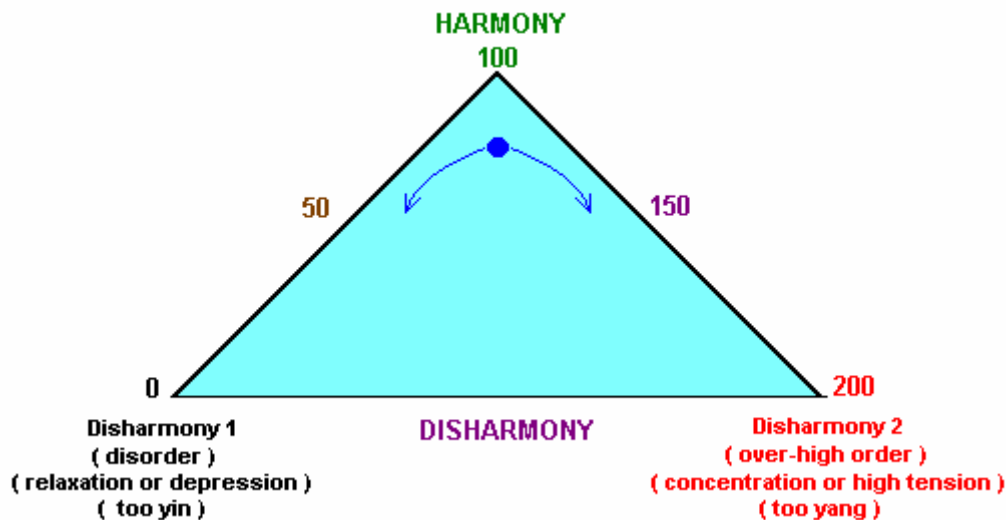


# ( 1 ) General Introduction of PPM Instrument

A monitor for the reaction and effectiveness  
of natural therapies based on the latest  
development of modern science.



The Instruction of PPM Instrument Contains Five Booklets.

- ( 1 ) “General Introduction of PPM Instrument”
- ( 2 ) “Operation Instruction of PPM Instrument”
- ( 3 ) “Data Analysis of PPM Instrument”
- ( 4 ) “Working Principle of PPM Instrument in the Viewpoint of  
Modern Biology and Western Conventional School Medicine”
- ( 5 ) “Mathematical and Physical Background of PPM Instrument”.

The scientific base for conventional school medicine is chemistry, in particular the biochemistry with which medical doctors understand the human

body as an aggregate of a great deal of molecules, namely, an aggregate of many particles or tiny balls.

The remedy for conventional school medicine is also some kind of molecule which is usually a powerful weapon that kills bacteria, conquers the disease, switches on or off some definite target place where some part of the body goes wrong.

The think of conventional school medicine is rigorous reductionism which means we would comprehend whole body if we know every elements in detail in it. The work of conventional school medical doctor is like a sophisticated mechanic engineer who knows every part of a machine, dissects it and repairs it if some part goes wrong. The famous declaration of Cartesian “Man is machine” was the motto and motivation of the development of conventional school medicine. The emotion or consciousness, of course, does not exist in the machine, or at most plays a marginal roll in the disease and healing together with the ill reputation of placebo effect which is regarded as an “unscientific effect”.

Whereas, there is very few, or even no chemical compounds involved in the natural therapies. What a medical doctor, or an acupuncturist, or a healer gives is usually only some kind of information which is mechanic stimulation, temperature stimulation, electric stimulation, light stimulation, music stimulation, language stimulation, some homeopathic remedy in which there is almost no necessary molecule at all.

Meanwhile, the element or some special part is not so important in the viewpoint of natural medicine, but the relationship or the harmony among these elements and parts becomes focus centre for these therapies. In other words, **holistic thinking is in the core of natural medicine instead of reductionistic thinking in the conventional school medicine.**

Unlike Cartesian, natural medicine believes that the emotion plays a very important roll in disease and healing procedure, and even regards emotion as the fundamental cause of all diseases. Therefore, good emotion and healthy consciousness are in the core of the best healing.

Because of the different ways of thinking and practising, the strong point which conventional school medicine has developed is surgery and chemical therapy against acute bacteria-based diseases; whereas, the strong point which natural medicine has developed is functional disorder and chronic diseases. They are complementary with one another, and should, in the ideal situation, support one another and work together to help patients and people.

Unfortunately, it is not such a case at present time, partly because of the competition of marketing, partly because they do not have a common base to co-operate since they have different theoretical systems.

The conventional school medicine is well established on the basis of modern biology, modern chemistry and the framework of modern science. It also well fits into the basic requirements of modern science like the “objective measurement” for which so many instrumental medical tests are working and the “reproducibility” to which the rigorous double blind test and all other serious medical research have to obey.

However, it is hard, even impossible to find the scientific explanation for many natural therapies in the view point of modern biochemistry which is the base of conventional school medicine. Some natural medicine like traditional Chinese medicine does have a complete and self-consistent theoretical system, which is as beautiful as that of modern science. Unfortunately, it is based on another terminological system like “Yin”, “Yang”, “Qi”, “deficiency”, “excess” etc. which are far from the framework of modern science.

Therefore, it is extremely important and urgent work to find the fundamental reason and logical basis to natural medicine, to establish objective methods of evaluation based on the fundamental reason and logical basis in order to merge natural therapies into the framework of modern science. In other words, we should take the challenge from natural medicine and regard the challenge as a motivation to develop modern science, instead of avoiding, even rejecting the challenge due to the difficulty of finding scientific explanation within the range of present knowledge of science, and in particular within the knowledge of present biochemistry.

Meanwhile, we should emphasise that the new concept of “psychosomatic diseases” and related psychological therapies has been rapidly developed in the last twenty years. It means that more and more well-educated conventional school medical doctors are aware of the importance of emotion in the occurrence and in the cure of many diseases, including cancer, for instance. Therefore, psychology plays more and more important roll in conventional school medicine now.

What is more, the word of consciousness which was forbidden in science for centuries has been mushroomed in scientific community in the last few years, though nobody knows what on earth the consciousness is.

Of course, it is difficult to find scientific explanation for emotion and consciousness in the terms of biochemistry with the exception of a few hormone molecules.

Fortunately, the recent development of biophysics, in particular the research in the structure of electromagnetic field in a body offers another picture for us to understand human body. Unlike molecule which can be regarded as a localised ball, the electromagnetic field is completely delocalised and holistic.

The recent research of electromagnetic field in living system reveals that, for instance, **acupuncture system is only a brief description of an interference pattern of electromagnetic standing waves in a body** and many physical therapies, including needle acupuncture, electro-acupuncture, soft-laser acupuncture and so on could work as a kind of disturb into the interference pattern. **The interference pattern of electromagnetic standing waves could also be a important medium for many other natural therapies to influence and regulate the body.**

Meanwhile, the recent study of coherence in the view point of biophysics offers a powerful measure to evaluate the relationship, communication, co-operation or harmony among the billions and billions of molecules in a body. It was impossible to deal with such an extremely complicated system by science in old days. However, as the fast development of computer technology and the establishment of right mathematical formulas, it makes the impossible work possible and practical today.

The PPM instrument is just the child of this time of the development of medicine and science to evaluate the state of a complicated living system, or the degree of coherence of a person scientifically, quantitatively and instantly.

PPM is the abbreviation of “Holistic Physiological and Psychological Monitor” to watch the instant reaction and long-term effectiveness of natural therapies and psychological therapy.

PPM instrument has two other names, the positive name is “coherence meter” to evaluate how harmonic the mind-body system of a person is, and the negative name “stress meter” to estimate how much stress the person is suffering from.

The working principle of PPM instrument is quite complicated. The user who wants to know the detail and the history of the development can read the booklet 3 “Working Principle of PPM Instrument in the Viewpoint of Biology” and the booklet 4 “Mathematical and Physical Background of PPM Instrument”. However, we would like to give a brief introduction here:

**In the viewpoint of modern science, a living system is neither in disorder, nor in high order, but in a coherent state as long as the living system is in a good condition.**

**However, the coherent state is not a static one, but a very dynamic one, vibrating permanently between disorder state and high order state.** It is natural for any living system, including human being (see Figure 1).

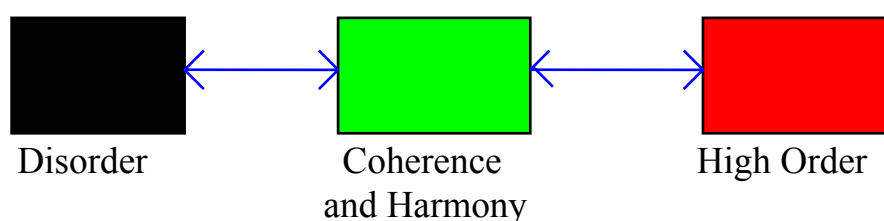


Figure 1. Coherent state is a dynamic one and always vibrating between order and disorder

In PPM instrument, such an ideal is perceivably and quantitatively expressed with a “harmony pyramid” which is a two-dimensional co-ordinate system with a blue point in it. The blue point expresses the current state of a person and is always vibrating in the “harmony pyramid” in the ordinary situation of the person (see Figure 2).

Mathematically, we call the artificial co-ordinate system as an “abstract space” or a “state space” which is able to describe a state which is determined by countless factors, even infinite factors, briefly and perceivably.

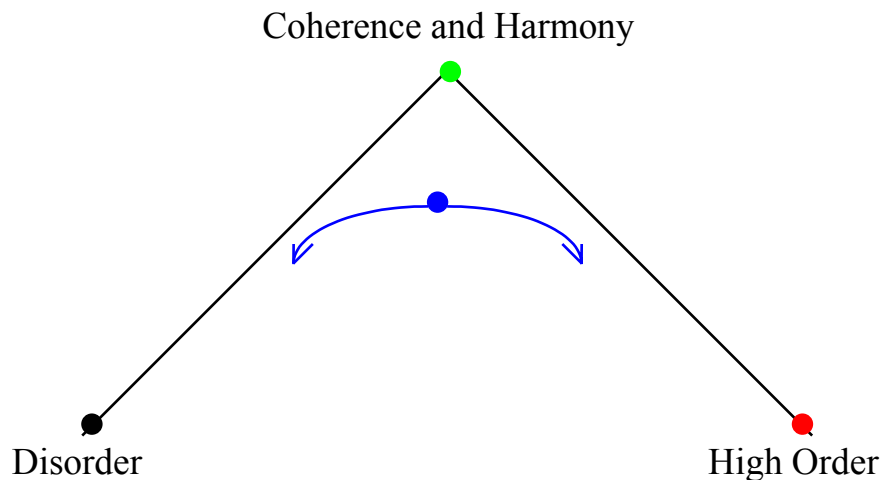


Figure 2. The vibration of the state of a body between order and disorder could be expressed by means of a two-dimensional co-ordinate system “Harmony Pyramid” on the screen of computer with PPM instrument.

In such a concise expression, **the state of a person should always be near the top of the pyramid and vibrating around it if both the mind and the body of the person are always in a quite good state.** The dynamic balance would, of course, be broken time to time temporally by many disturbs such a bad news, social problem, family problem, bad weather, too much work, irregular life style and so on. However, if the person is quite healthy physiologically and psychologically, he or she would regain the balance in quite short time as soon as the disturb is over.

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**If a person is out of such a dynamic balance for a very long period, it is the beginning of many diseases, in particular the person loses the ability to regain the balance. This is basic idea of many natural medicines and psychosomatic medicine as well.**

There are two typical cases of losing balance. One typical case is that the state of a person is somehow always kept in the left corner, it could be the beginning of many infectious diseases, since it shows that the person is too weak to resist outside disturb and the disturb lasts too long. If such a state lasts several months or even longer, it could be a potential danger of many big infectious diseases, even cancer, because it means the person is in a long-term frustration and goes into some wrong state, which is called “chronic chaotic state” under some kind of long time pressure without the possibility of escaping from it.

Of course, such a long time pressure would usually be over because of the permanent change of social situation and the state of the mind and body of the person could go back the harmony region again afterwards. Unfortunately, the seed of many big diseases, even cancer, has been planted inside the body, grow up after the incubation period which is usually one year, and then be found by means of so called “early diagnosis”, but it is already much too late, as we know.

Another typical case is that the state of a person is always in the right corner, it could be the beginning of many allergic diseases since it shows the body has too strong reaction toward outside disturbs. If such a state lasts too long, it would be a potential danger of hypertension or rheumatism, because it means the body is stucked on some “chronic over coupling state” even when the outside disturb is over.

We may simply describe the three different situations with three regions with three colours in the “Harmonic Pyramid” ( see Figure 3 ). For instance, if the state of a person is always vibrating in the green region and has the ability to come back in a short time after some disturb, he or she is always “as fit as a fiddle”.

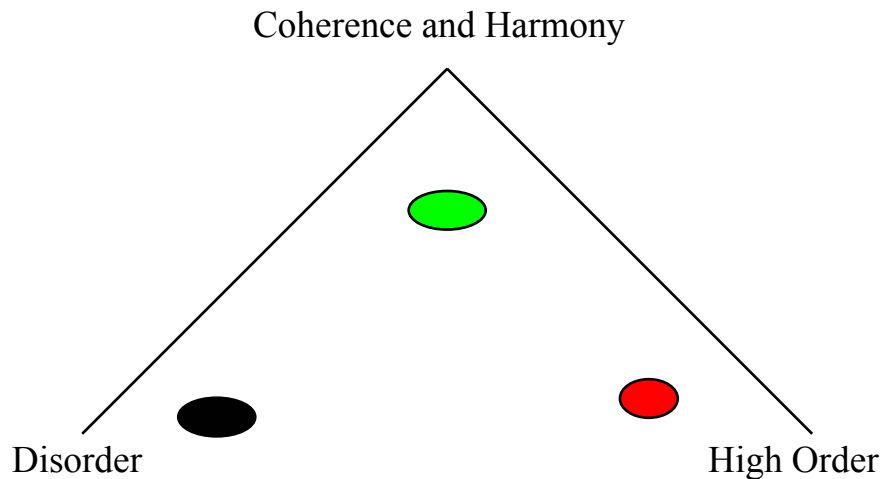


Figure 3. Three different regions of state of a body in the “Harmony Pyramid” on the screen of computer with PPM instrument.

If the state of a person is always in the red region, he or she has some potential danger to get high blood pressure or some other allergic diseases, if not at present time.

On the contrary, if the state of a person is always in the black region, he or she has some potential danger to get infectious diseases, even cancer, if not at present time.

In this point of view, the principle of natural therapies is how to help patients regain the dynamic balance if the state of a person has been out off the balance and without special substantial and organic problem.

It seems quite easy to regain harmony if we can do something which is counterbalance the “chaotic state” or “over ordered state”. It is easy indeed if the person is young and basically quite healthy. For instance, a good sleep, namely, a deep relaxation” at night could usually well balance the stress which was accumulated in the concentrating working in day time.

In the language of mathematics, the “green region” is an “attractor” in the “state space” ( see Figure 4 ), which is attracting all other points that are not in this region. In other words, if the state of a quite healthy person is out off balance due to some social problem, family problem, weather problem or some other disturb, it would usually automatically come back to the “green region” without the help of any therapy or remedy. Sometimes the disturb is too big or too long for the person to regain the harmonic state in short time, therapy or remedy would usually help the person regain the balance in a relatively short time. It is also quite good, in particular in the case of acute diseases which is the strong point of conventional school medicine, as we know.

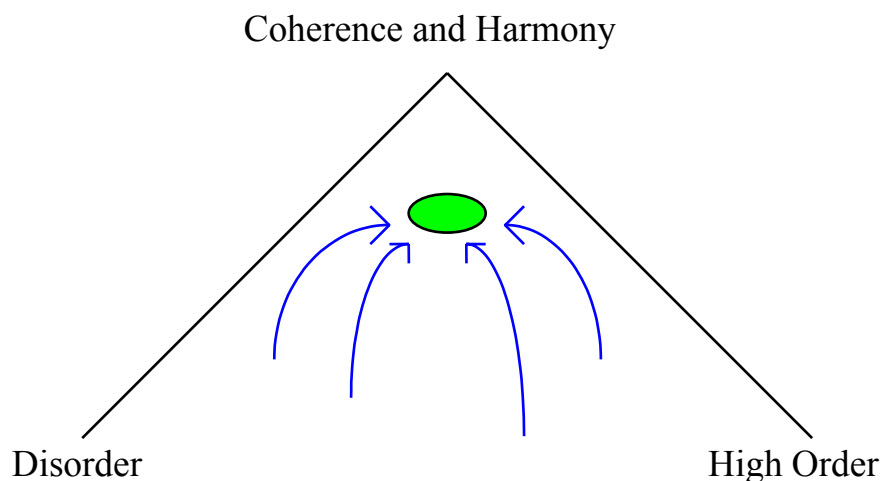


Figure 4. If the “coherent region” is an attractor, the person is always “as fit as a fiddle”

Unfortunately, it is not always the case for every person. If a person is weaker, he or she takes longer time to recover from disturb than others. Therefore, the person needs more medical help than others too.

What is even worse is that some person would somehow establish a “wrong attractor” which becomes the usual, even the normal state for this poor person. The “wrong attractor” would attract the point that is even in the green region into the wrong place in the “state space” ( see Figure 5 and 6 ). The position of a “wrong attractor” is usually determined not only by some unhappy experience, but also by his or her basic and genetic character.

If the “wrong attractor” is in the region of chaos ( see the black area in Figure 5 ), it means the state of the person is always wandering inside or near the chaotic state. This kind of person is usually easy to depress, frustrate, therefore is easy to get infectious diseases, or even cancer.

Sometimes, a happy party or a therapy could cheer this kind of persons up for some period, but the effect usually does not last long. Mathematically, it shows that the “black wrong attractor” (see Figure 5) is always drawing the state of the poor person back the disorder place, just like a ghost haunts him or her permanently and chronically.

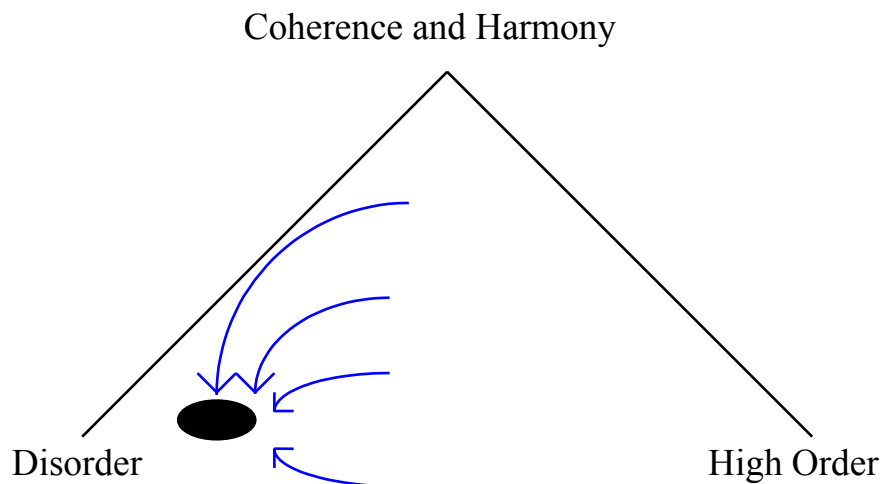


Figure 5. A “wrong attractor” (the black area) in the region of chaos.

However, some person has a “wrong attractor” in the region of “high order” (see Figure 6). This kind of persons is usually active with a quick temper. Sometimes, a good vacation or meditation may calm them down for a short time, but the effect usually does not last long. Mathematically, it shows that the “red wrong attractor” (see Figure 6) is always drawing the state of the poor person back the unnecessarily high order place.

It is easy to see that as long as a wrong attractor has been established, both doctor and patient need great patience in the persistently pursuing short-term effect and long-term effectiveness in therapies.

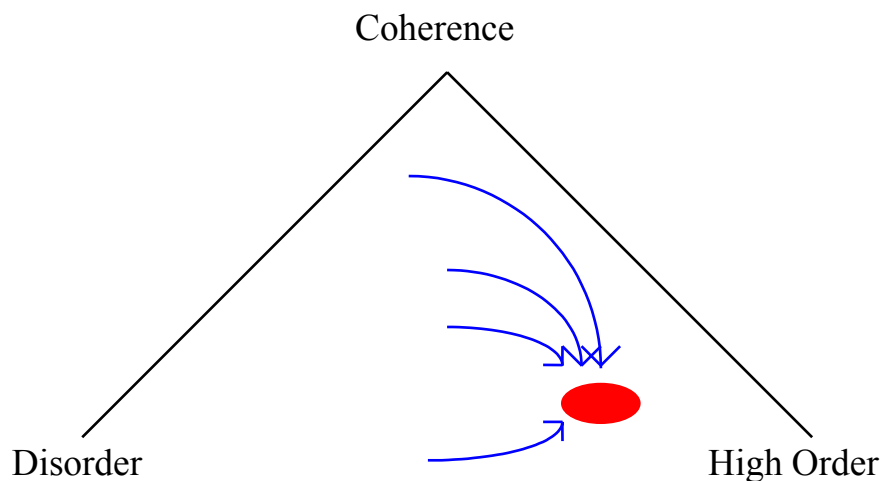


Figure 6. A “wrong attractor” (the red area) in the region of high order.

Of course, what we discuss here is only the three typical cases. In reality, the situation is much more complicated than that. However, the principle is the same, that is, **the purpose of any therapy, in particular of the natural therapies, is how to help patients or people to get rid of a wrong attractor and to regain the dynamic balance** and the PPM instrument is a good assistant for medical doctors or practitioner to monitor the patient and to see the short-term reaction during therapy and the long-term effectiveness after a period of therapy.

In the software of PPM instrument, we can find the original data from the 128 measurement electrodes in pseudo-colours and in digit data as well (see Figure 7).

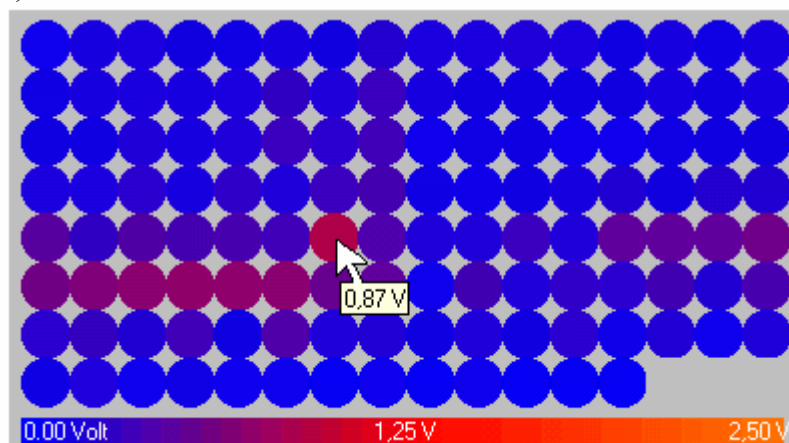


Figure 7. The original values from 128 measurement electrodes in pseudo-colours and in digit numbers

From these measurement values, we may get a statistic distribution which is expressed with a cylinder-like picture (see Figure 8).

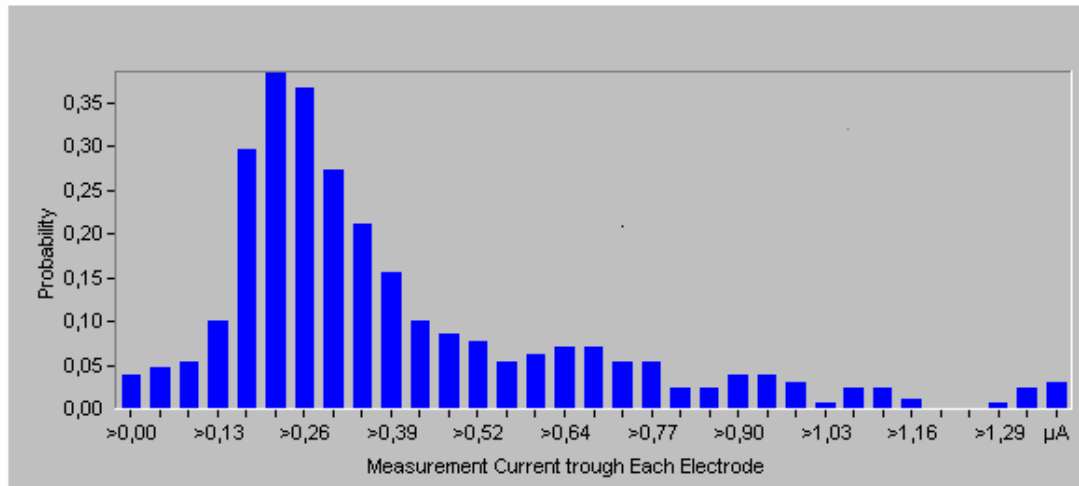


Figure 8. The statistic distribution of the original values in cylinder-like picture

The statistic distribution of measurement values could be also expressed by a curve (see Figure 9).

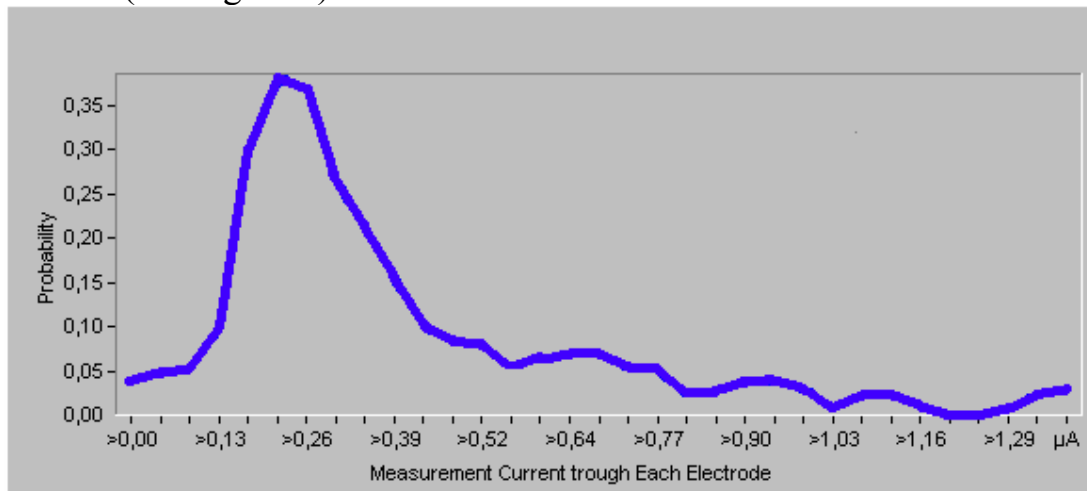


Figure 9. The statistic distribution of the original values in curve-like picture

The whole picture of Figure 9 is the blue point in the “Harmony Pyramid” (see Figure 2 in Page 5)

The top of the “Harmony Pyramid” is an ideal statistic distribution which is called as “log-normal distribution” (see Figure 10), which shows the perfect coherent (harmonic) state.

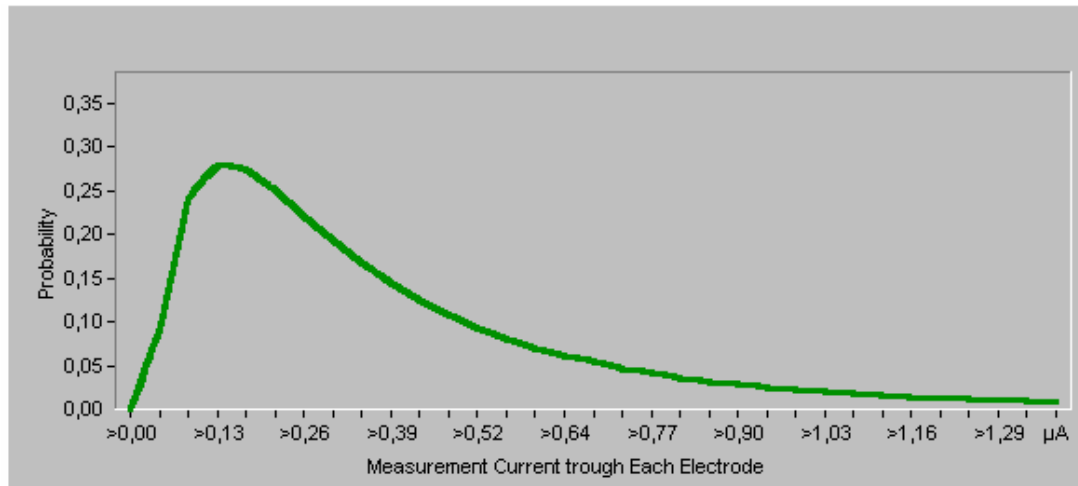


Figure 10. The log-normal distribution

The left corner of the “Harmony Pyramid” is another ideal statistic distribution which is called as “Gaussian distribution” (see Figure 11), which shows an ideal chaotic state.

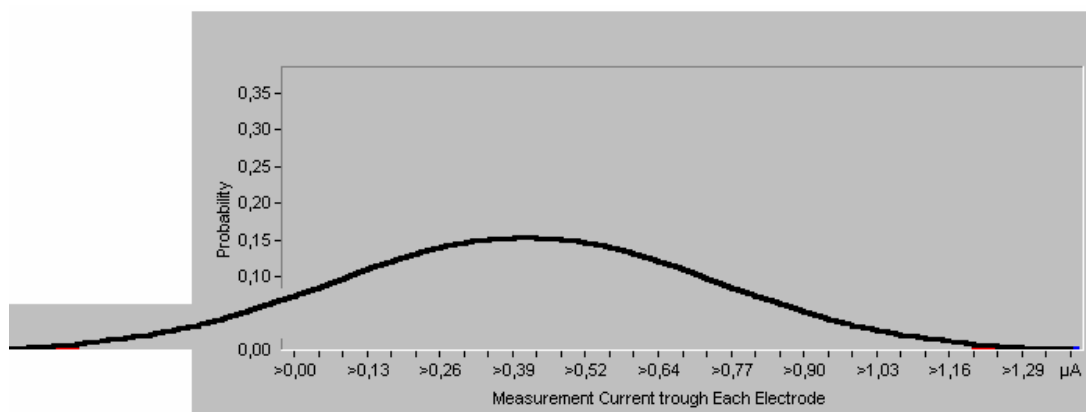


Figure 11. The Gaussian distribution

The right corner of the “Harmony Pyramid” is also an ideal statistic distribution which is called as “Delta distribution” (see Figure 11), which shows a crystal state, namely, in the highest order.

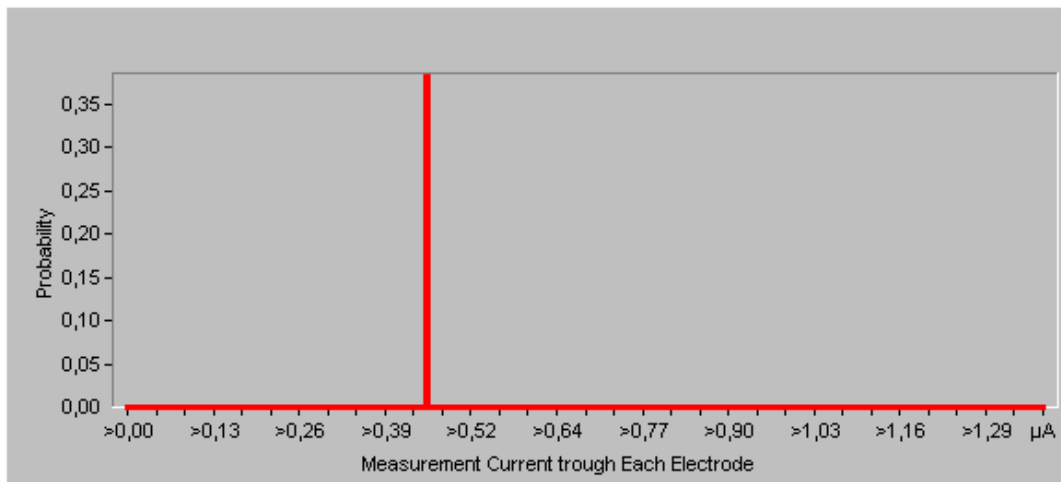


Figure 12. The Delta distribution

The dynamic change of the mind-body state of a person could be seen in the “Harmony Pyramid” (see Figure 13 ).

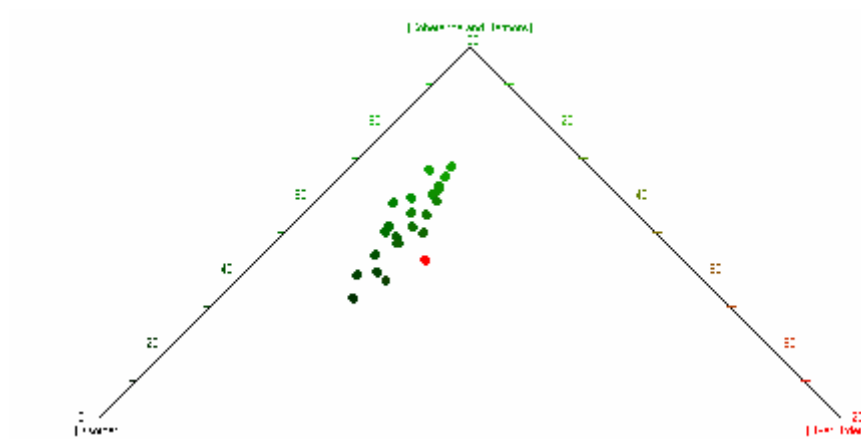


Figure 13. The dynamic change of the mind-body state of a person in the “Harmony Pyramid”

The dynamic change of the mind-body state of a person could also be expressed in a time-axis (see Figure 14 ), with which, it is easy to see at which instant the state of the person changed. With the help of this picture, we can see which word was decisive one in the one hour psychological interview. We can also see the dynamic change during an acupuncture operation or after taking a kind of remedy.



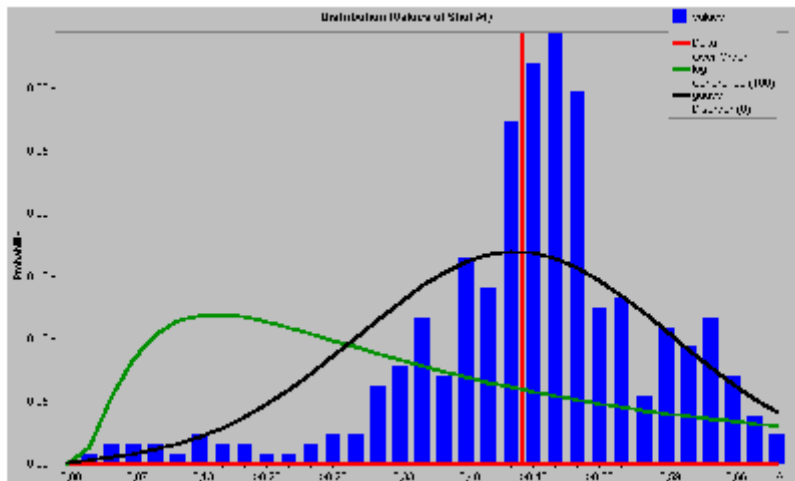


Figure 16. One section of the statistic distributions in a plane picture

In the booklet 2, we would like to introduce how to operate the instrument and how to get these pictures above with the help of software.

In the booklet 3, we would do our best to give the explanation of some special results and pictures in accordance with our present knowledge which is the accumulation of more than ten years basic research.

The biological, physical and mathematical background for PPM instrument is quite complicated. For this reason, we did our best to introduce the biological background and a brief history of the new recognition in booklet 4, and introduce the physical and mathematical background in booklet 5 for these who are interested in the working principle of PPM instrument in detail.