The “Alfa” device gives an analysis of the patient’s health status quickly and objectively with the help of the following procedures:

- ECG measurement;
- evaluation of the vegetative system condition by variance analysis

- evaluation of the hormonal regulation and energy resources of the body by neurodynamic analysis

- evaluation of the psychoemotional state by examination of brain biorythms

- evaluation of the adaptation level of the body and estimation of biological age by fractal analysis

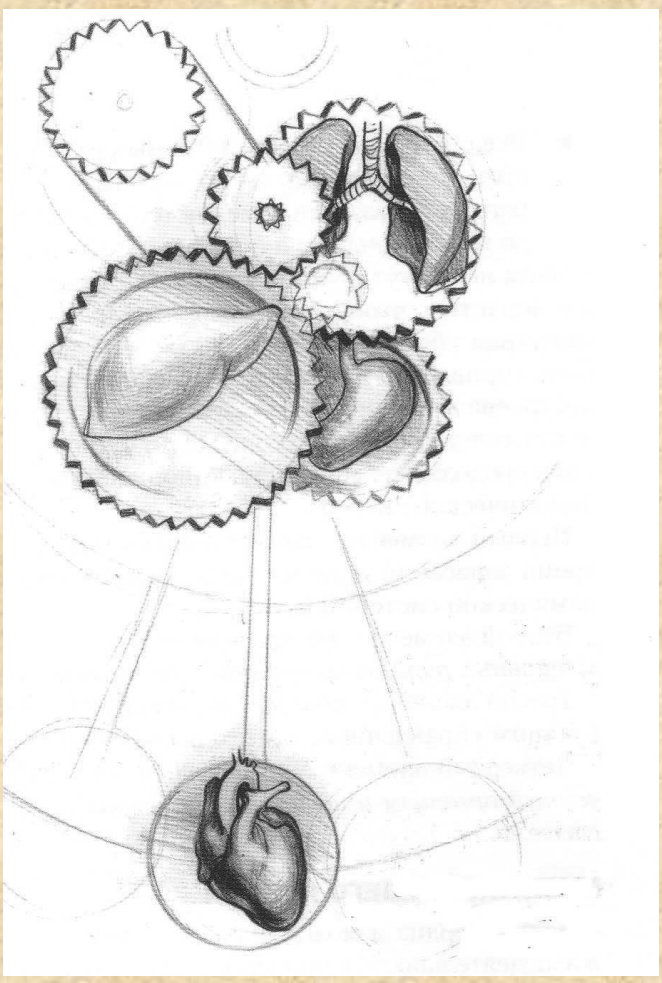
- complete analysis of the results

"Alfa" will provide people with a good opportunity to examine their health without unnecessary delay and to make prognosis of health development in such a way that saves both their time and energy.

"Alfa" allows it's users to examine bodily functions in a short time by analyzing neurodynamic variables of heart rythms. Many years of research allowed to establish that all processes in a human organism are reflected in heart rythms changing activities.

Programs designed for "Alfa" equipment are based on a new method of analysis of biological rhythms of human organism. Since 1997 this type of equipment has been successfully used in the areas of clinical, practical and sports medicine in Russia, Europe, USA and South Korea.

Fundamental difference of Alfa" from other existing instruments, is designed creators of the original complex mechanism of application of methods of mathematical analysis of complex dynamic systems. The leading place among these methods is the fractal analysis used for the analysis of dynamic systems, with properties of self-similarity and nesting.



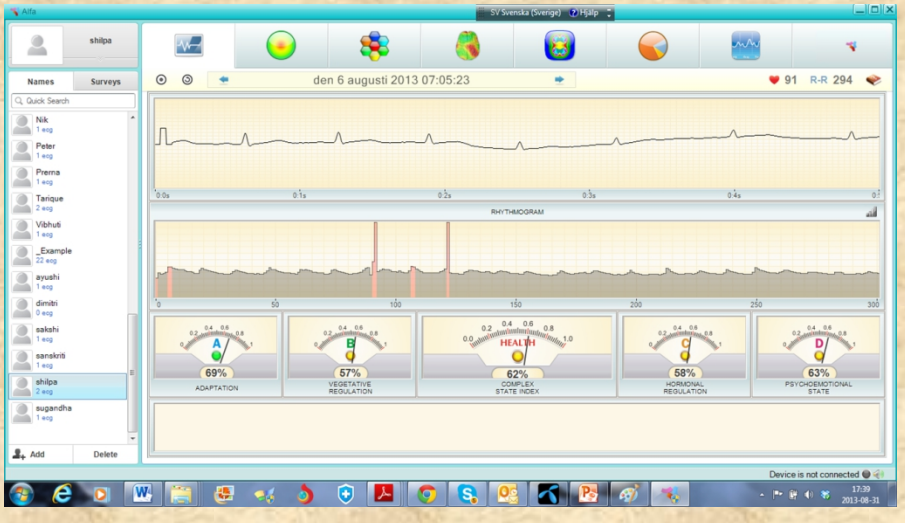
Pulse – the best health indicator

All the life processes in the human body are reflected by the pulse that is synchronized by the heart rhythms.

On one hand the heart rhythms reflect rhythms of the body as a whole – on the other hand its rhythms exert control of the vital processes of the body as they receive commands from the heart and the nervous system.

Even a small body strain causes a change of those rhythms. By monitoring the dynamics of the heart rhythms one can make an objective evaluation of an organism and its state and also forecast its changes.

This work of the “pendulum of the heart” is an individual factor for each person – precisely in the same fashion as one’s fingertips.



Alpha provides a clear presentation of the body's health resources and how it reacts to / how effective:

- physical exercise
- drug
- therapeutic treatments
- Food, supplements
- Coffee, alcohol, cigarettes, etc.

Does not work on: Pacemaker, arrhythmia

10 studies carried out between 1996-2005. A total of 2,687 individuals were included in the studies. The results are very positive.

EC CERTIFICATE
Production Quality Assurance
Directive 93/42/EEC on Medical devices, Annex V

No. 5-732-500-1303

National Institute for Quality- and Organizational Development in Healthcare and Medicines
Directorate of Device Testing and Clinical Engineering (EMKI)
certifies that the manufacturer:

Research and Production Company "DINAMIKA" Ltd.
16 Moskovskoe Street
196158 Saint Petersburg
Russia

with authorized representative in EU:

Manniskans Resurser AB
Hantverkagatan 42B
11221 Stockholm
Sweden

for the product / product category:

HRV monitor "Alfa"

applies a quality system which meets the requirements of Directive 93/42/EEC on Medical devices, Annex V.

Registry number of the related audit report: **42-011-2008**

This Certificate is valid until **2018-03-10** supposed that the results of the regular yearly surveillance audits are satisfactory.

Issued by EMKI as a Notified Body with identification number **1011**.

Budapest, 2013-03-11

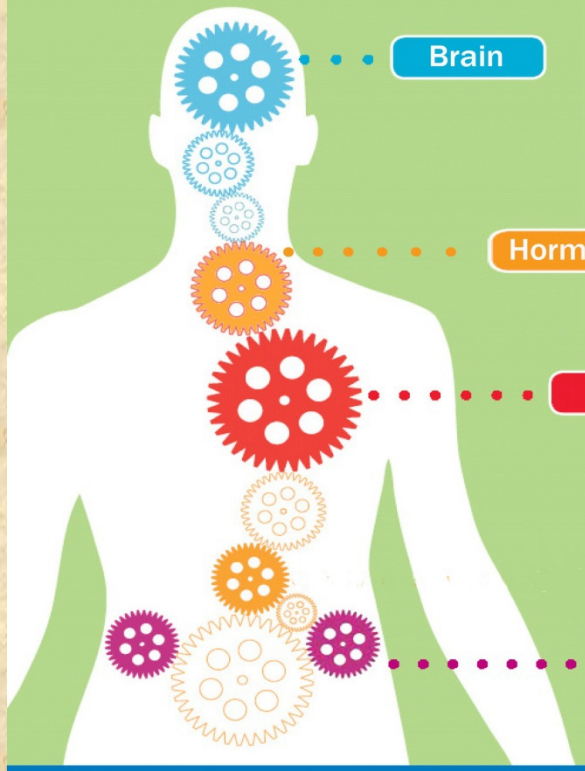
General Director | Certification Office | EMKI 0899

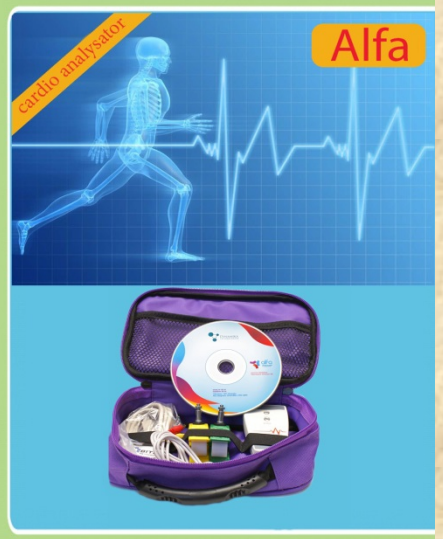
The authenticity and validity of the certificate are verifiable at EMKI.

Gyógyszerészeti és Egészségügyi Minőség- és Szervezetfejlesztési Intézet
National Institute for Quality- and Organizational Development in Healthcare and Medicines
Eszközminősítő és Kórháztechnikai Igazgatóság
Directorate of Device Testing and Clinical Engineering
H-1125 Budapest, Diós árok 3.
Tel.: +36 1 356 1522 Fax: +36 1 375 7253 Internet: www.gyemszi.hu

The production of "ALFA is quality assured to ISO 9001:2008 and has approval by EU certificate CE 1011.

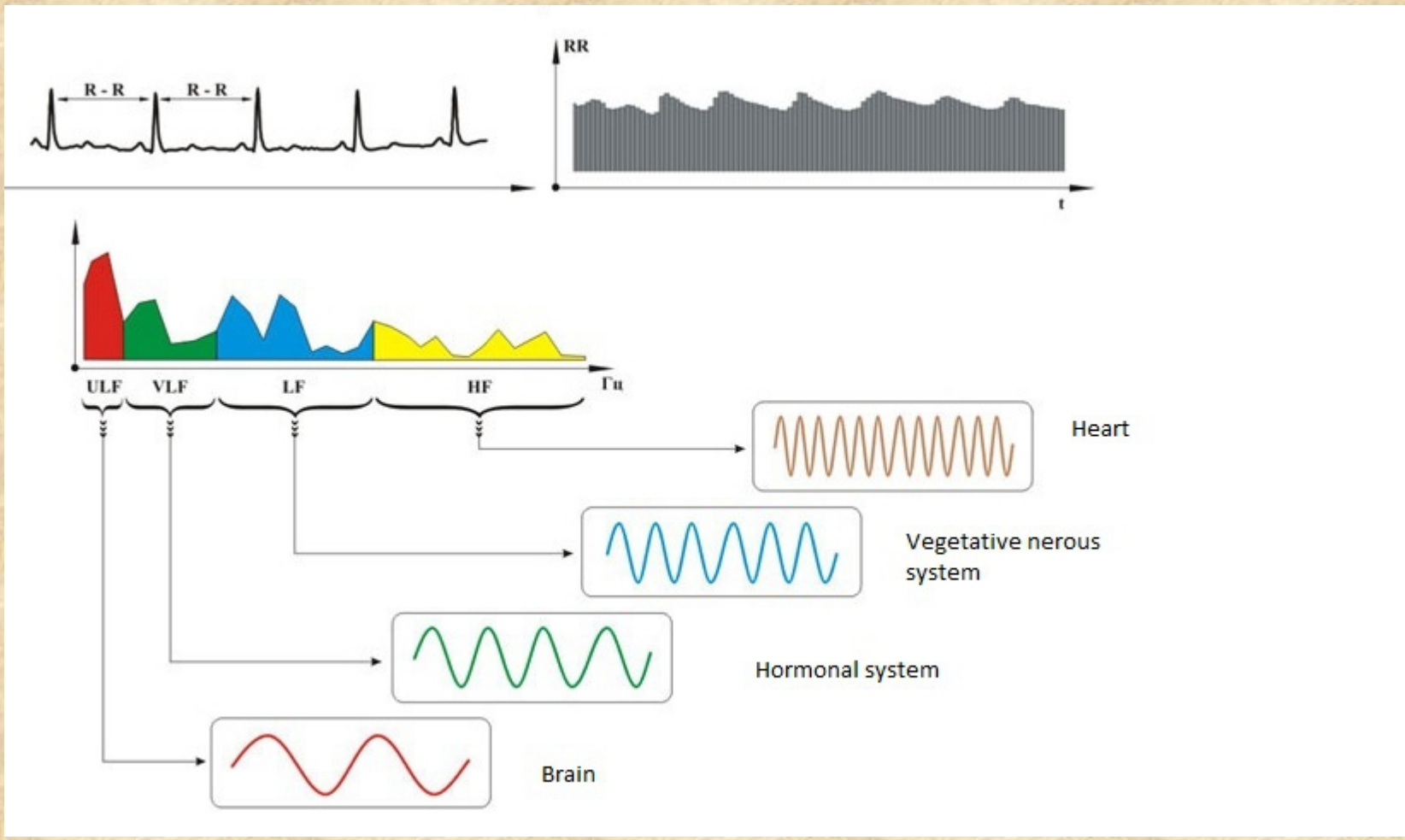
Människans Resurser AB





All organs and systems in the body are synchronized

The Alfa-equipment allows for a detailled health check of the body's functions as well as an accurate evaluation of various health therapies.



Rhythms of all body systems in sync

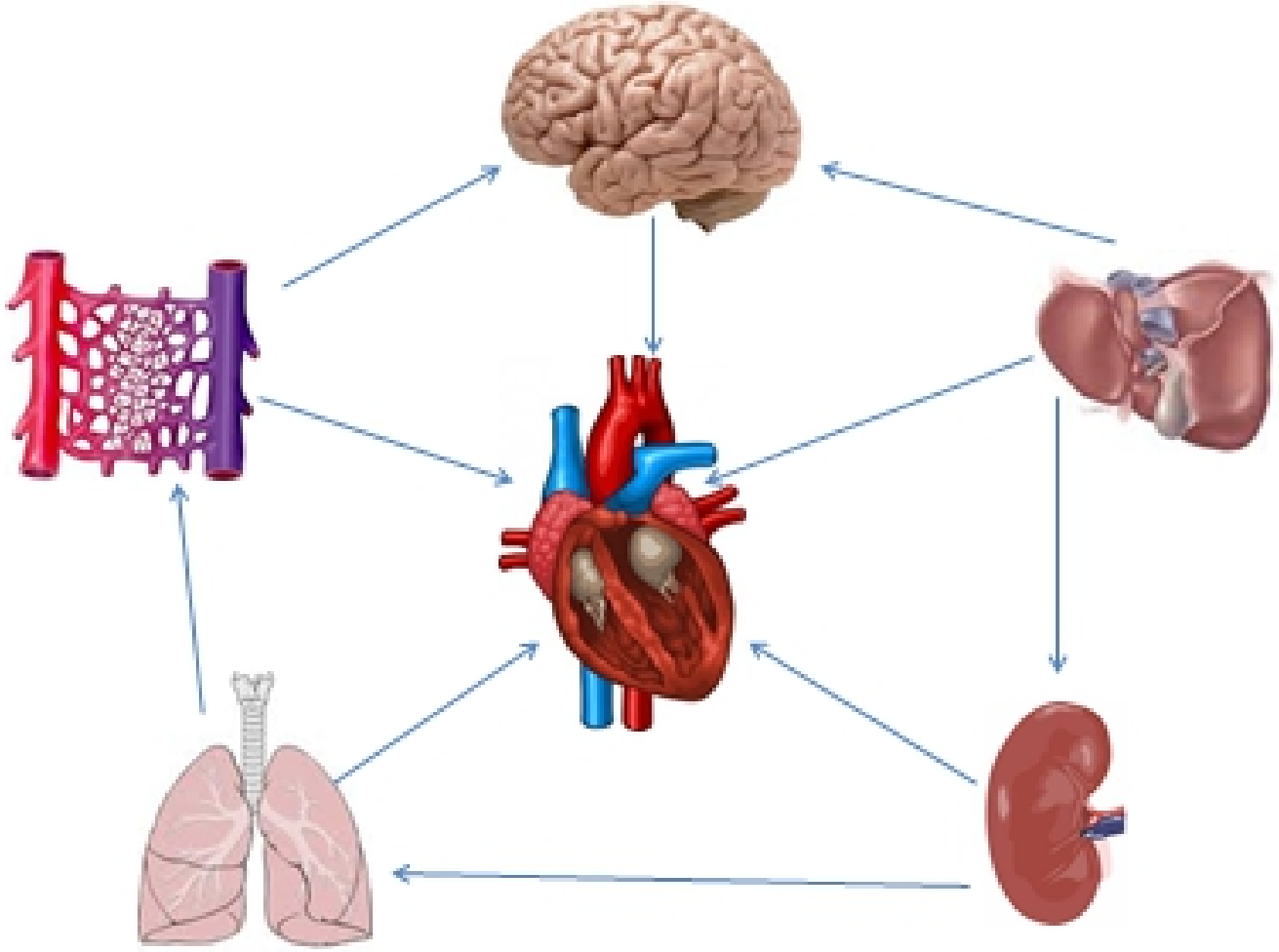
All systems have their frequencies

How to measure Alpha

All organs and cells are controlled by the body's regulatory mechanisms. To the body's regulatory mechanisms belonging to the brain, nervous system and hormonal system. Their bioelectrical signals are different but at the same time they are synchronized. At the change of bioelectric signals of the brain changes synchronous also bioelectric signals from the nervous system and the hormonal system

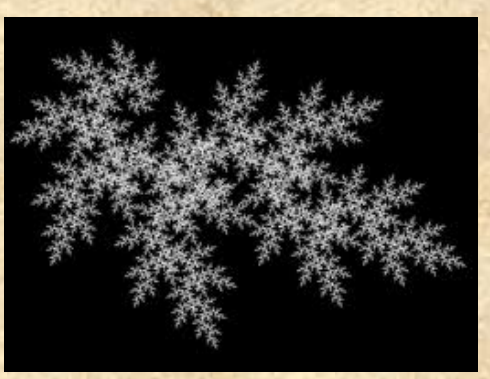
The all-regulating system coupled to the sinus node, which in turn controls the heart or kadiorytm. When changes in the internal or external environment is changing regulatory systems to adapt your body to these changes by altering the heart's rhythm. Alfa's super sensitive microchip measures the pulse containing different frequencies from the brain, nervous system, hormonal system and sends it to Alfas program

The program separates the bioelectrical signals from each system by nejrodynamisk fractal analysis, and in this way we can evaluate each system. It is known that the cells' production of energy coupled to the combination of bioelectrical signals from the nervous system and endocrine system. When the program measure these signals, we can mathematically calculate the cells produce energy.

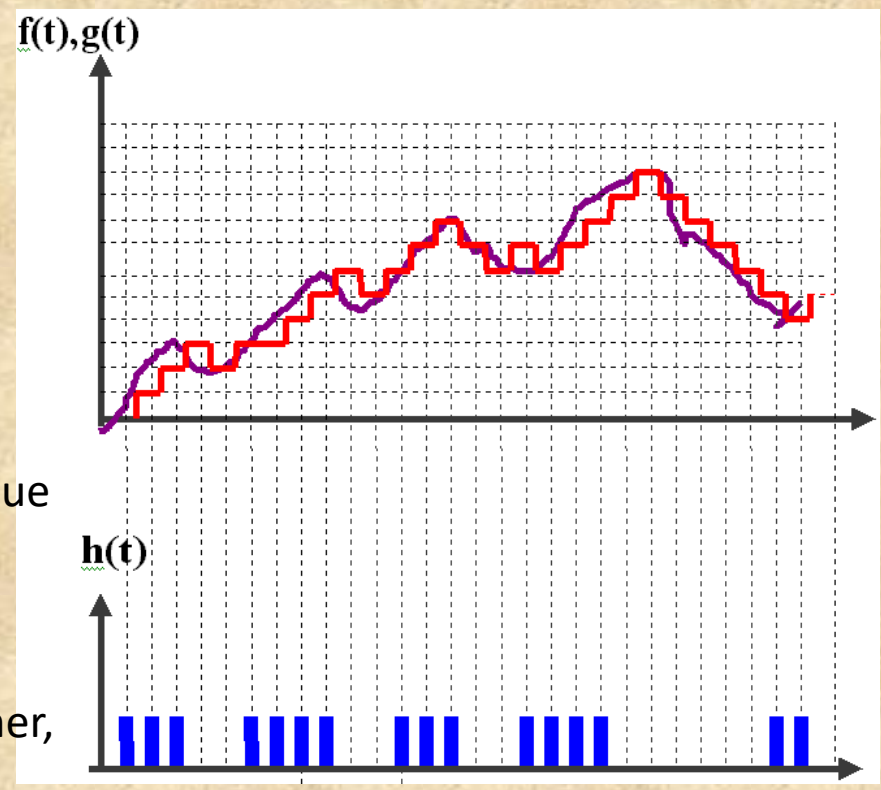


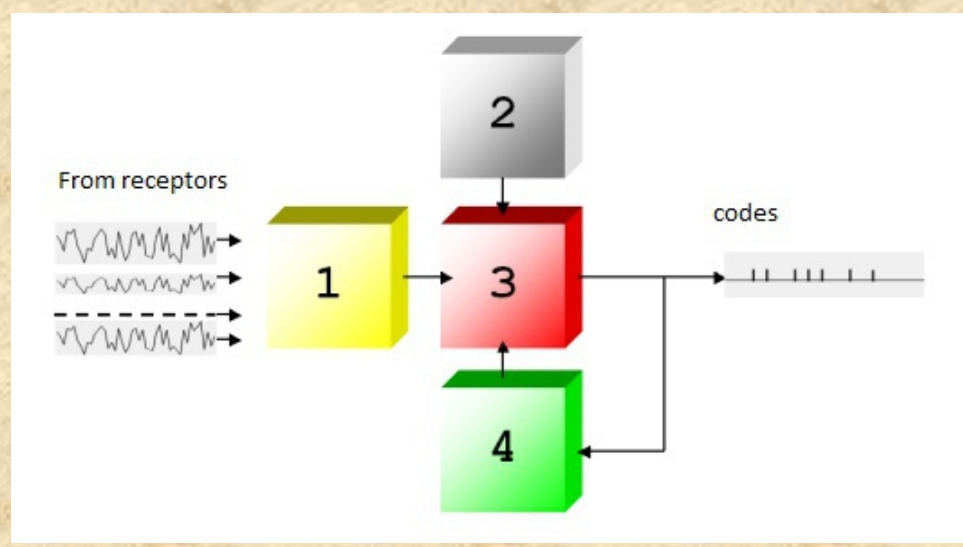
Rhythms of every organ is out of sync

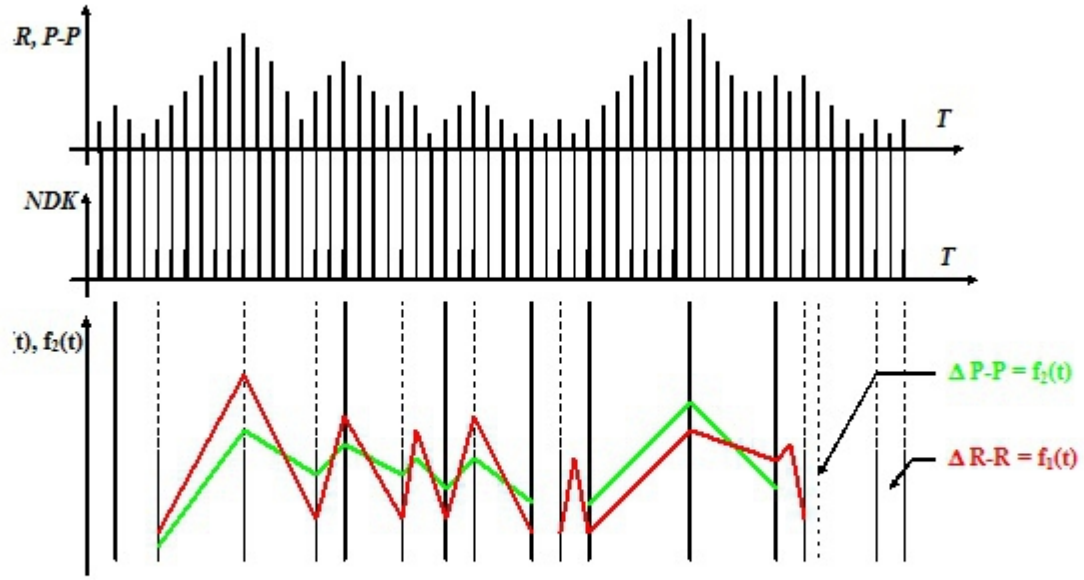
Every physiological process has its own unique rhythm, these rhythms are similar, and are reflected in the rhythms of the heart. But this means that examined only one rhythm method of fractal analysis can reveal the structure and dynamics of other rhythms and us to conclude about the state of the respective regulatory systems



In all complexes "Dynamics" present unique algorithmic block digital analysis of heart rate. How does it work?
Specialized computer software translates Rhythmogram in the binary system. Further, analyzing the binary code, the program identifies the code sequences corresponding to different time slots.

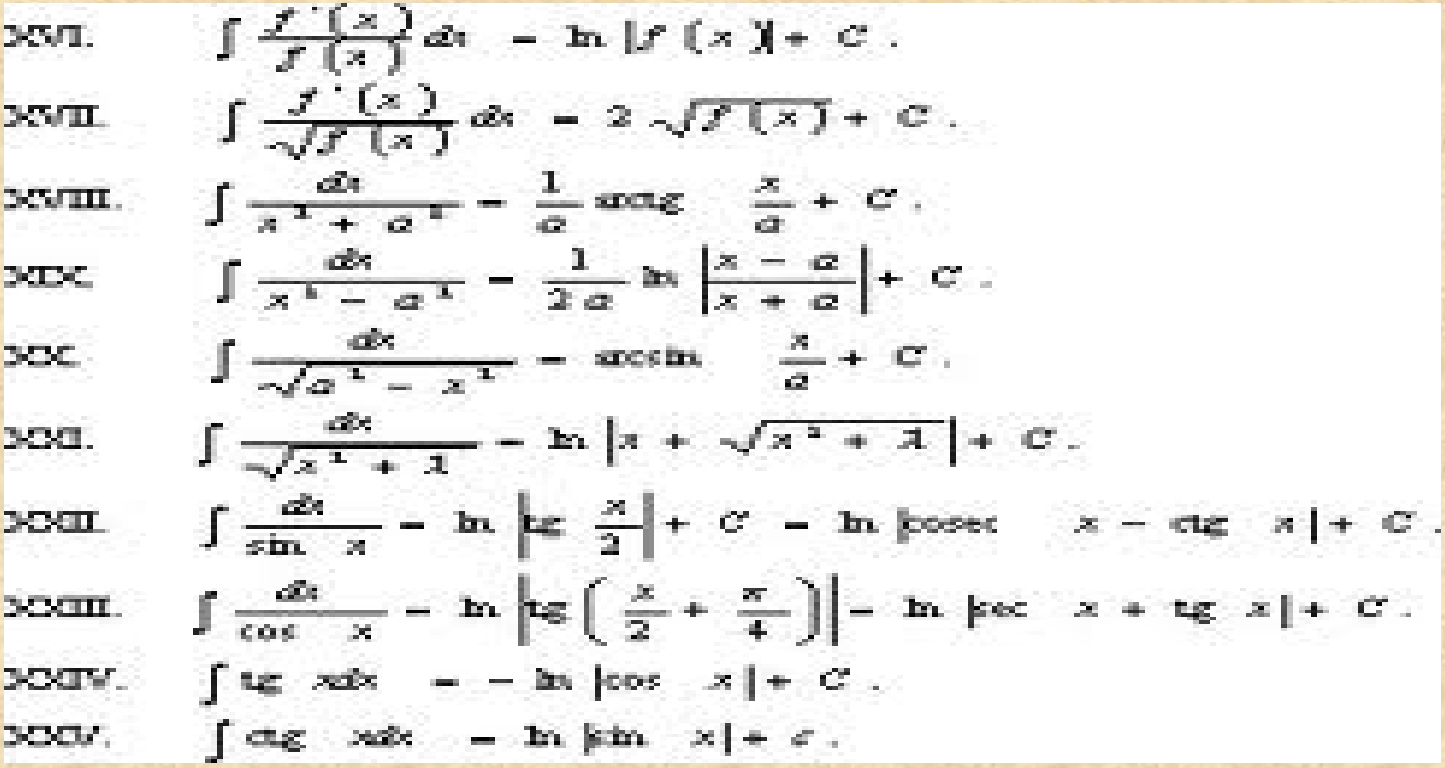






Each code carries a piece of information about the quality of the functioning of the regulatory system at their level

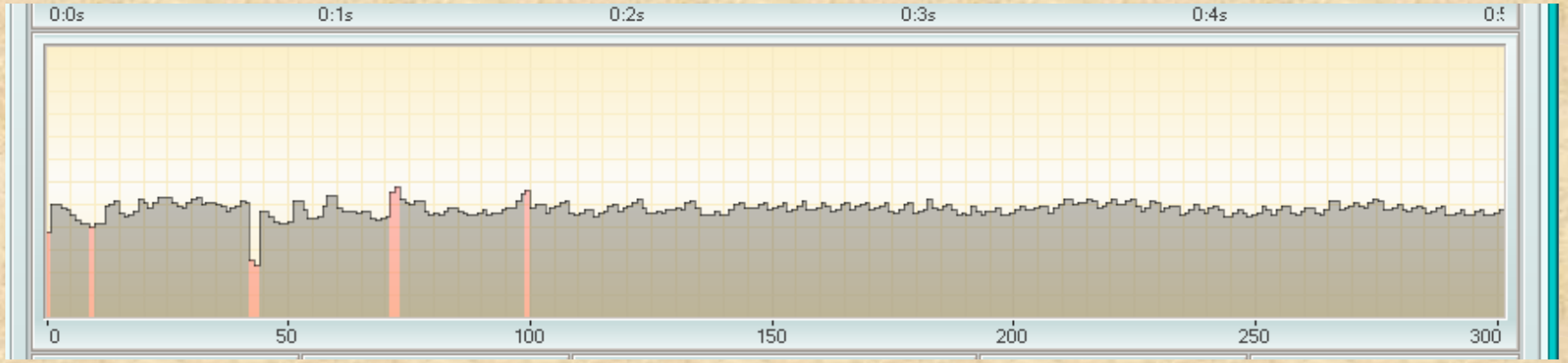
Based on fractal mathematical analysis program can calculate the rhythms and the function of each system



ECG curve

Examination time in minutes and seconds is stored along the horizontal axis, and the ECG amplitude along the vertical

Rytmogram



Rytmogram is a curve formed when storing the intervals RR number along the horizontal axis and the intervals of seconds along the vertical axis. RR interval is the time interval between two successive heart beats.

Artifacts, ie extrasystoles or interference, highlighted by pink on rytmogrammet.

The autonomic nervous system consists of nerves that control the functions of various organs which are not directly volitional, such as heart, liver, stomach, salivary glands, etc.

The autonomic nervous system consists of two parts, the sympathetic and parasympathetic systems, which work against each other, antagonistic. Put simply, one can say that the sympathetic nervous system controls energy-consuming documents (fight / flight), while the parasympathetic control over energy saving documents (rest and digestion).

HF - High frequencee
Green – parasympathetic

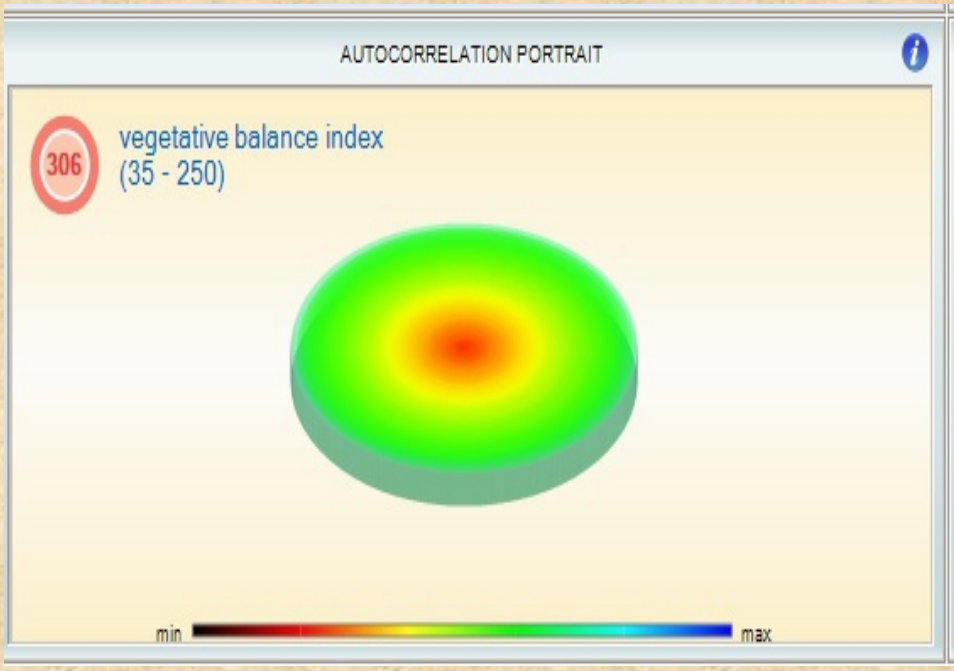
Low frequencies
Gul – sympathetic

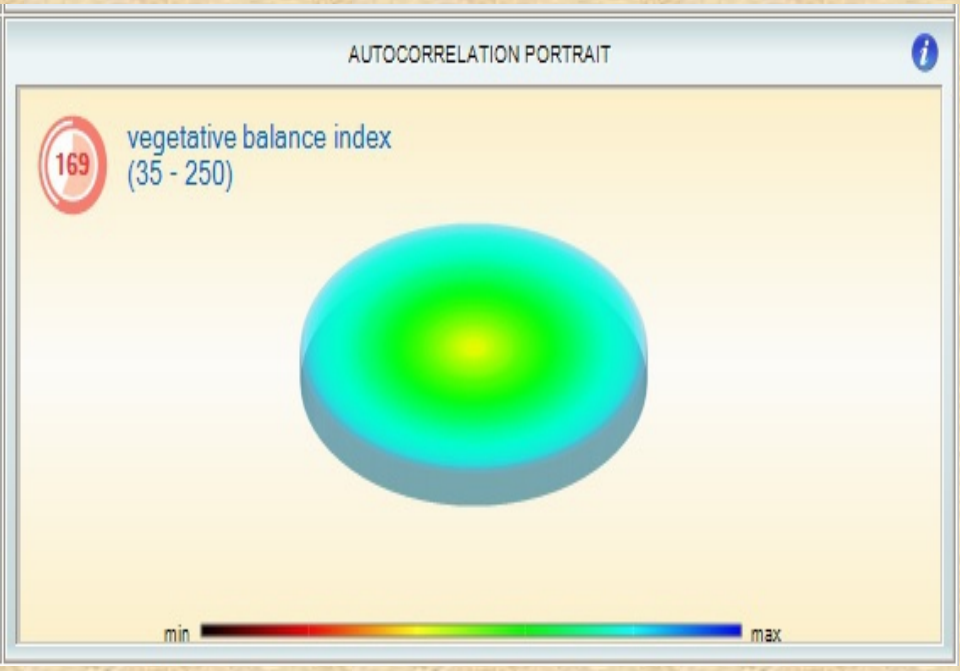
VLF - very low frequency

blue-hormonal system

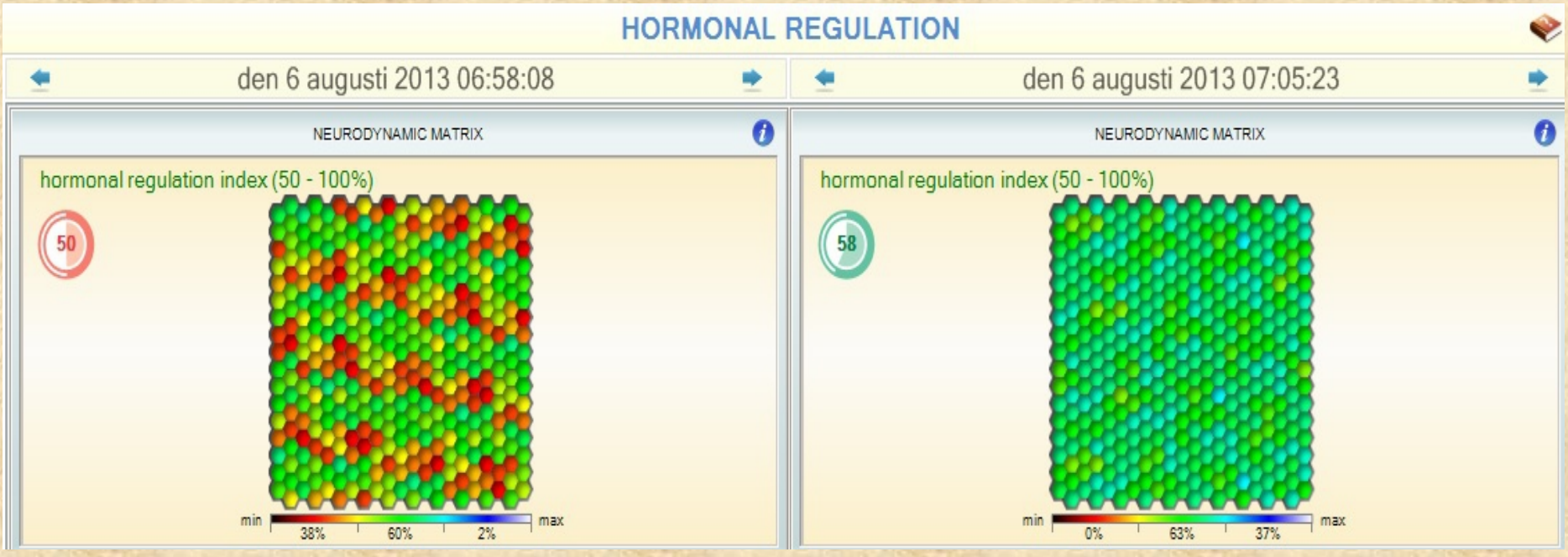
Tension index

Characterize the degree of myocardial stress and shows how strained body's various regulatory systems. Normal Value: 10-100.

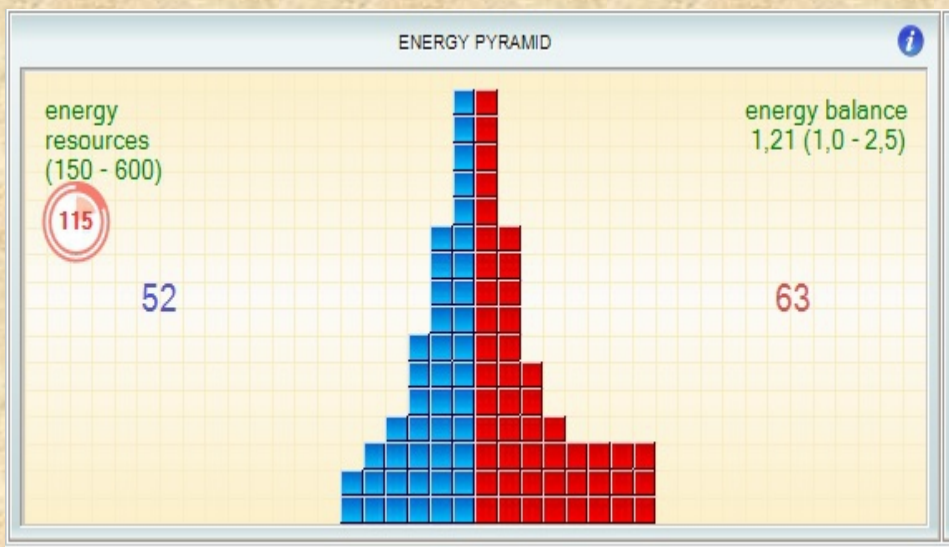


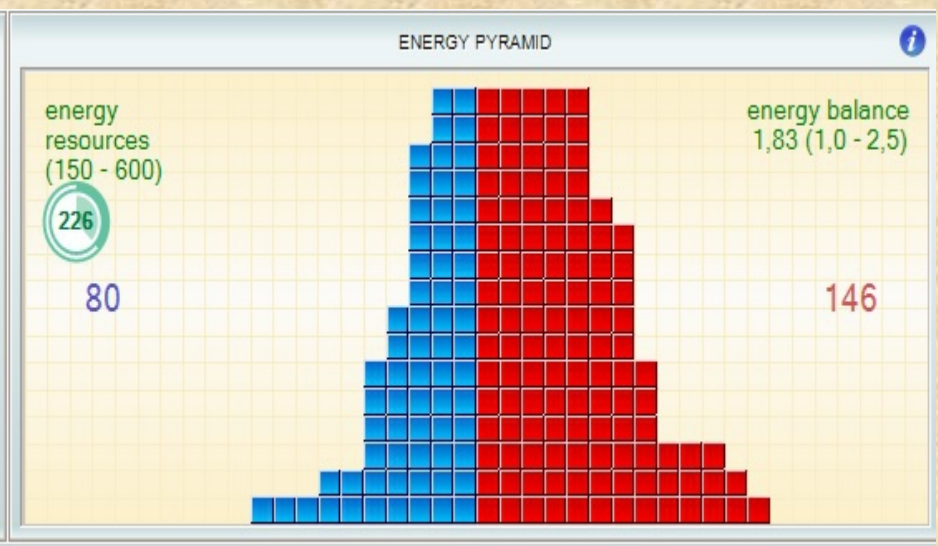


The Vegetative Balance Index provides a correlation between the activity of the sympathetic and parasympathetic divisions of the vegetative nervous system as well as the degree of involvement of central nervous system in this process. The more red color seen in the centrer of the circle, the higher the degree of involvement of the central nervous system in the processes of regulation processes.



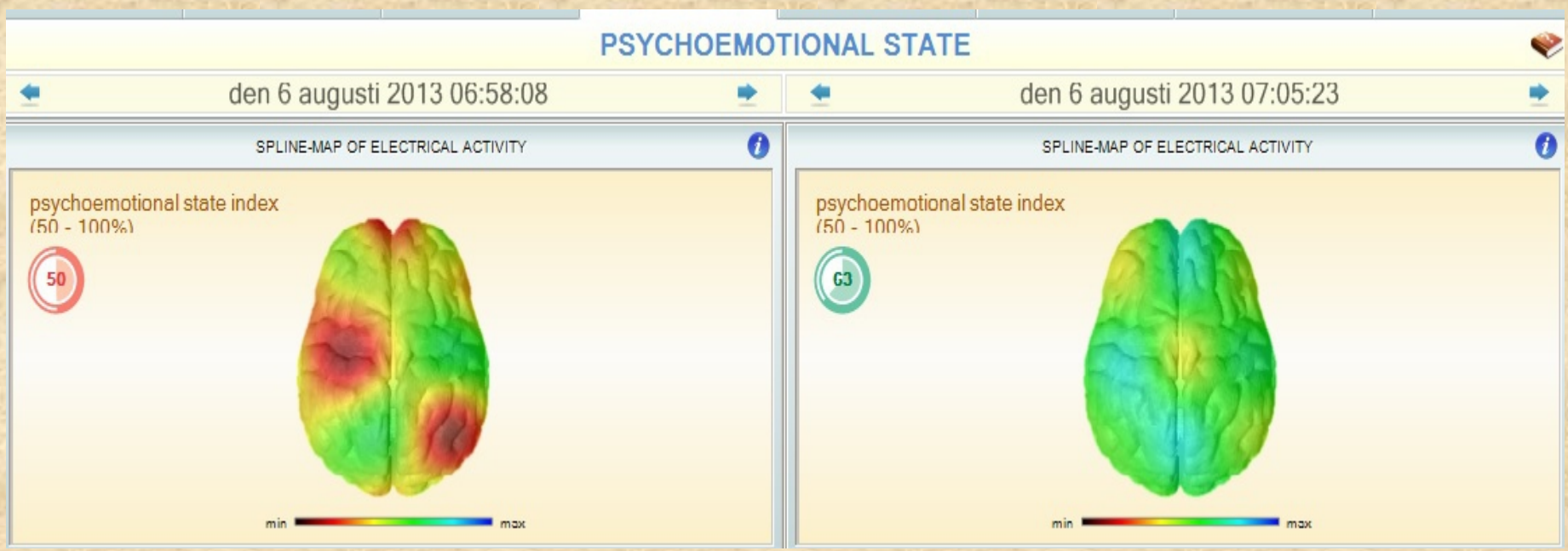
HORMONAL REGULATION. The endocrine system creates a certain hormonal profile, which helps the body to withstand external and internal influences and adapts to such influence. It is the functioning of the hormonal system which determines how optimally the body uses its energetic and physiological resources. The indicator of hormonal regulation of endocrine system is the exact reflection of the quality with which the endocrine system resolves its tasks.



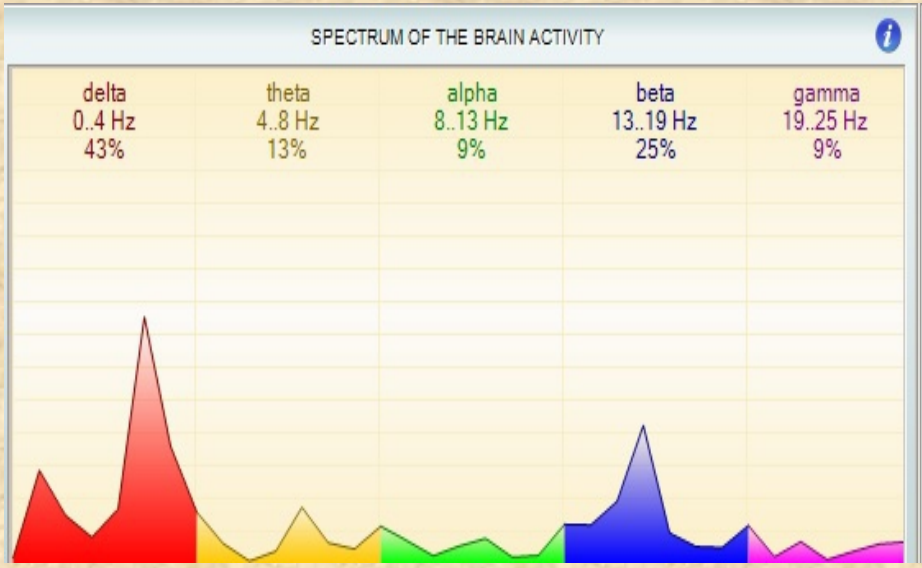


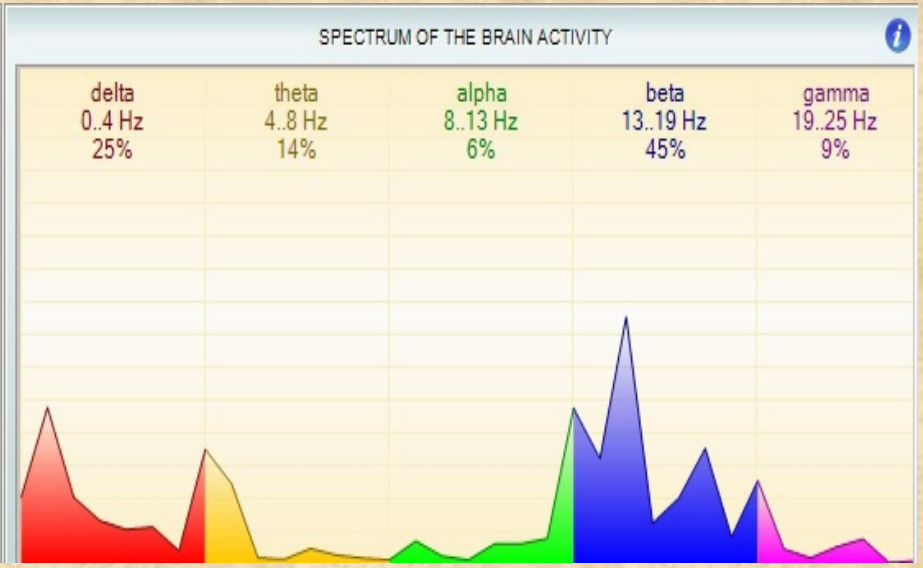
Energy Pyramid

The “Energy Pyramid” is a dynamic representation of the energy balance in the management systems of the different functions in the body. The blue side corresponds to the period of energy storage by different organs and systems in the body. On the other hand, red side corresponds to the period of energy.
The sum of the values of the blue and red indicators shows a general quantity of energy resources utilizations in the body. The higher the value of this indicator , the more adaptive capacity the body is capable of, and the better the patient will resist stress and cope with different stresses.



The hypothalamus is one of the main regulating mechanisms of the body. It has a direct influence on the functions of the brain. In turn functions of the brain manage other regulation processes in organism the body. Colors in the image correspond to different levels of electric activity, and their distribution provides a gauge of the current psychoemotional status of the patient. This indicator of psychoemotional status demonstrates how strongly stressful situations affect the human body.





Brain activity waves

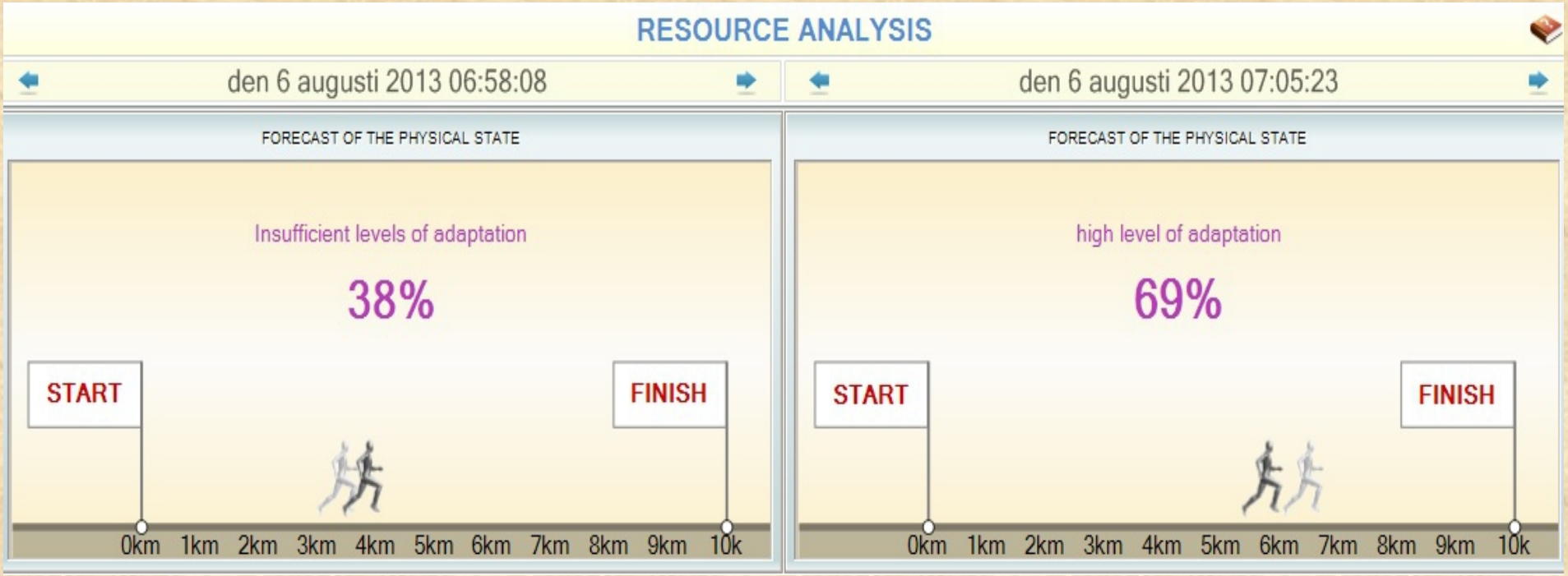
Our brain radiates waves of different frequency and there is a direct correlation between the activity of a person, his/her level of concentration or attention and brain wave frequency. In a normal awake state all frequencies of brain waves (alpha, beta, delta, gamma, and theta) are active. Depending on what person is doing and his/her psychoemotional status, certain wave may be more active than the other ones.

Delta (0.1-4 Hz). Highest delta wave activity occurs during sleep.

Theta (4-8 Hz). Highest theta wave activity occurs just before sleep. Presence of a certain amount of theta waves in combination with **Alpha (8-13 Hz)** waves may suggest creative abilities. A high level of theta waves suggests a good connection to the with subconscious.

Beta (13-19 Hz). Highest beta wave activity occurs in a state of consciousness and activity.

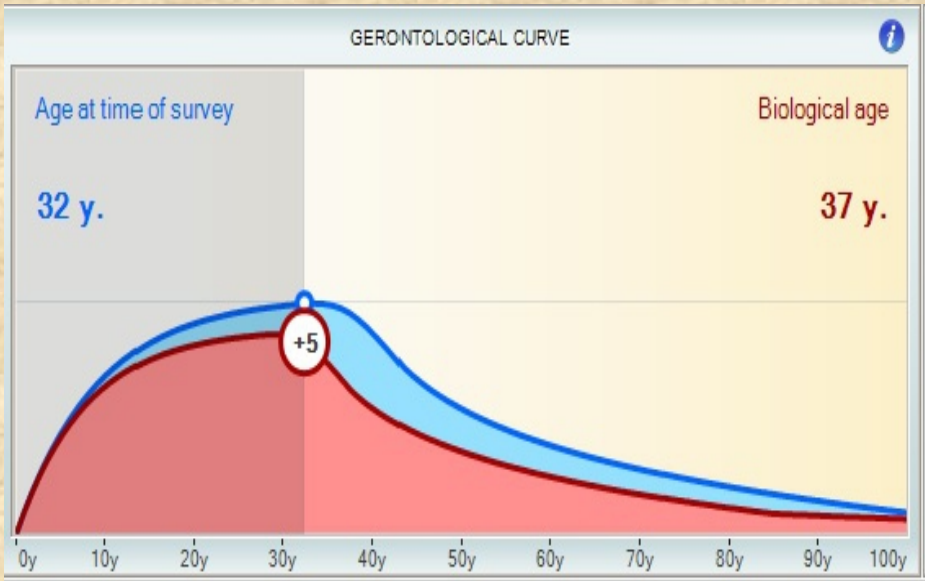
Gamma (19-25 Hz) - Gamma wave activity suggests an altered state of consciousness

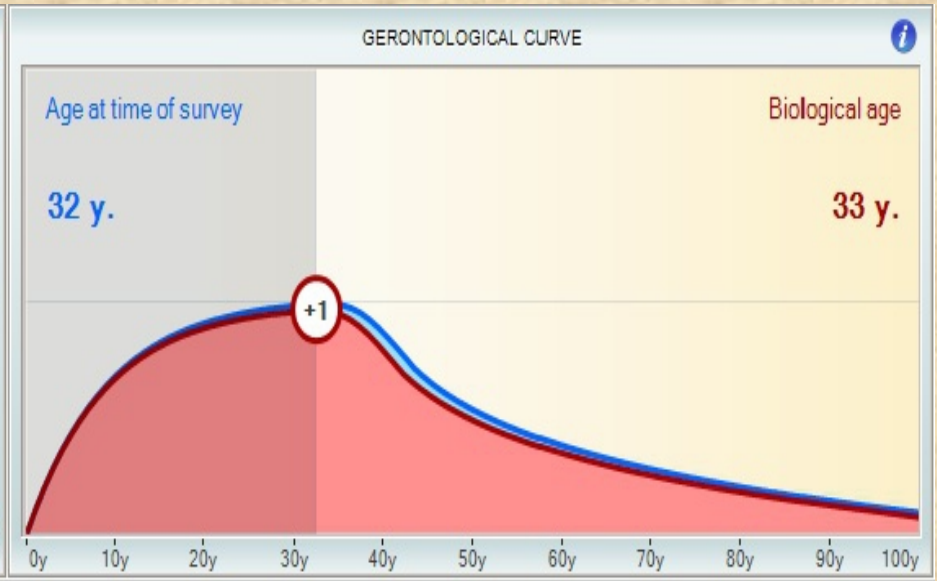


Analysis of resources

The indicator entitled “Level of Organism Adaptation” shows the quality of functional status of the body.

The higher the level of adaptation, the more quickly, painlessly and effectively the body will respond to different types of load. The percentage display shows the resource level of the cardiovascular system and does not include the auxiliary regulatory systems. Shadow shows average adaptation that humans used to have, second man show adaptation today

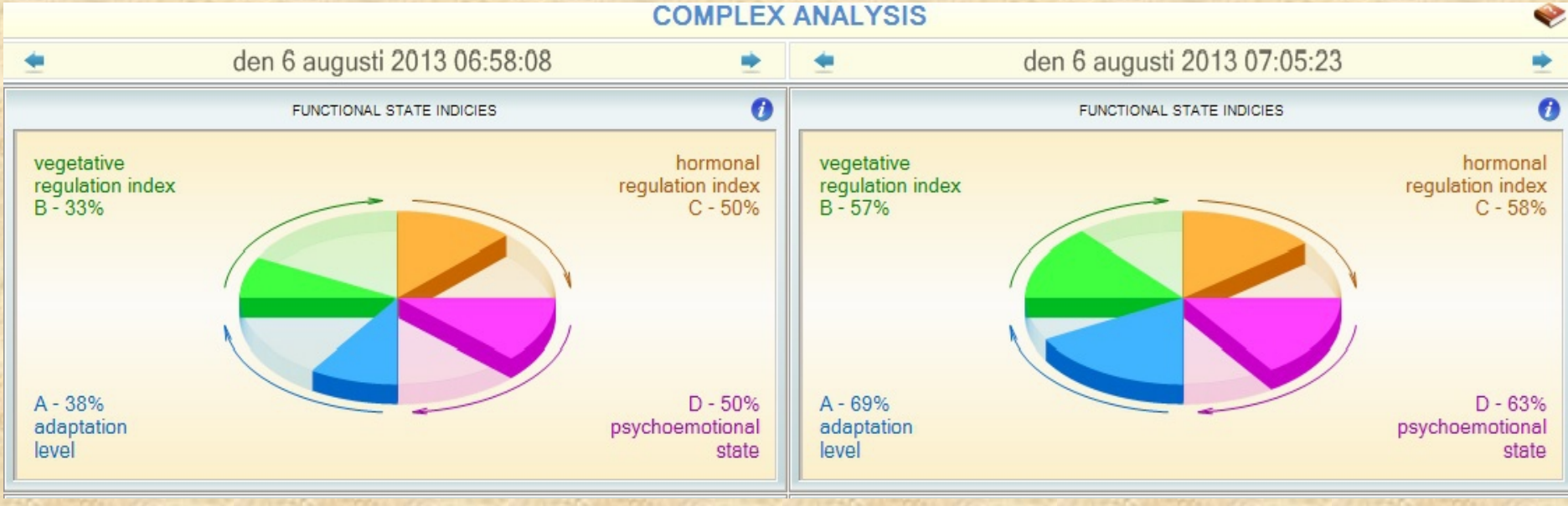




Gerontological Curve

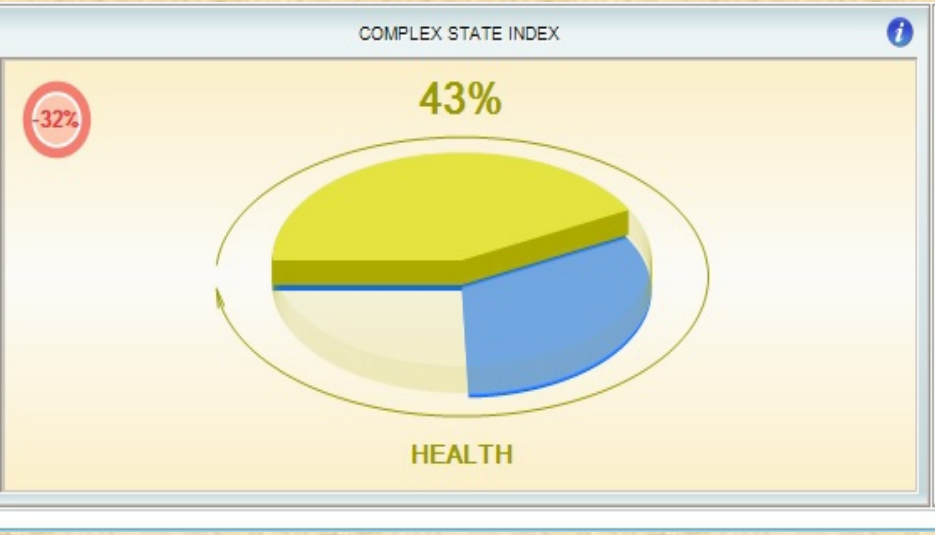
Using a “gerontological curve” allows the determination the biological or genuine age of the patient.

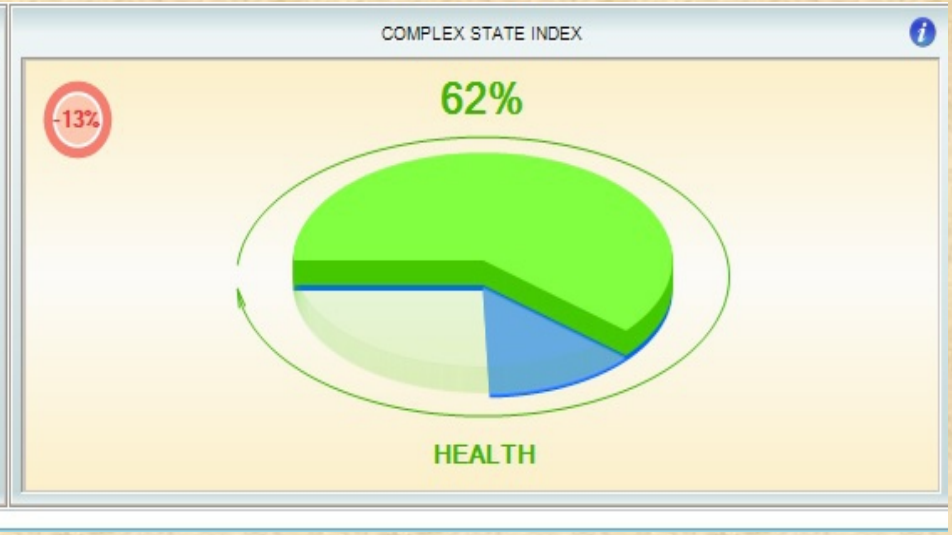
The reference “gerontological curve” was developed using statistical analysis of the biorhythms of more than 10 000 patients of different age groups and serves as a graphical representation of the pace of accumulation and expenditure of living resources in an average human over a 100 year life cycle. Patients may be younger or older than their chronological age and the biological age is often inconsistent to the person’s actual age- Genuine, biological age reflects the true vitality of a person,



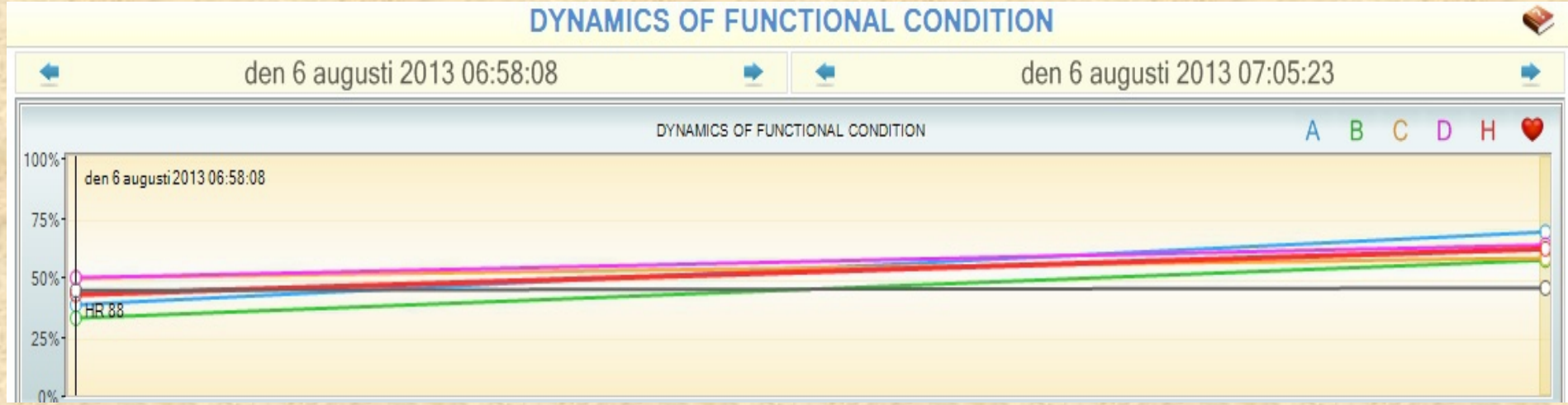
Complex Analysis

The complex analysis of health reflects the quality of physiological processes in a person and the level of his/her balance. It serves as a conditional mathematical representation of the “health status of a person”.

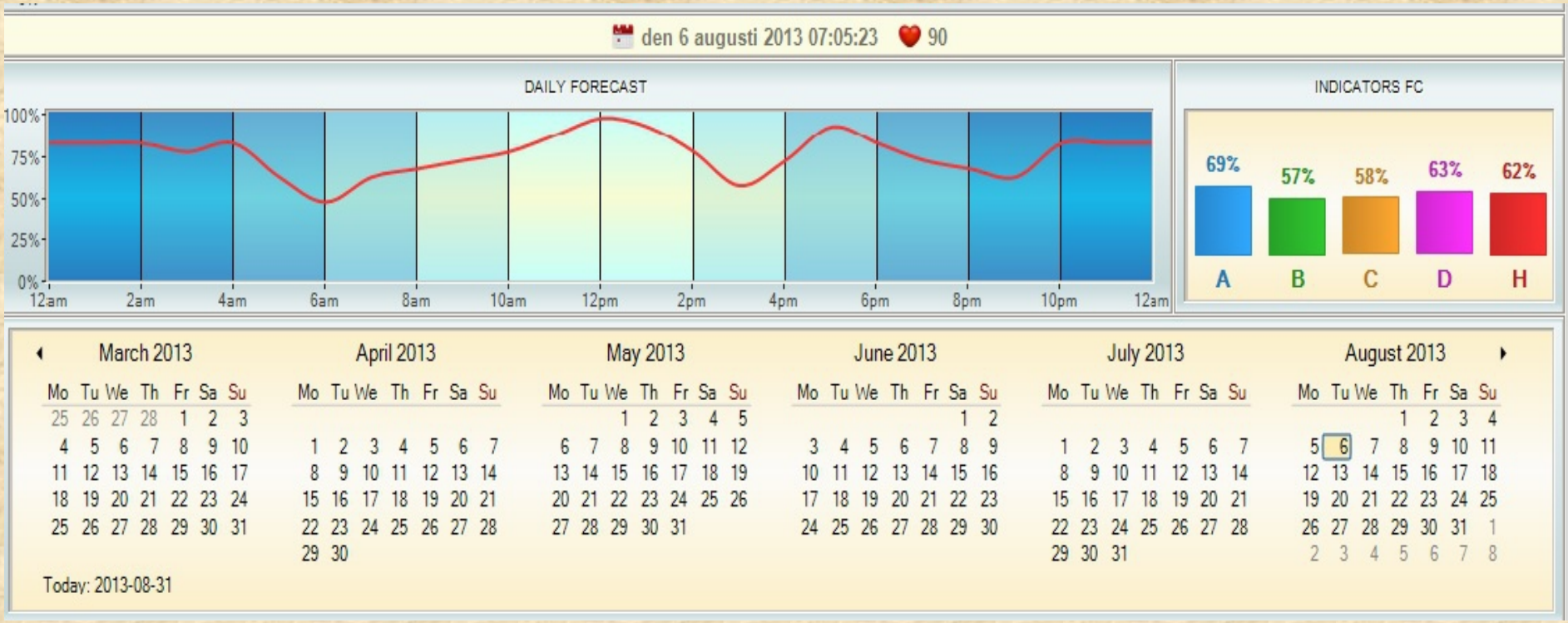




Health status for today



Difference of health parameters at different times



Daily Prognosis of health