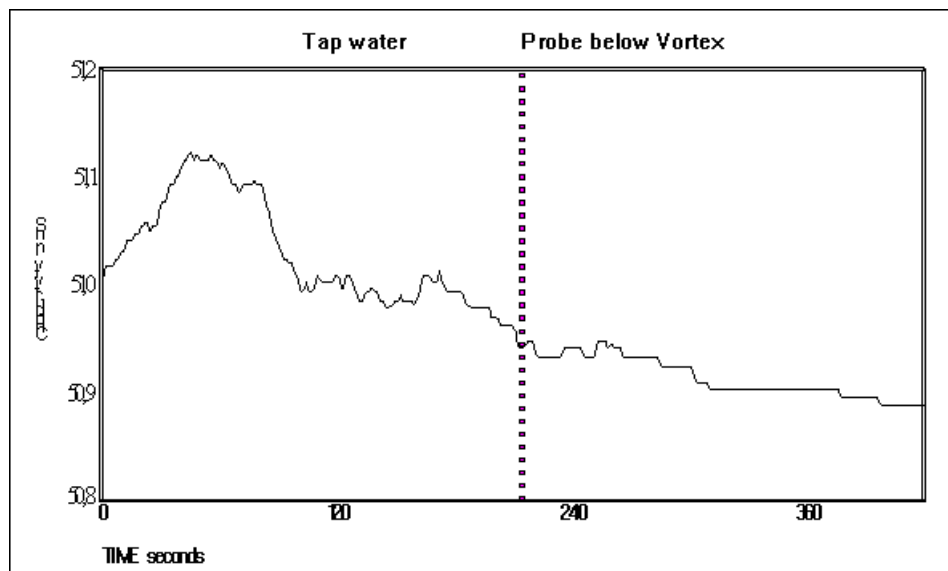
*The Centre for Implosion Research was founded in December 1997 by Dolly Knight, MBBS, GCHM and Jonathan Stromberg, BSc, MSc, DIC, FGS.*

*The Centre's mission is to realise Viktor Schauberger's goals by developing a type of technology that is antithetical to the conventional polluting and exploitative technologies, in that it is pollution free and works in harmony with Nature.*

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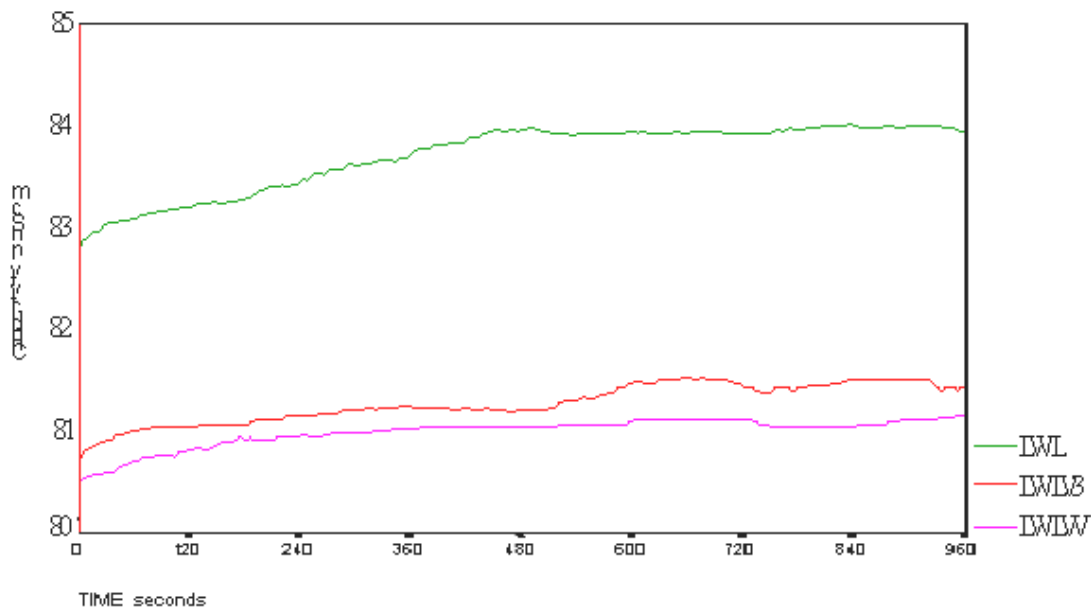


## GRAPHIC RESULTS



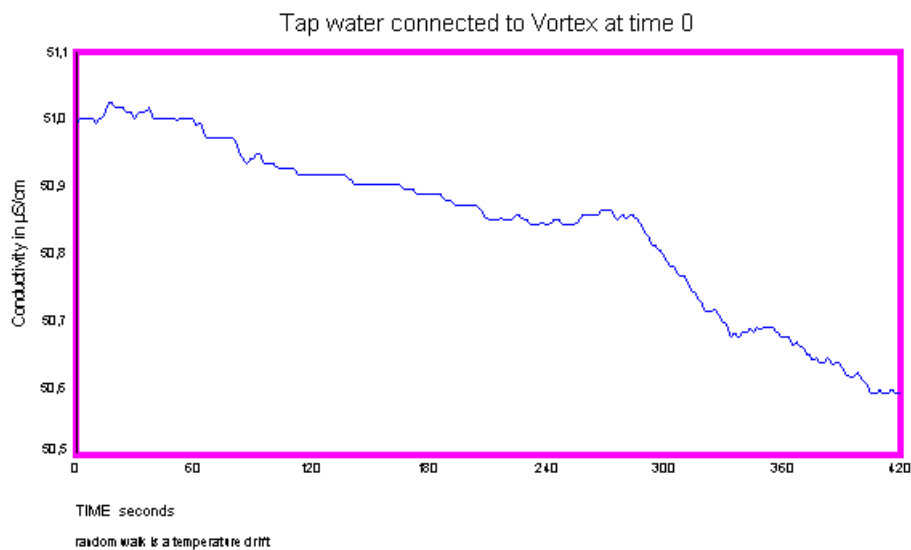
- Vortex Energiser activating probe from sec 215 onward

Figure 1: Effects on Tap Water Conductivity - tap water in Altenberg/Austria

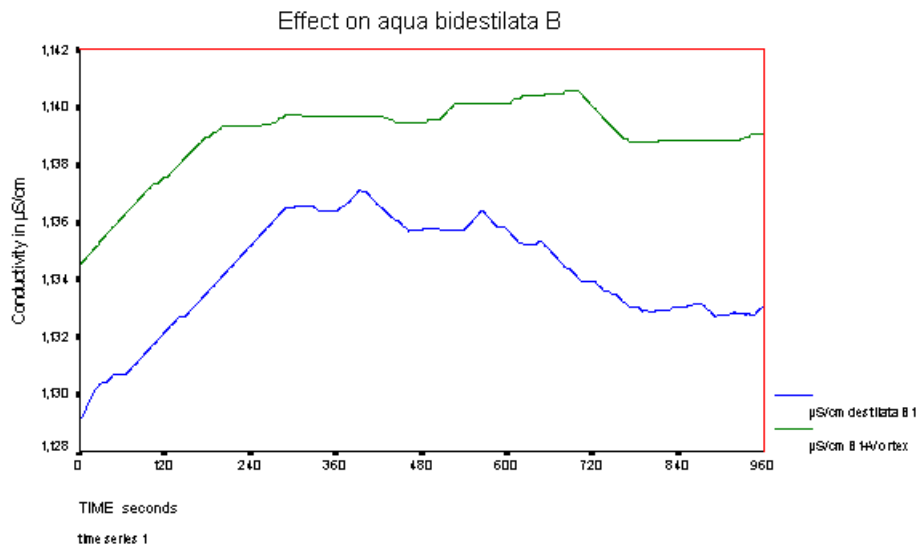


- LWL tap water
- LW\_LV3 water flowing over Vortex and collected in tumbler
- LW\_LVV Vortex sunk in tap water for one hour

Figure 2: Effects on Tap Water Conductivity

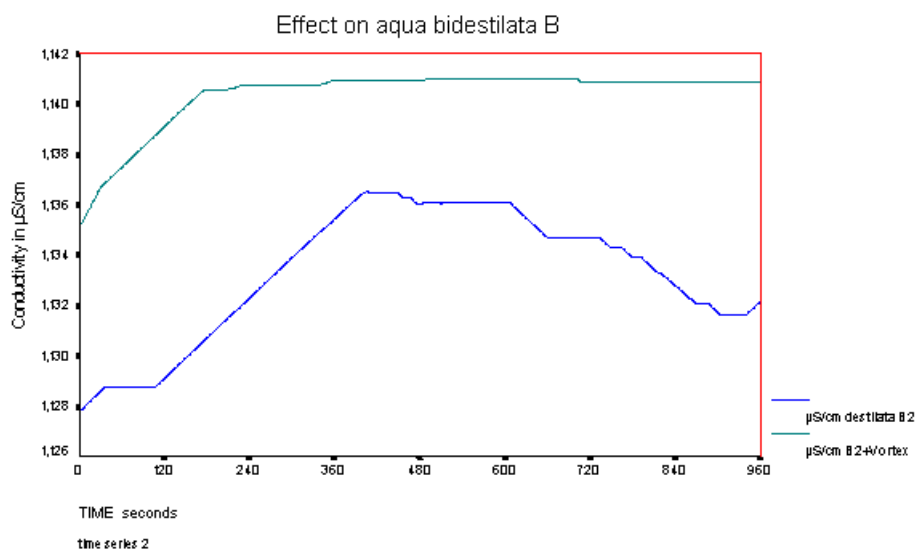


**Figure 3: Effects on Tap Water Conductivity tumbler electrically connected with Vortex until probe becomes active**



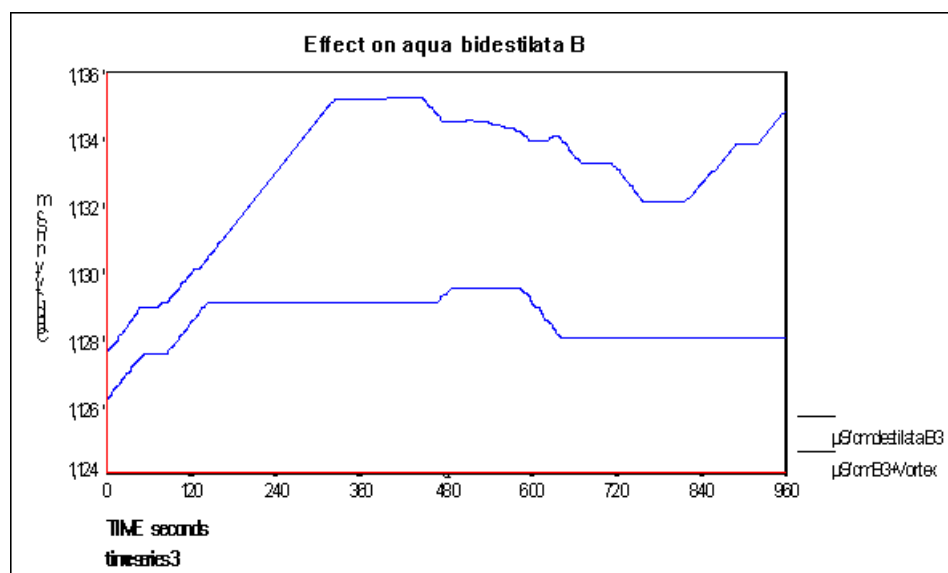
- B1 aqua destilata B1
- B1 + V tumbler resting in Vortex for 10 minutes

**Figure 4: Effects on Distilled Water Conductivity**



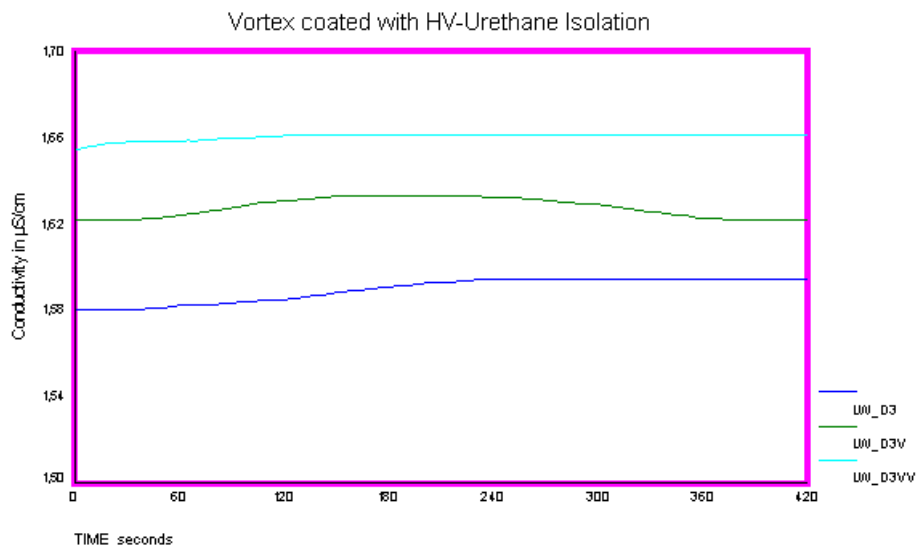
- LW\_B2 aqua bidestilata B2
- LW\_B2V tumbler resting in Vortex for 10 minutes

Figure 5: Effects on Distilled Water Conductivity



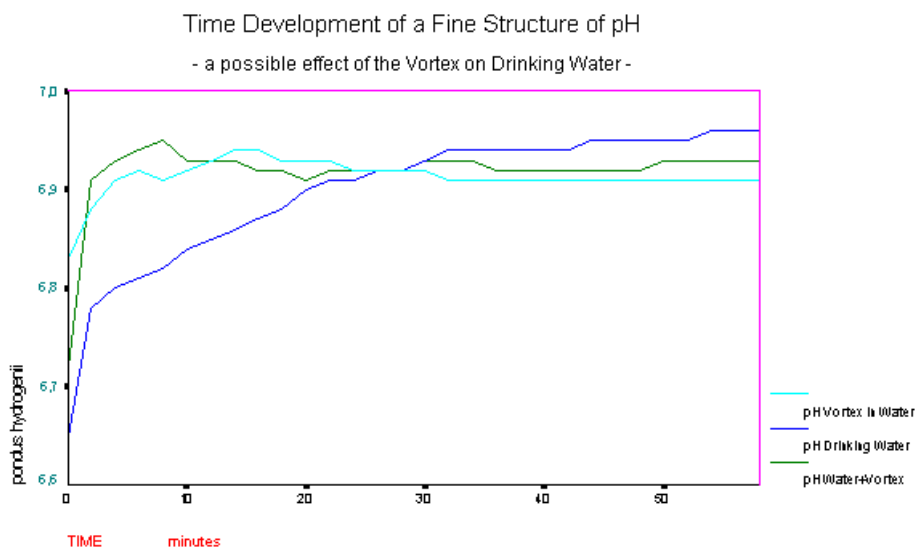
- LW\_B3 aqua destilata B3
- LW\_B3V tumbler resting in Vortex for 10 minutes

Figure 6: Effects on Distilled Water Conductivity



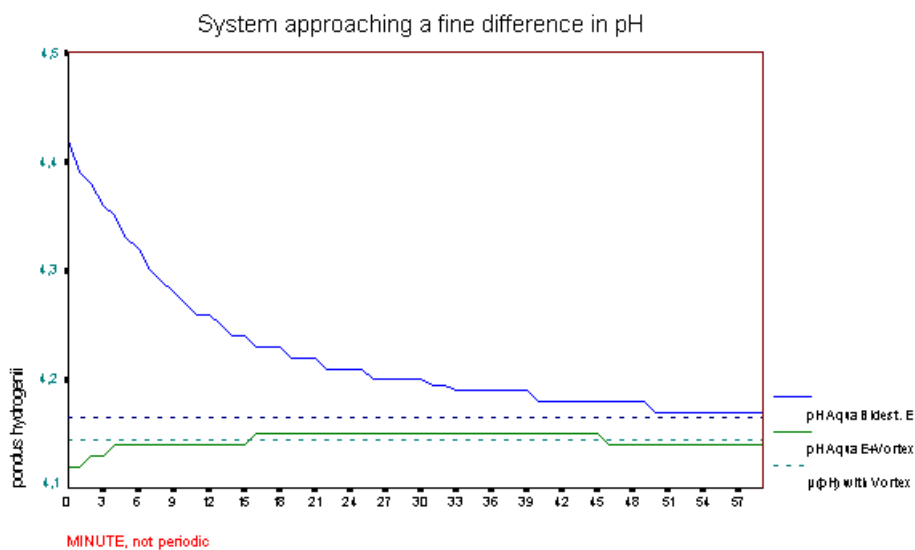
- LW\_D3 aqua destilata D3
- LW\_D3VV HV-Urethane coated Vortex tip touches water D3 for 5 minutes
- LW\_D3VD HV-Urethane coated Vortex tip touches water D3 for 15 minutes

Figure 7: Effects on Distilled Water Conductivity



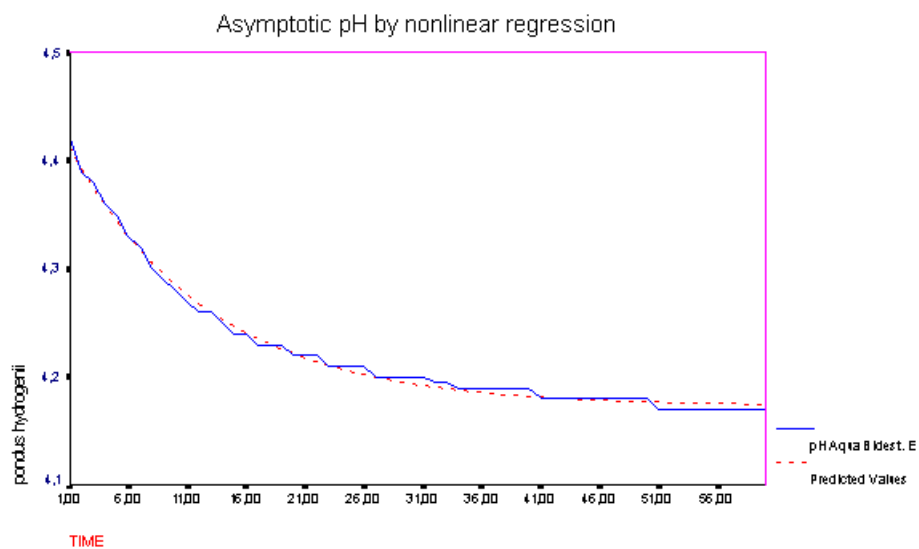
- pH W tap water in Altenberg/Austria
- pH W + V tap water flowing over Vortex and collected in tumbler
- pH V in W Vortex sunk in tap water for one hour

Figure 8: Effects on Tap Water pH



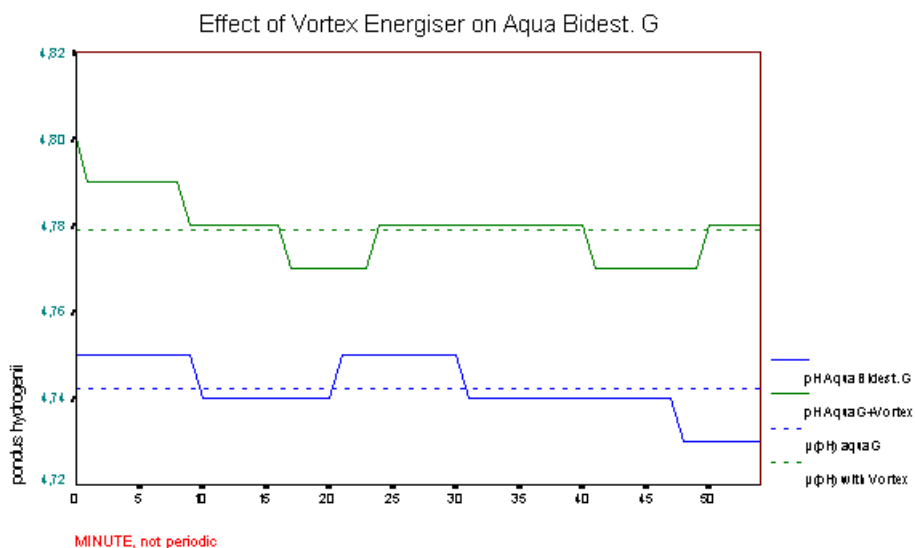
- pH\_E aqua destilata E
- pH\_EV tumbler resting in Vortex for 12 hours
- $\mu(pH)_EV$  mean value of pH\_EV

Figure 9: Effects on Distilled Water pH



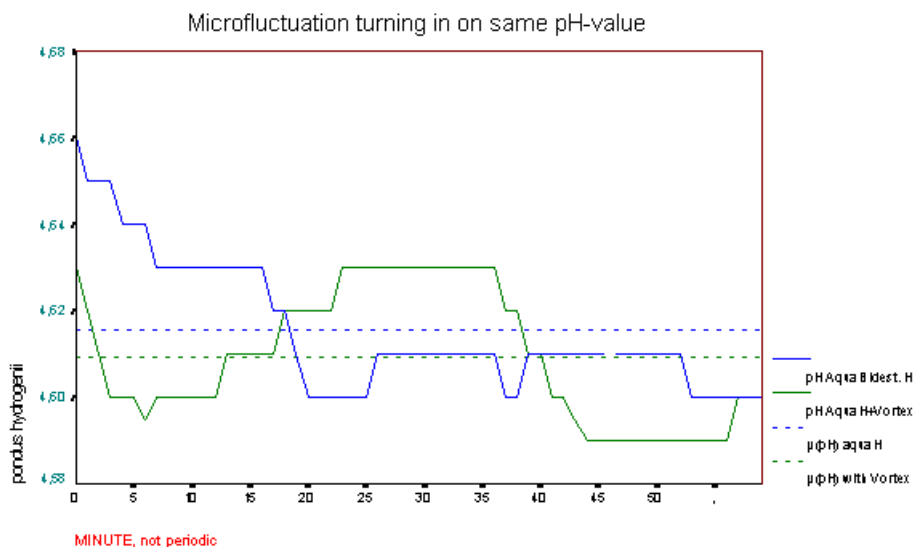
- pH\_E aqua destilata E
- pH\_Pred value of pH\_E predicted by nonlinear model

Figure 10: Effects on Distilled Water pH



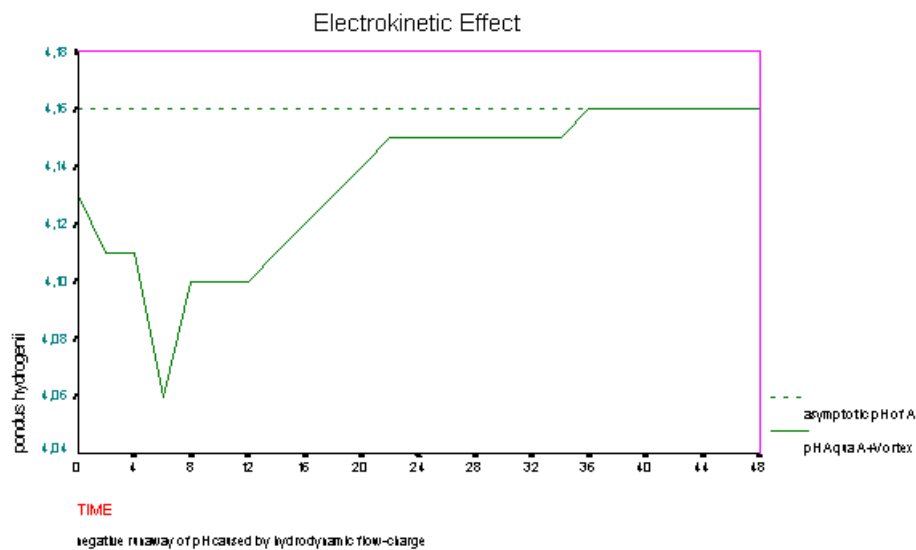
- pH\_G aqua destilata G
- pH\_GV tumbler resting in Vortex for 12 hours
- $\mu(pH)_G$  mean Value of pH\_G
- $\mu(pH)_{GV}$  mean value of pH\_EV

Figure 11: Effects on Distilled Water pH



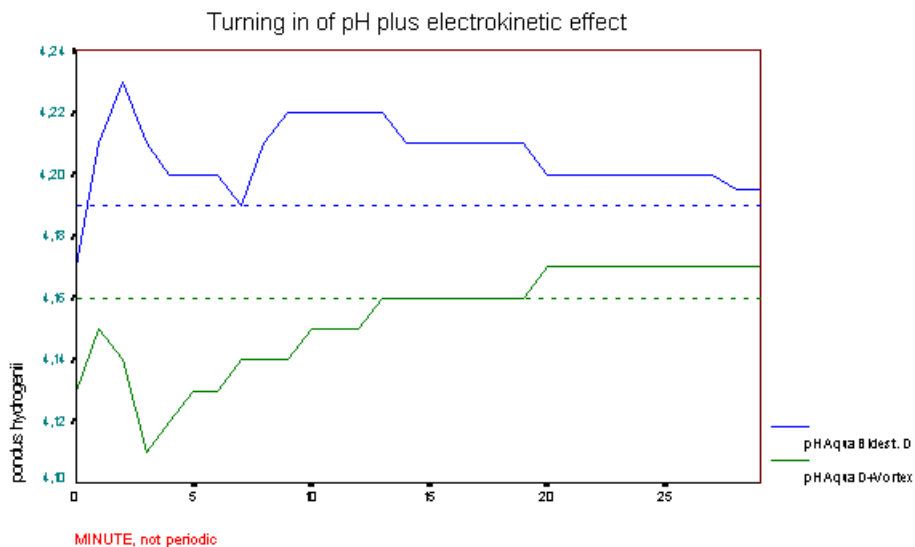
- pH\_H aqua destilata H
- pH\_HV tumbler resting in Vortex for 4 hours
- $\mu(pH)_H$  mean Value of pH\_H
- $\mu(pH)_{HV}$  mean value of pH\_HV

Figure 12: Effects on Distilled Water pH



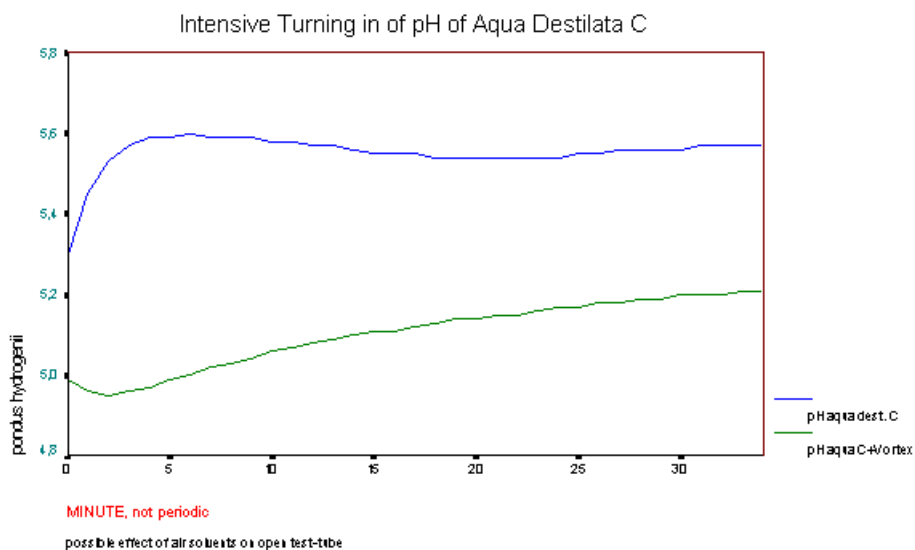
- pH\_AV tumbler resting in Vortex for 2 hours
- asym.pH\_A aqua destilata A

Figure 13: Calculation of Errors and Disturbances Electrokinetic effect



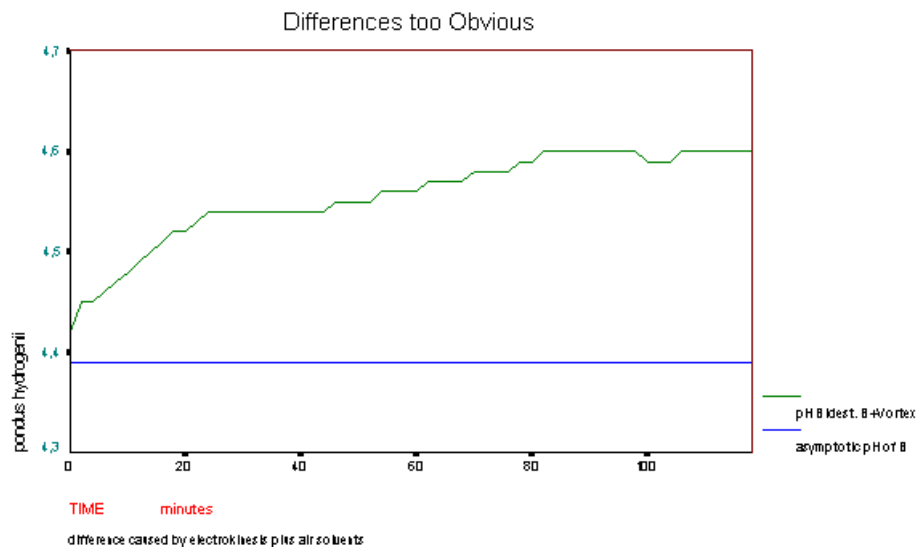
- pH\_D aqua destilata D
- pH\_DV tumbler resting in Vortex for 3 hours

Figure 14: Calculation of Errors and Disturbances - Turning in



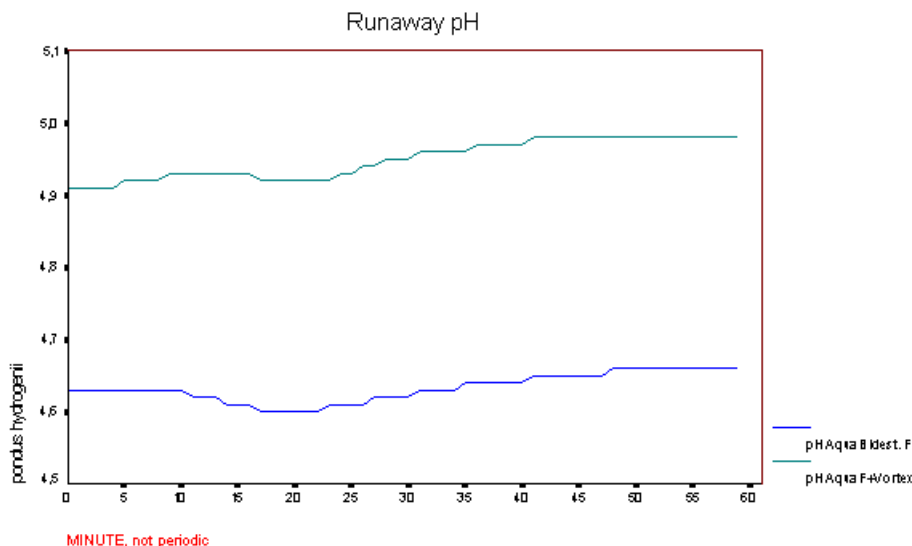
- pH\_C aqua destilata C resting in open glass over night
- pH\_CV tumbler resting in Vortex for 12 hours

Figure 15: Calculation of Errors and Disturbances Contaminations & Air solvents



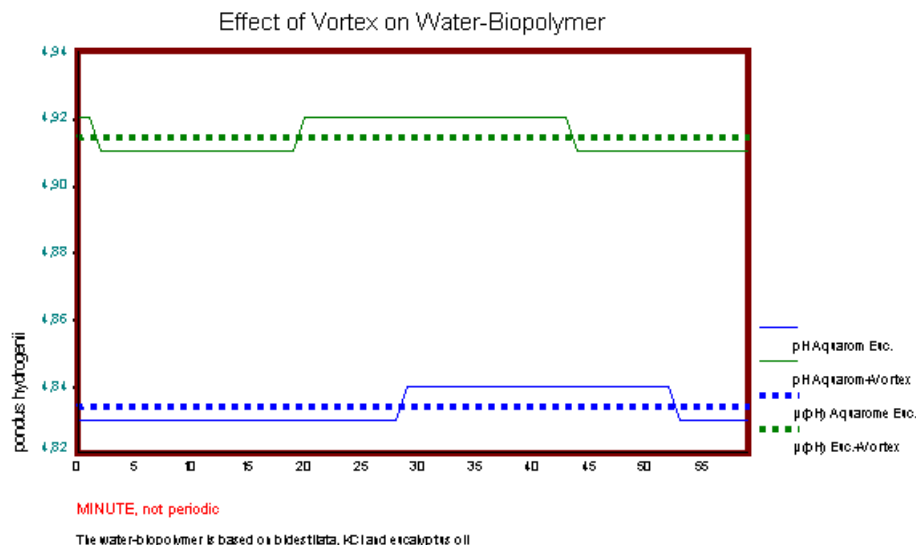
- pH\_B aqua destilata B
- pH\_BV tumbler resting in Vortex for 3 hours

Figure 16: Calculation of Errors and Disturbances - Unexplained Differences



- pH\_F aqua destilata B
- pH\_FV tumbler resting in Vortex for 3 hours

Figure 17: Calculation of Errors and Disturbances - Unexplained Differences



- pH\_Euc. KCl + Eucalyptus oil in aqua bidestilata
- pH\_Euc.V tumbler resting in Vortex for 12 hours
- $\mu(\text{pH}_{\text{Euc.}})$  mean value of pH\_Euc.
- $\mu(\text{pH}_{\text{Euc.V}})$  mean value of pH\_Euc.V

Figure 18: Effects on Formation of Water Biopolymers - pH in weakly bound clusters of an aquarome