

Sympathetic Resonance Technology (SRT): A Subtle Energy Technology for Noise Reduction in Physical and Psychophysical Systems



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INTRODUCTION

Scientists and engineers have been concerned with signal and noise since the early days of radio and telephone communications. Noise in electronic systems has come under intense scrutiny in recent times, especially since the amount of electronic information we process and transfer is enormous.

Signal and noise are also important in biological systems. In communications within the body itself, in maintaining health and avoiding disease, signals are vital. If inappropriate signals are processed in the body, this may result in a disease. Further, biophysicists trying to understand life and death from a fundamental perspective, have formulated that 'signals' and their processing are compatible with life while noise and its proliferation constitutes death itself.

Any organized system requires transmission and interpretation of specific signals. When signals breakdown, and when noise overtakes the signals, then chaos results and disorder prevails. If it is transitory, health could be restored. If it is permanent, then death might result. In fact, one might posit that life is a constant struggle to maintain a certain amount of signal in spite of ongoing noise.

Thus, we see in physics and in biophysics — in the world around us and the one within us — that reduction and possible elimination of noise is an important task. We define a parameter called Signal-to-Noise ratio or simply S/N which should be larger than 1. In other words, signal should always be larger than the noise. In most physical systems, we operate in a way to maintain this condition. If S/N is less than 1 (signal smaller than noise), we are running into trouble. Under these conditions, a physical system will become useless, and a psychophysical system will become sick. Thus, reducing noise and preserving the integrity of a signal are necessary in many areas of human endeavor.

Let us review briefly the origin of noise and methods available for noise reduction in electronic systems.

NOISE REDUCTION SCHEMES

Noise is a fundamental property of all physical systems that operate at finite temperatures. Even the best electronic chips, manufactured under the most stringent conditions exhibit noise. This is due to the fact that in the atomic and molecular make up, ever so small imperfections make the electronic flow random, and hence the material becomes noisy.

Now there is a simple way, at least in theory, to reduce and ultimately eliminate noise. This is by reducing the temperature at which a device operates. As the temperature is reduced, the random motion of electrons in the device reduces; the noise contribution due to this effect also reduces. It is known that noise can be eliminated entirely when a device operates at absolute zero temperature. This temperature corresponds to — 273 degrees Celsius (about — 460 F). NASA has employed this principle to reduce noise and receive meaningful messages from probes that have gone past the solar system.

Thus, a simple method to improve S/N in electronic and perhaps physiological systems is to reduce temperature at which they operate. However, this is not practical, nor is it always possible. All life as we know it comes to a standstill at very low temperatures. No activity could take place in physical systems as well; the entire environment would become still and silent. In this silence, even signals do not exist.

Therefore, radical temperature reduction is not a practical method for reducing noise. Other electronic methods are available in technology to extract signals, which have levels much smaller than noise. However, all these require the power of a supercomputer, complex algorithms and advanced signal processing techniques.

If a simple, practical method could be implemented for noise reduction, it will benefit immensely both our technology and medical sciences. A special method of noise reduction using very minute subtle energy fields is presented in what follows. First, let us briefly understand what subtle energy fields are and then describe a device that seems to manipulate these energies in reducing noise.

WHAT ARE SUBTLE ENERGY FIELDS?

The term Subtle Energy (SE) is of recent origin. SE could mean a physical energy, such as electromagnetic or acoustic, that is of such low intensity we have no means of measuring it presently. The sensors we have designed in the laboratories are not sensitive enough to directly discern these fields. In this definition of SE, we are dealing with a physical field which is of very low magnitude.

Several scientists in the United States (Tiller, Bearden, Rein, Putoff, Green, and Srinivasan) have studied SE and its effects. Though each has developed his own nuanced theory of SE, in general they all tend to concur that SE phenomena is related to a type of unified energy, and is not just a physical field of very low magnitude.

Contemporary quantum physics has mathematically described and predicted the presence of a unified energy which underlies conventional transverse electromagnetic (EM) vectors. The concept of a subtle energy underlying EM fields was first introduced by Bohm and Aharonov in describing quantum potentials as an implicate order "embedded in" our normal 3-D space. It has recently been proposed that an additional implicate order is embedded within the quantum potentials.

This higher-dimensional space is composed of an energy, which has been called time-reversed waves, non-Hertzian waves, longitudinal waves, scalar waves, or zero-point energy.

The classical EM fields have been under investigation since the laws of Maxwell were established more than 150 years ago in England. We know all about the physical fields; we can generate, manipulate and use them for purposes such as long distance communication, computer applications and measurement techniques that are proliferating all around us. However, our knowledge regarding SE fields is expanding slowly. We present below a view of SE field generation based on some of the latest theories in quantum physics.

PHYSICS OF SUBTLE ENERGY FIELDS - ZPE

Subtle Energy fields might be a fundamental manifestation of energy that underlies classical energy systems. We need to invoke current theories in physics to postulate possible scenario for SE production. It is known that what we thought of as vacuum or empty space is not really so. Quantum theory predicts this vacuum is really a container of enormous amounts of energy. Particles seem to appear and disappear out of this vacuum. Such processes are presently called Zero Point Fluctuations (ZPF), providing an infinite energetic background for the physical world.

The manifestation of elementary particles from this vacuum and their disappearance proceeds continuously and is postulated as the basis for the formation of the universe as we know it. At the level of ZPF, Zero Point Energy (ZPE) is converted into matter and matter falls back into this ocean of ZPE. If we can 'mine' even a small part of this vast energy, we can theoretically supply the energy requirement of the world for a fraction of the cost of conventional energy sources. Renowned scientists, several of whom seem close to extracting this energy, are making attempts at this.

Now, one might ask, how is this ZPE connected with SE? It is likely that as particles are formed from vacuum (which as we said, is a concept emerging from quantum physics) there are associated radiations. As particles emerge and disappear, these radiations also appear and disappear. It is similar to when ripples are formed as stones are thrown into still water. As each stone disappears in water, it produces waves at the surface of water. Though there is no mathematical proof for production of SE through this method, it is likely such a mechanism exists in the vacuum state. Quantum mechanics postulates elementary particles do have specific energy states, which have certain finger print radiation patterns. Hence the above model for subtle energy radiations is well within the possibilities of theories in modern physics.

While the production and radiation of SE fields could possibly be within the realm of physics, the design and use of SE field devices most likely require novel engineering constructs. It is likely these SE fields can be focused and down-converted through special energy-information transduction techniques which couple the multi-dimensional SE fields to three-dimensional force fields.

It is likely, then, if SE fields are focused, they can be brought out from the Zero Point Energy itself. As SE fields emerge out of ZPE, they may be beyond physicality (and hence not possible to measure); however, after transduction, they seem to manifest as quasi-physical energies. Or they directly influence the behavior of classical field phenomena. After such a change in energy format, SE fields become 'useful' and take part in energy interactions with physical fields such as electromagnetic and acoustic.

SUBTLE ENERGY DEVICE DYNAMICS - PROF. TILLER THEORY

While the above thoughts could very well be mere speculation which could face premature mortality as physics advance, we need to ponder over these ideas with the backdrop of a particular instrument which seems to fall within the category of SE field generation and its interaction with the physical world, especially with electromagnetic and bioelectromagnetic phenomena.

There are a set of SE instruments devised by Clarus Transphase, L.L.C. and its affiliate company Clarus Products International, L.L.C. These devices are called Sympathetic Resonators (SR) and use Clarus's proprietary Sympathetic Resonance Technology (SRT). A brief report is presented regarding these devices which have undergone many laboratory trials and seem to produce consistent and measurable changes in both physical and psychophysical systems.

The Clarus devices consist of a family of hardware platforms. Each hardware platform has certain formats imprinted in the electronic or non-electronic circuitry such that transduction and coupling of SE fields to physical phenomena is achieved. These formats are delivered via the proprietary "Sympathetic Resonance Technology" (SRT) developed by Clarus. Clarus has developed the capability to generate an almost infinite number of variations of subtle energy fields using SRT. It has been found that different types of SE fields are suited for specific applications. Testing has also shown that the SE field intensity falls off as Inverse Square of distance; in other words, they have a radius of action beyond which their efficacy reduces.

Because the SE fields cannot be measured directly, the effects of the Clarus Sympathetic Resonators on physical and psychophysical phenomena are being tested. Once the SE field is generated and coupled to a physical field, or application, its effects are then studied.

An overview of the theories proposed by Prof. William Tiller of Stanford University (former Chairman of the Materials Science Department and Guggenheim Fellow), who has worked extensively with Clarus, provides a more detailed explanation of the possible mechanism of causation.

Prof. Tiller has proposed that magnetic vector potentials are the means by which energy exchanges occur between subtle energy fields and the physical world of electromagnetics. It is likely that the energy generated through magnetic vector potentials from the fundamental ZPF is 'pure', and can influence fields and matter around it through resonance effects.

Resonance occurs when two objects have frequencies of oscillations that are close to each other. When two such systems are in proximity, then they will resonate at the frequency dictated by the stronger of the two oscillations. For example, when a string in a guitar is plucked, any string, which is at a nearby resonance, will start oscillating at the driven frequency.

Similarly, the strong oscillations at the fundamental ZPE level will couple with other material oscillations and organize them to its proper frequency. Further, the ZPE generated field is considered coherent. In other words, a pure noise-free field is radiated from the Clarus SE transducer. This would serve to bring electromagnetic phenomena to a new coherent order with less fundamental noise within the vicinity of the Clarus SRT devices.

Thus, resonance and coherence are two important aspects of SE fields. The physical field that emanates from the SE device is highly coherent and induces resonance in material objects as well as electromagnetic force fields around it. The property of coherence is important in many systems, including the psychophysical. For example, information is transmitted across junctions in the human nervous system because of coherence. Even at the gross level, activities such as speech, movement of limbs and other functions are possible because of a coherent behavior of many subsystems. We can see the effects of loss of coherence in diseases such as Parkinson's and spasticity.

Tiller summarizes the four ways subtle energy and thus a Clarus SRT device can relate to and influence classical electromagnetic phenomena:

1. Subtle energy may directly influence the ordering of fundamental magnetic properties, which would regulate the fundamental magnetic behavior of all electromagnetic fields in the range of the subtle energy device.
2. Subtle energy may be related to magnetic vectors, such that the vectors serve as the media whereby the properties of subtle energy are able to impact electromagnetic phenomena.
3. Subtle energy may be the rarefied form of magnetic vectors, or one and the same phenomena.
4. Other properties of subtle energy may exist that impact sub-atomic particle phenomena through quantum field interactions, and thus they would indirectly influence forces such as magnetic phenomena.

If the magnetic vector were used as a medium or vehicle to store and transport and disseminate this energy, it would carry the new magnetic value to the electromagnetic phenomena in the environment, most likely through the mechanism of resonance. The same result would occur if the magnetic vectors were physical attributes of non-physical subtle energies, as if they were the flip side of the same coin.

Because electromagnetic radiation is composed of both an electric component and a magnetic component, the electric component will be always be directly affected by magnetic shifts. This is based on the principles of magnetics, where magnetic fields influence charged particles in motion such as photons, the carriers of electromagnetic force.

Thus, if a SE device can influence electromagnetic phenomena, it would be theoretically expected to influence a wide variety of phenomena spanning physical, chemical, biological, and psychophysical systems.

At the basic level of physics and chemistry, the following would be expected to occur in a Clarus SRT Subtle Energy field:

- Electron flows become more efficient
- Electromagnetic interactions become more efficient
- Molecular bonding become more efficient

Let us briefly review the experiments conducted with various Clarus SRT devices and interpret the results within the framework of the models proposed above.

1. Reduction of Noise in Lasers

Coherence is an important concept in the quantum oscillations in many devices such as lasers. Laser is an acronym that stands for Light Amplification through Stimulated Emission of Radiation. In a laser, a coherent light is produced in a device (consisting of special gas or a crystal) whose properties are very different in comparison to light from a household electric lamp. A phenomenon that affects the performance of lasers is known as 'jitter'. This jitter occurs due to a lack of coherence at the subatomic level. Thus jitter is quantum noise that limits the use of lasers in many applications. If jitter could be reduced, more precise measurements, medical applications, and optical information and storage retrieval applications are possible using lasers. In the experiments conducted by Clarus, it is found that laser jitter is indeed reduced due to exposure to SE fields. It is postulated this is possible due to coherent ordering of resonant fields of the SE device. Since the Clarus SRT device produces electromagnetic radiation from the ZPF directly, it achieves coherence at quantum level, which is thought to be responsible for noise reduction in lasers, leading to greater stability in these systems.

2. Increase in Battery Life

The life of small batteries is limited due to material imperfections and manufacturing tolerances. Again, if we can reduce material imperfections at subatomic level, it is likely we can increase battery life through greater efficiencies in the chemical reactions. In experiments conducted with Clarus SRT devices, button cell batteries of different chemistries are exposed to the SE fields and are then shipped to a third party testing laboratory. When the SRT-exposed button cell batteries are tested against the control group, their life is found to be considerably extended. For example, a battery whose life was about 5 hours of continuous operation was useful for up to 10 hours after exposure to the Clarus SE fields. There was one type of battery whose life increased by up to 2000%.

3. Sound and Picture Perception in Audiovisual Systems

In audio and TV systems, noise is a major contributor in reducing the quality of transmission. Use of a special Clarus SRT device has improved significantly the quality of audiovisual transmissions. As discussed earlier, reduction of this type of noise is achieved either by reducing the temperature of the device or by ordering the quantum processes in the generator, making the output more coherent. An increased coherence is the same as reduced noise. With Clarus, the audio video electronics are probably improved, and the acoustic waveforms in the room are most likely more properly aligned to one another, which improves the clarity and purity of sound.

Clarus is able to achieve these results even by using off-the-shelf compact discs that have been exposed to master Clarus field. Clarus is also experimenting with the direct application of SRT to compact discs and DVDs.

4. Experiments Using Restriction Enzymes

Clarus conducted experiments to test for the subtle energy effects on restriction enzymes used in molecular biology laboratories. The assay utilized a restriction enzyme called Sma-1, which recognizes a specific nucleotide sequence within a dsDNA sequence. By incubating this enzyme with a plasmid with a unique Sma-1 restriction site, one is able to compare a control reaction with a similar reaction subjected to the Clarus subtle energy fields. Compared to the control unit, the Clarus SE fields induce a marked increase in the reaction product averaging 33%. This is a substantial increase in the processivity of this class of enzymes.

5. Experiments in the Biological and Psychophysical Arena

Biological experiments were conducted by Clarus to observe cellular behaviors in a SE field. The term psychophysical is used to denote the mind-body complex that make up all life forms. Experiments conducted with a Clarus SRT device in this arena are limited to humans.

In the biological experiments, the cellular system *Trypanosoma cruzi* Metacyclogenesis Assay was chosen. There are many quantitative end points available for this assay and hence its study was undertaken. These studies are carried out at biology department of the University of California, Irvine. Well-controlled and double blind protocols are used to ensure the effects observed are entirely due to the Clarus device and not due to any external biases. The results point out clearly that the Clarus device inhibited metacyclogenesis, which indicates reduced physiological stress levels. According to researchers, a reduction of 5 per cent stress levels would be considered significant; the Clarus device reduced the levels by up to 36 per cent.

Since the cellular system is simple to study and since the results are robust, it is fair to conclude the efficacy of Clarus SRT for reducing stress is indeed high.

As mentioned earlier, stress is noise introduced into the cells. If noise swamps out the signal, the cell would die. Clarus SRT is able to reduce stress perhaps through maintaining the fundamental oscillation frequencies of the biological system.

This is possible through resonance coupling discussed earlier. When the coupling between the fundamental ZPF generated frequency and the biological system is strong, it is likely any external noise frequencies are not able to destabilize the cells.

This experiment, conducted by a major university, is an elegant one; it also proves without ambiguity the efficacy of a Clarus SRT device in reducing stress in cell cultures.

Experiments employing the mind-body complex were also conducted. The first experiment in this category is the use of a Clarus SRT device in reducing muscle tension in subjects in front of a computer monitor and a television. Measuring the electrical activity of hand muscle tested the muscle tension. As we know, the peripheral muscles of the body tense when we are under stress, they tend to relax as we relax. The tension of the muscles can easily be measured using methods from physiotherapy and rehabilitation. It was noted in these experiments, the Clarus SRT device reduced tension from the computer monitor by 36 per cent and from the television by 17 per cent. Again, the interpretation of these results is based on the maintenance of eigenfrequenz (the innate resonance frequency) of the organism with the help of the Clarus SRT device.

A second experiment conducted is to correlate improvements in acupuncture energy to the wearing of the Clarus Q-Link with SRT. Initially, a group of twelve patients were tested for acupuncture imbalance through AK (Applied Kinesiology). This is an accepted though subjective procedure whereby a muscle is tested for strength while the corresponding meridian is stimulated. Once the acupuncture imbalance is detected, the patients were recommended to wear the pendant over the heart area and during daytime

only over a period ranging from three to six months. Ten out of 12 patients seemed to recover from the imbalance initially noted. Two had imbalances other than the one initially observed, it is likely that they had other problems either initially or acquired later. It is thus likely that the pendant removes acupuncture imbalances in subjects thus enhancing the healing process. Further, wearing the pendant seems to improve emotional balance, aid in personal growth, and facilitate a positive attitude. These reports are generated by patients who were wearing the pendant and though subjective, are of importance in problems related to personal growth.

Many other reports have been received by persons working in a high electromagnetic field (EMF) environments such as in front of computer terminals, using cellular phones and in general living in areas where the EMF could be above recommended safety values. In many cases, we are unaware of the fields since they are well below perception threshold for our sensory system.

EMF results in undefined stress in the body, manifesting as low energy, chronic fatigue, feeling of helplessness, depression and occasional intense emotional imbalances. In such cases where EMF is present, wearing the pendant seems to ward off stress symptoms. Testimonials regarding such positive effects are consistent from many users, and at least a dozen independent tests conducted by highly qualified Applied Kinesiology professionals confirm these reports.

In line of earlier discussed model of resonance and coherence, it is likely that the Clarus SRT devices strengthen and maintain the natural frequencies of the bioenergy system through resonance. By providing stable and coherent bioenergy compatible frequencies, Clarus makes sure external noise does not destabilize the inherent frequencies of the bioenergy system. These inherent natural frequencies are called 'eigenfrequenz' (in this document, eigen meaning 'its own' in German) after similar nomenclature in physics. Thus, maintaining eigenfrequenz is important and if Clarus indeed achieves this, as it seems to, this is an important contribution to bioenergetic health maintenance.

Conclusion

The Clarus SRT devices are an interesting category of Subtle Energy devices, which seem to down-convert Zero Point Energy and Zero Point Fluctuations of the vacuum energy into measurable physical energy effects. Several models for this conversion process are proposed in this document. Potential commercial and consumer applications range from reducing noise and increasing stability in physical systems to providing consistent and natural resonant frequencies to psychophysical systems. Reducing and ultimately eliminating noise is a major concern in electronic and biological systems.

If Clarus SE fields reduce noise, especially at a fundamental level of the atomic or quantum processes, then we have for the first time, a room temperature device that has immense potentials in the technological arena. The experiments related to increased battery life and improved laser performance indicate just that possibility.

Reducing noise is the ultimate frontier in biology as well. The traditional eastern concepts of health have emphasized the need for the physical body along with subtle bodies to maintain a dynamic equilibrium in the flux of human activity and environment.

Subtle energies from the universe course into the human body through the bioenergy system, and after conversion into physical forces, aid the physical body in maintaining health. If this picture of eastern medicine is even partially true, then a device, which captures this SE, could perhaps help in health maintenance. The Clarus SRT devices have the elements of mechanism necessary for transduction of SE.

Through resonant and coherent fields, Clarus SRT provides a reference for the body to tune into; any external (or internal, for that matter) radiation that tends to move the body to a different frequency is counteracted. A frequency other than eigenfrequenz is noise. Thus Clarus SRT devices seem to shield

the external noise, such as man-made electromagnetic fields (EMF), and prevent it from disrupting the system.

Thus, if Clarus SRT fields are resonating with the most fundamental frequencies in the body, perhaps they can be useful in many diverse applications in prevention, therapy and rehabilitation.

Hopefully the wide variety of Clarus SRT field applications will be validated and made commercially available in the not too distant future.

Dr. Srinivasan received a Ph.D. in Electron Physics at Goteborg, Sweden, after which he returned to his native India to help set up a Biomedical Engineering department at Madras. He served as Chairman of the International Conference on Energy Medicine at Madras during March, 1987, the papers from which are reported in his edited book, Energy Medicine Around the World.

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