



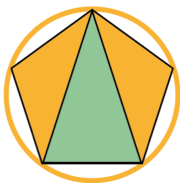
Unifying
Fields



Restoration
Power

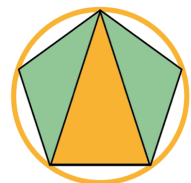
The Soliton Wave

White Paper



**Unifying
Fields**

The Soliton Wave



**Restoration
Power**



Executive Summary

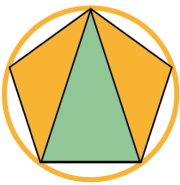
The early history of solitons or solitary waves began in August 1834 when the Victorian Engineer John Scott Russell observed a solitary wave travelling along a Scottish canal. Subsequently two Dutch scientists (Diederik Korteweg en Gustav de Vries) developed the exact mathematics of Soliton Waves in 1895. From then on Solitons got more attention in the scientific literature and many publications were made to increase our understanding of Solitons.

It was not until 2018 that a scientist in our network discovered the electromagnetic signature of the soliton wave on an oscilloscope in his lab. It took some time to realise what he had found. The first impulse was to see what would happen if the wave was exposed to certain materials. It was then that he discovered that the wave created the effect of Room Temperature Superconductivity (RTS) in matter.

Superconductivity was discovered by the Dutch scientist Heike Kamerlingh Onnes in 1911. Since then it has been a holy grail in science circles to find materials which demonstrate RTS. As of 2021, the superconductor with the highest transition temperature at ambient pressure is around 133 K (−140 °C).

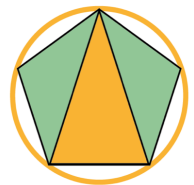
An article was published about his truly historical invention in a science journal. We are now aware that the discovery opens many avenues for innovative products in the future. An important point is that the soliton is a natural phenomenon which creates technologies which are in harmony with the principle laws of nature. We now stand for the grand challenge of developing the many practical applications that the Soliton Wave offers. A summary of these applications is provided in the body of his document.

To fund our research activities we have developed the Earth-Bond. It is a normal interest bearing bond with a special flavour. It signifies our bond with nature and our commitment to develop technologies which function according to the laws of nature. It is the beginning of a new time. We want to attract funders who understand the challenge we face and want to help our society advance towards its next stage: Living in harmony with Nature.



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The Soliton Wave

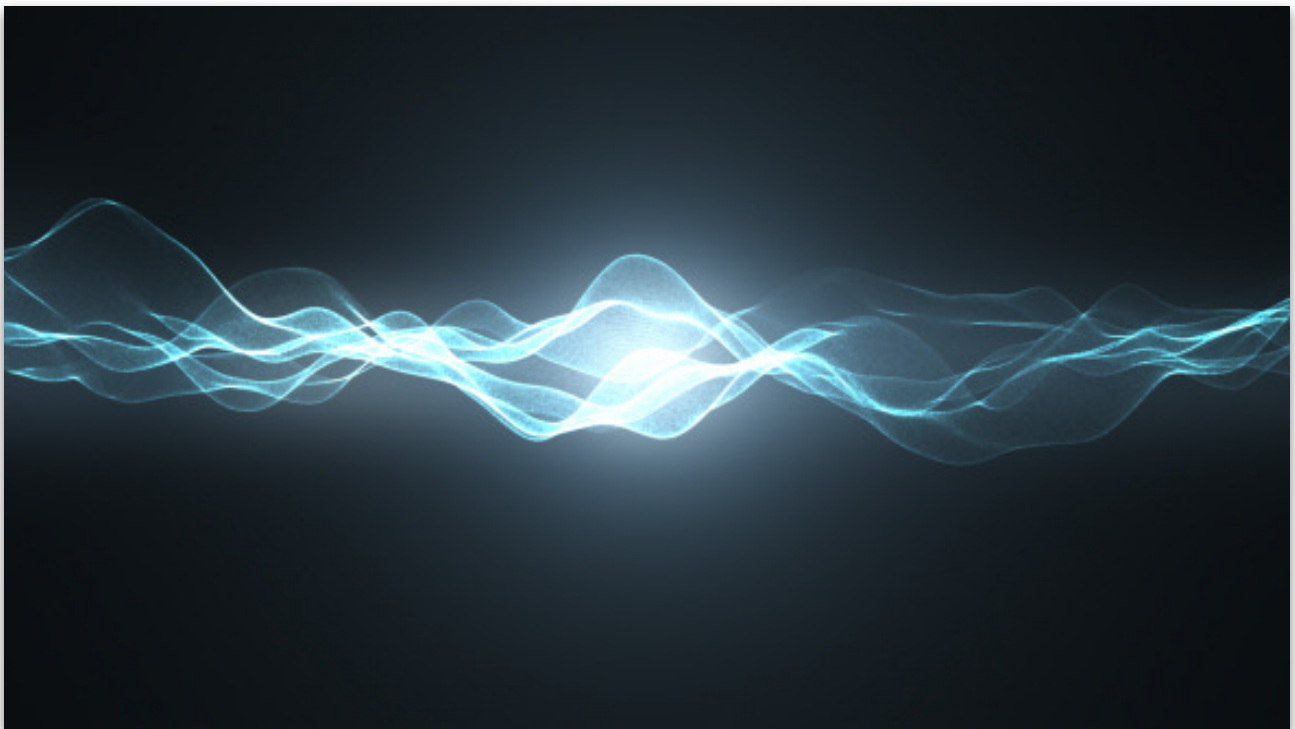


Restoration
Power

1. Introduction

A few years ago an inventor in our network discovered a wave phenomenon which created the effect of Room Temperature Superconductivity. The first application of this invention is being worked on at this time. It is the reduction of electrical resistance (the Joule effect¹) in electricity transmission lines.

This invention is significant since it could increase the capacity of the world's electricity grids. In the Netherlands about €10 billion is spent each year to increase the capacity of the electricity grids. In Germany the annual costs amount to € 50 billion. Globally these costs amount to about € 2.5 trillion.



Superconductivity was discovered by the Dutch scientist Heike Kamerlingh Onnes in 1911. He found that all materials demonstrate superconductivity at zero degrees Kelvin or -273 degrees Celsius². At that temperature matter is superconducting. Achieving Room Temperature Superconductivity (RTS) in matter has been a holy grail in science ever since. Since RTS is one of those impossible inventions we published an article about our findings in a scientific journal about this³.

RTS offers many new possibilities for practical applications. These are: more efficient electricity grids, ultrafast and energy-efficient computer chips and very powerful magnets that can be used to levitate trains.

Furthermore RTS materials could be applied to create efficient fusion reactions, more efficient solar panels, high capacity electricity storage devices, and highly efficient thermo-electric convertors.

In our research work it was discovered that the RTS effect can be created by imposing materials to a so-called Soliton wave. As we saw the signature of this Soliton (Wave) we found a way of synthesising it in our laboratory.

Initial tests have been conducted successfully on a small transmission line. Now we are increasing the power of this device so that it can effectively reduce electrical resistance in the major power grids. This could save trillions in the world's power grids.

Having discovered the RTS technology we stand for the challenge to increase the capabilities of the technology and identify the full scope of all potential applications. To undertake this task we need to enhance our laboratory facilities substantially and hire more staff.

The many applications this technology offers can change our global society drastically, much to the benefit of current and future generations. In effect the Soliton (wave) we found represents the way nature operates to create order and complexity in all that it manifests. We will come back to this realisation later.

2. History of the Soliton (Wave)

The early history of solitons or solitary waves^{4,5} began in August 1834 when the Victorian Engineer John Scott Russell observed a solitary wave travelling along a Scottish canal.

The definitive theory and mathematics was not published until 1895 by the two Dutch mathematicians Diederik Korteweg⁶ and his colleague de Gustav de Vries⁷, working at the university of Amsterdam.

The subject was reborn in Plasma Physics in 1958 with the discovery, by J. H. Adlam⁸ and the author, of "solitary waves in a collision-less plasma containing a magnetic field".

In 1965 Zabusky and Kruskal found⁹, by numerical investigation, that such waves retain their identity after colliding. This particle-like behaviour led these authors to introduce the term soliton to replace the term solitary wave.

In mathematics and physics, a soliton is a nonlinear, self-reinforcing, localised wave packet that is highly stable, in that it preserves its shape while propagating freely, at constant velocity, and recovers its form even after collisions with other such localised wave packets. We can see Soliton waves in shallow water, in fibre optics, but also in proteins.

In our laboratory tests we found two types of solitons, a dark soliton which increases electrical resistance and a bright soliton decreases electrical resistance. An article was published in the scientific literature about this finding¹⁰. More articles were written about the appearance of bright and dark solitons¹¹.

More recently an article was published¹² which revealed that solitons are also observed in natural systems. It was discovered recently that nonlinear systems that support solitons can often, (under proper conditions,) give rise to Self-Similarity and Fractals on successively smaller scales. Such fractals can be observed in most soliton-supporting systems in nature.

It is well known that Nature evolves according to fractals. We see fractals everywhere, in trees, plants, fungi, rivers, clouds, ice crystals, animals and all parts of the human body.

Fractals are known as geometric shapes that display similarity through the full range of scale—that is, they look the same no matter how big or how small they are. And they are, in fact, ubiquitous in nature.



There are many examples of fractals that we encounter in everyday life. Pineapples grow according to fractal laws, and ice crystals form in similar fractal shapes. Fractals allow plants to maximise their exposure to sunlight. They allow cardiovascular systems to efficiently transport oxygen to all parts of the body.

In plant biology, fractal designs are called spiral phyllotaxy, the word "phyllotaxy" simply referring to the arrangement of leaves on a plant. There are good reasons for the

upturned, coiling leaves of the spiral aloe (Aloe Polyphylla) and some Echeveria varieties: They help funnel rainwater to the plant's core and prevent top leaves from shading out bottom leaves.



In short we can conclude that solitons create fractals. It is the way nature evolves at all scales, the micro scale of fungi to planetary systems and milky ways. Therefore it is important to state that Solitons are a natural phenomenon and in perfect harmony with the principles of Nature.

3. Solitons: An extraordinary Invention

When we review the history of Solitons over the last 190 years we conclude that many scientists contributed to the full appreciation of Solitons. Solitons are part of Nature. About five years ago we found the signature on an oscilloscope in one of our labs.

It is extraordinary that we find this signature at this time. It is our duty to explore all possibilities of applications of the Soliton. As said before, there are many applications. We will review those shortly in the next paragraph.

The analogy between the Soliton Technology and 'Low Energy Nuclear Reactions', LENR technology is striking. Both are aspects of the way the Universe and Nature evolves. The accelerating expansion of the universe causes LENRs to take pace.

The Soliton is a self accelerating wave which creates fractals (order) in nature. One could say with certainty that Solitons represent an aspect of the organising principle of the Universe.

4. Applications of Solitons

4.1. LENRs

We have found that fusion reactors work best when ultra dense hydrogen is created in the crystal lattice of metals. In the science literature it is expressed as $H(0)$.

The Soliton technology creates $H(0)$. In the literature we find several sources which determined the density of $H(0)$. It is suggested that the density is in the order of 100kg/cm^3 . Gaseous hydrogen has a density of about $0,08375\text{ kg/m}^3$.

This means that density of ultra dense hydrogen is about 1 billion times the density of gaseous hydrogen. It is also suggested that ultra dense hydrogen constitutes a large part of the dark matter that has been found in the Universe. It is very likely that $H(0)$ plays an import role in the further development of the LENR Technology.

4.2. Electricity Transmission

Currently tests are going on in our laboratory with the application of the Soliton Wave in the transmission of electricity. We have already demonstrated the functioning of power transmissions at a low power level. Work is in progress to achieve efficient power transmissions at higher power levels. There is also a good relationship with a Dutch grid operator who is keen to execute a pilot once we have successfully finalised these tests. As we have said before, the savings that can be achieved with the implementation of the Soliton technology in the power grids are very significant.

4.3. A New Battery

The Soliton technology can create a denser storage of electricity in batteries as a result of creating a super battery, also called a super capacitor or a quantum battery. This innovation could be very useful in storing locally produced energy from solar panels or energy from wind turbines. This could also reduce the amount of power which is transported through the power grids at times that there is no grid capacity available.

4.4. Improve efficiency of Solar Panels

Research has indicated that the PV effect is directly related to the (super)conductivity of materials. In this case there is very little heat loss (no resistance) and it was found that almost the full spectrum of sunlight can be absorbed due to the very low energy gap (E_g) in a superconductive material. This application could substantially increase the efficiency of solar panels. Due to the lower energy gap more solar energy could be captured more of the time and a wider band of the solar spectrum can be captured

4.5. Improve efficiency of Thermo-electric-convertors

Thermo-electric-converters are devices which convert heat into electricity. It is apparent that the soliton technology could increase the efficiency of these devices. This could be useful to convert low level heat (which is now disposed of to our rivers and seas) from the many power plants into useful electricity. Currently the maximum efficiency of these convertors is about 5%. This makes them uneconomical. We expect that a substantial increase in the efficiency can be achieved.

4.6. Increase charging rate of Electrical Vehicles (EV's)

The Soliton technology could also be applied to charge EV's more quickly. Increased battery storage could also help to extend the range of the EV's. This would make the EV a much more attractive proposition.

5. Funding the Future: The Earth-Bond

What we have made clear to the reader of this document is that the Soliton technology is a profound innovation whose time has come. The technology has many applications as has been explained in this memorandum.

The Soliton technology is inspired by nature and deserves to be implemented in our society as soon as is practical. To accelerate the development we have created the Earth-Bond. The Earth-Bond is a normal financial bond with a 7-10 year duration on which an interest is paid, which is agreed between the parties. The interest is paid at the end of the duration of the Earth-Bond.



Moreover, it symbolises our innate Bond with the Earth. It is the beginning of a new time, an era in which technology is better tuned to the principles of Nature than anything that has powered our civilisation so far. It also signifies a new time in which our society lives in harmony with Nature.

It is our mission that this technology comes to the benefit of all people equally. We intend to provide licenses to our industrial partners, some of which already know that this development is going on. The underlying value of the Earth-Bond is represented by the value of the revenues we create in the form of license fees.

Since the original discovery of the Soliton Wave about 4 years ago we have explored the potential of this wave. In this search we found that the wave is an aspect of the organising principle of Nature. It originates from the quantum field. When this wave is imposed on matter it creates the effect of Room Temperature Superconductivity (RTS). It is the first time in human history that RTS has been achieved.

The application of the Soliton Wave in many of our current technologies will make everything much more efficient. It opens the way to a new era, an era in which the (quantum) Soliton Wave can be applied to raise the material world to the next level. The quantum evolution is upon us. Given the significant potential of this technology, combined with the enormous challenges humanity faces, it is our common duty to accelerate the advent of this powerful new class of applications.

It is in the interest of all people and our beautiful planet. Consider lending us a hand. The planet will love you for it. And of course It is also about the future of our children and grandchildren.

The Founders of the Unifying Fields Foundation and Restoration Power, Christmas 2023

References

1. https://en.wikipedia.org/wiki/Joule_effect
2. https://en.wikipedia.org/wiki/Heike_Kamerlingh_Onnes
3. <https://iopscience.iop.org/article/10.1088/2399-6528/ac809c>
4. <https://en.wikipedia.org/wiki/Soliton>
5. <https://nl.wikipedia.org/wiki/Soliton>
6. https://nl.wikipedia.org/wiki/Diederik_Johannes_Korteweg
7. https://nl.wikipedia.org/wiki/Gustav_de_Vries
8. <https://iopscience.iop.org/article/10.1088/0031-8949/57/3/016>
9. <https://journals.aps.org/prl/pdf/10.1103/PhysRevLett.15.240>
10. <https://iopscience.iop.org/article/10.1088/2399-6528/ac809c>
11. <https://arxiv.org/abs/2209.09285>
12. https://www.mit.edu/~soljadic/frac_euro_fin.pdf
13. <https://link.springer.com/article/10.1007/s10509-019-3632-y>
14. <https://www.nature.com/articles/srep11504>