



THE ENERGY-INFORMATION SPECTRUM OF BIOLOGICAL SYSTEMS: INVESTIGATING THE FUNCTIONAL STATE OF THE HUMAN BODY VIA BIORESONANCE SCREENING

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ABSTRACT

The article is dedicated to the objectification of the functional state of the human body through the lens of the Energy-Informational Paradigm (EIP), which views biological systems as complex, hierarchically organized objects where Energy (E) and Information (I) are inextricably linked as manifestations of a single fundamental field. In contrast to the classical reductionist model, this approach posits that all biochemical and physical processes are a dynamic expression of the $E \leftrightarrow I$ relationship.

The relevance of the work lies in the necessity of assessing the functional (energy) balance of systems at the subclinical level by studying the Energy-Informational Spectrum (EIS), which is inaccessible to traditional methods that register already formed structural or biochemical pathologies. The study examined the functional state of the body's systems using the method of Functional Bioresonance Diagnostics (FBRD) with the KRK BARS hardware-software complex on a sample of residents from the Bucha district of the Kyiv region (n=100).

The results of the screening demonstrate a relative balance in most systems, however, statistically significant deviations from homeostasis were found in two key systems, indicating energy hyperactivity of the musculoskeletal system (56.3%) and the digestive system (54.0%). These indicators correlate with possible inflammatory or degenerative processes (arthritis, gastritis, colitis) and may be a sign of a systemic process or a consequence of chronic activation of the autonomic nervous system (51.4%) due to stress, etc.

The scientific novelty of the work lies in the practical application of the EIS concept for detecting systemic imbalance and hypothetical forecasting of possible pathological states. It is proven that bioresonance screening can serve as an objective tool for assessing systemic functional imbalance and monitoring the effectiveness of therapeutic interventions.

Keywords

Energy-Informational Spectrum, Energy-Informational Paradigm, energy, information, wave interaction, bioresonance screening, functional state of the organism, homeostasis, musculoskeletal system, digestive system.

INTRODUCTION

In recent decades, a shift in the scientific paradigm has necessitated a reimagining of biological systems as complex energy-information orders. The classical reductionist model is gradually being supplemented by the EIP concept. This approach postulates that biological systems are complex, hierarchically organized objects (Prigogine & Stengers, 1986; Gotovskiy et al., 2010). According to the evolutionary principle, the increasing complexity of a biological system is accompanied by an expansion of its information spectrum (Mataus, 2025; Gariaev, 2020).

The relevance of this study lies in the need to objectify the functional state of the human body through the lens of its EIS. Unlike traditional methods, the registration of vibrational interactions allows for the assessment of systemic balance at the preclinical stage.

LITERATURE REVIEW

The current stage of development in biophysics and medicine is characterized by a transition from a purely mechanistic understanding of living systems to the energy-information paradigm (EIP). According to studies by Mataus (2025), the energy of the Universe is viewed as the fundamental basis of life, where biological objects act not merely as consumers of resources, but as complex resonators functioning across a wide spectrum of frequencies.

The issue of the hierarchical organization and orderliness of biosystems is closely linked to information theory (Prigogine & Stengers, 1986). The use of the Shannon-Wiener diversity index allows for the mathematical substantiation of the complexity of the body's internal organization: the higher the hierarchical level, the greater

the volume of information it can integrate, while simultaneously reducing internal entropy to maintain homeostasis (Calculator-Ultra, n.d.; Mataus, 2025).

Analysis of scientific works in the field of functional diagnostics indicates a growing interest in methods based on the registration of weak electromagnetic fields. Researchers emphasize that biological systems possess a unique "frequency passport." Deviations from the physiological norm (homeostasis) primarily manifest as changes in the energy-information spectrum (EIS) even before the appearance of morphological changes detectable by traditional diagnostics (Oschman, 2015; Gariaev, 2020).

In works dedicated to bioresonance technologies and energy medicine (Gotovskiy et al., 2010), it is noted that:

- **System Sensitivity:** Higher levels of organization (CNS, ANS) respond to low-intensity information signals, allowing for the detection of stress and maladaptation at early stages.
- **Energy Balance:** A state of hyperactivity (values >50%) is associated with acute phases of inflammation or compensatory tension, whereas a deficit (<50%) is interpreted as a depletion of reserves or degenerative changes.

MATERIALS AND METHODS

For the screening assessment, the method of Functional Bioresonance Diagnostics (FBRD) was applied using the KRK BARS hardware-software complex. The methodology is based on the principles of registering the body's response to low-intensity electromagnetic signals (Gotovskiy et al., 2010). The sample size consisted of 100 individuals (residents of the Bucha district).

THEORETICAL AND METHODOLOGICAL FOUNDATIONS

The concept of the **Energy-Information Spectrum (EIS)** postulates that energy (E) and information (I) are inextricably linked. The evolutionary principle suggests that the development of matter is accompanied by a decrease in the level of free energy as the degree of complexity increases (Bischof, 2005; Prigogine & Stengers, 1986). Each level of organization possesses a specific reactivity:

- **Higher levels:** Sensitivity to a broad informational spectrum.
- **Lower levels:** Reactivity is limited by an energy barrier.

FIELD OBSERVATIONS AND RESULTS

The examination results (Table 1) demonstrate the energy state of various systems. The highest levels of tension were recorded in the musculoskeletal system (56.3%) and the digestive system (54.0%).

Table 1. Indicators of the Functional State of Body Systems Based on Energy-Information Screening (n=100)

Source: Mataus, N., 2025.

Biological System	Indicator, %	Interpretation of Energy State (EIS)	Prognosis of Possible Functional/ Pathological States
Musculo-skeletal	56.3	Pronounced hyperactivity: Significant energy tension; acute or decompensated chronic inflammatory process.	Arthritis, arthrosis in the acute stage, spondyloarthropathies, pronounced fibromyalgia.
Digestive	54.0	Moderate hyperactivity: Energy tension, irritation of mucous membranes, functional overload.	Gastritis, duodenitis, Irritable Bowel Syndrome (IBS), biliary dyskinesia.
Circulatory	51.9	Mild activation: State of functional tension, strengthening of compensatory mechanisms.	Vascular hypertonus, predisposition to arterial hypertension, compensatory tachycardia.
Autonomic Nervous (ANS)	51.4	Sympathicotonia: Shift in balance toward activation (ergotropic phase), signs of chronic stress.	Neuroses, neurocirculatory dystonia, psychosomatic tension.
Muscular	50.6	Physiological limit of norm: Minimal functional tension against a background of stability.	Muscle hypertonus (primarily secondary, caused by the musculoskeletal system state).
Lymphatic	49.9	State of homeostasis: Optimal level of energy metabolism, stability of lymph drainage function.	Within physiological normal limits.
Central Nervous (CNS)	49.9	State of homeostasis: Balanced processes of excitation and inhibition, functional equilibrium.	Within physiological normal limits.
Respiratory	49.7	Initial hypofunction: Minimal energy deficit, tendency toward reduced adaptive resource.	Functional spasms, reaction to environmental load (hypoxia).

ANALYSIS OF VARIANCE (ANOVA) OF RESULTS

The General Energy-Informational Profile demonstrates a relative functional balance across most systems. However, against the backdrop of Autonomic Nervous System (ANS) activation (51.4%), which serves as an indicator of chronic stress loading

(Bischof, 2005; Prigogine & Stengers, 1986), two zones of dysfunction were clearly identified: the Musculoskeletal System (MSS) (56.3%) and the Digestive System (54.0%). This correlates with the principles of functional medicine, where elevated indices indicate energy tension or inflammation (Oschman, 2015).

The simultaneous increase in the activity of these systems may indicate a systemic process or psychosomatic influence via viscerosomatic reflexes, as detailed in energy medicine literature (Yanovsky, 2021).

Summary: Analysis of variance indicates that ANS activation is a marker of chronic stress. The concurrent activation of the MSS and the digestive system may result from viscerosomatic reflexes described in the works on energy medicine (Gotovskiy et al., 2010).

HYPOTHETICAL CORRELATION AND INTERCONNECTION

The simultaneous increase in activity within two key systems (MSS and Digestive)

may indicate a systemic pathological process or an interconnected mechanism:

- **Systemic Inflammatory Process:** For example, seronegative spondyloarthritides, which often present with extra-articular (intestinal) manifestations.
- **Psychosomatic Influence:** Chronic ANS activation (51.4%) due to stress can cause increased muscle spasms and gastrointestinal dysfunction through viscerosomatic reflexes.

PROGNOSIS OF POTENTIAL DIAGNOSES

Based on the pronounced elevation of indices in priority systems, the following conditions requiring verification may be hypothesized (Table 2).

Table 2. Prognostic Assessment of Potential Pathological Conditions Based on EIS Deviations

Source: Mataus, N., 2025.

System (EIS Index)	Hypothetical Pathological States and Syndromes	Rationale Based on Energy-Informational Tension Criteria
Musculoskeletal (56.3%)	<ul style="list-style-type: none"> • Degenerative-dystrophic diseases of the spine (osteochondrosis) with pronounced myofascial syndrome. • Arthritis and arthrosis in the stage of decompensation. • Systemic fibromyalgia. 	The index significantly exceeds the homeostasis threshold (>5% from the norm), indicating an active inflammatory phase or high energy cost for maintaining the system's structure.
Digestive (54.0%)	<ul style="list-style-type: none"> • Chronic gastroduodenitis or colitis in the acute phase. • Irritable Bowel Syndrome (IBS). • Biliary dysfunction (hypertonic type). 	Energy excess indicates hypermotility and irritation of the mucosal receptor apparatus against a background of functional tension.
Systemic and Concomitant Disorders	<ul style="list-style-type: none"> • Psychosomatic disorder: influence of chronic ANS activation (51.4%) on GI motility and skeletal muscle tone. • Systemic inflammation: associated link between intestinal dysbiosis and reactive changes in the joints (enteropathic arthropathies). 	The identified simultaneous activation of two key systems (MSS and Digestive) often points to a systemic or interconnected pathological process.

ENERGY PROFILE AND GENERAL CONCLUSION

The profile of the examined cohort demonstrates a relatively balanced functional state

for most systems. However, against the background of minimal ANS activation (51.4%), two systems with pronounced energy tension/hyperactivity/inflammation stand out:

- **Musculoskeletal System (56.3%)** — priority deviation zone.
- **Digestive System (54.0%)** — notable tension zone.

The results of Functional Bio-Resonance Diagnostics (FBRD) obtained via the KRK BARS complex provide information regarding the presence of imbalance in the energy-informational spectrum of the biological systems studied, specifically:

- Priority targets for further medical analysis were identified: MSS and the digestive system.
- Bio-resonance screening was confirmed as an objective tool for assessing systemic functional imbalance correlating with potential pathological states.
- The hypothesis regarding the correlation between changes in energy state and possible functional/pathological conditions of the body was accepted.

IMPORTANT NOTICE

This functional screening is not an independent medical diagnosis. Accurate verification of pathological conditions requires a comprehensive clinical and laboratory examination according to the standards of evidence-based medicine, including:

- **Specialized consultations:** Rheumatologist/Orthopedist, Gastroenterologist.
- **Laboratory markers of inflammation:** C-reactive protein (CRP), Erythrocyte Sedimentation Rate (ESR).
- **Instrumental imaging:** MRI/X-ray of joints/spine, Ultrasound, and endoscopic examination (as indicated).

Recommendations

Repeat monitoring of EIS (Energy-Informational State) indices after corrective procedures can serve as an objective tool for assessing the effectiveness of therapeutic interventions.

Conclusions

This functional screening is not a stand-alone medical diagnosis. Accurate verification of pathological conditions requires a comprehensive clinical and laboratory examination in accordance with the standards of evidence-based medicine, including:

- **Specialized consultations:** Rheumatologist/Orthopedist, Gastroenterologist;
- **Laboratory markers of inflammation:** C-reactive protein (CRP), Erythrocyte Sedimentation Rate (ESR);
- **Instrumental imaging:** MRI/X-ray of joints/spine, Ultrasound, and endoscopic examination (as indicated).

RECOMMENDATIONS

Follow-up monitoring of EIS (Electronic Interstitial Screening) parameters after corrective procedures can serve as an objective tool for assessing the effectiveness of therapeutic interventions.

CONCLUSIONS

1. **Theoretical Framework:** Biological systems are hierarchically organized entities where $E \leftrightarrow I$ processes are interconnected (Prigogine & Stengers, 1986; Gotovskiy et al., 2010).
2. **Screening Results:** Risk zones were identified in the Musculoskeletal System (56.3%) and the Digestive System (54.0%).
3. **Clinical Interpretation:** Values $>50\%$ indicate energy tension, which correlates with published data regarding inflammatory processes (Gotovskiy et al., 2010).
4. **Practical Significance:** The bioresonance screening method is an effective primary monitoring tool for identifying “risk zones” prior to further verification using evidence-based medical methods.



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