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HIGH-DENSITY CHARGE CLUSTERS

Nature's micro-miniature Tokamaks

By Hal Fox and Samuel P. Faile

In his 1973 article [1], Bergström introduces his topic with the following statement: "The subject of this paper is the mysterious fact that although physical experience seems to tell us that charged substances tend to fly apart as a result of the Coulomb repulsion, still in nature there are objects like ball lightning, atomic nuclei, and elementary particles, which seemingly contradict this experience." To this list, we would add the high-density charge clusters discovered by Kenneth Shoulders over a decade ago [2].

A typical high-density charge cluster is a compact cluster of electrons or ions that exhibits a degree of short-term stability, a non-neutral plasma, a self-sustaining dynamic electromagnetic phenomena. Recently, Shoulders [3] has shown that such charge clusters can produce nuclear reactions. More recently Jin [4], in a highly mathematical treatment has shown that the Shoulders' charge clusters (mainly of electrons) are unlikely to be spherical but are more likely to be toroidal. Thus the concept, that this dynamic toroid of electrons is Nature's answer to the hot fusioners' Tokamak. In addition, Jin has shown that such a charge cluster can be characterized by certain parameters of dimension, charge, and velocity. In other words, if you expect to have a stable electron charge cluster, there is a mathematical relationship among size, number of electrons, and velocity that must be observed. I would suggest that Dr. Jin's work [4] is an important theoretical achievement to add to Shoulders' experimental achievements.

This dynamic toroid of electrons is Nature's answer to the hot fusioners' Tokamak.

As shown by Shoulders [3] certain charge clusters can provide a piggy-back vehicle for positive ions; can be accelerated through an electromagnetic field; can, thereby, provide enormous momentum to the relatively few positive ions; and can produce nuclear

reactions. Fox, Bass, and Jin [5] have generalized this concept to show that it is now possible to produce a table-top, positive-ion, accelerator than can aid the study of nuclear reactions at relatively low costs.

Although Shoulders performs most of his experimental work in low-pressure gases, the Neal-Gleeson Process [6] is performed in water solutions and the Faile-Reiter work [7] is performed at atmospheric pressures. It is the authors' judgement that in all three cases (and in many other experiments) charge clusters are being produced and are responsible for nuclear reactions.

In recent work by Faile there has been produced large fireballs (some over two feet in diameter). It is not suggested that a fireball is a single giant high density charge cluster. However, in as much as some sort of nuclear output is indicated, it is suggested that at least part of the process involves the production of many small, high-density, electron clusters with relatively few

entrained nuclei that get the benefit of high acceleration to high speeds to produce useful energy-producing collisions with other nuclei. The acceleration through the air might be aided by encounters with high density nuclei clusters that had been formed by the electron stripping action associated with the inertial forces brought about by sudden charged potentials and plasma discharges. Alternatively, of course, it is wise to look at a variety of other nuclear energy output mechanisms.

In the experiments by Faile, canned capacitors (with a non-inductive capacitor) totaling 224 micro Farads are charged with a 3400 volt supply through a variety of conducting wires and test strips. Interesting results were produced from aluminum films on plastic prepared by Mr. Reiter and from SiO₂ fiber wicks containing a solution of LiCl. Most recently, the largest fireball, a 4-foot wide brilliant white one, was produced from an exploding bridge test strip consisting of a 1" x 2" strip of Stor-Fresh aluminum foil with dried paint on both sides made from a slurry of super glue (ethyl cyonacrylate) mixed with powdered BN (graphite form). There could have been a nuclear reaction aftermath to the loud fireball as indicated by a 3-foot wide pink glow that persisted for about a second after the explosion. Subsequent tests with LiCl granules secured with several drops of super-glue on both sides of the Aluminum foil produced a more powerful 5 to 6-foot wide brilliant white fireball but no pink afterglow. Faile and Reiter are suggesting that other experimenters, having a larger budget and a larger backyard, try for a 15-foot wide fireball using ~3400 volts and 2000 micro Farads. Higher input power might result in over-unity, long-lasting, ball lightning or volcano style fireballs ("Gorgons") or at least some effect such as heat large enough to incite interest by those looking for commercial ways to produce power.

While there is considerable merit in the investigation of fireballs, there can also be experiments carried out where the emphasis is on producing high-density charge clusters at near-atmospheric pressures in smaller sizes but at high repetition rates. One of the purposes of this article is to suggest that experiments be carried out by some *NEN* readers.

Here are some suggestions for such experiments:

1. Charge clusters can be produced most readily by using very short negative pulses connected to sharply-pointed cathodes which are placed close to a dielectric having an underlying conductor. See Fig. 1 from Shoulders [2].

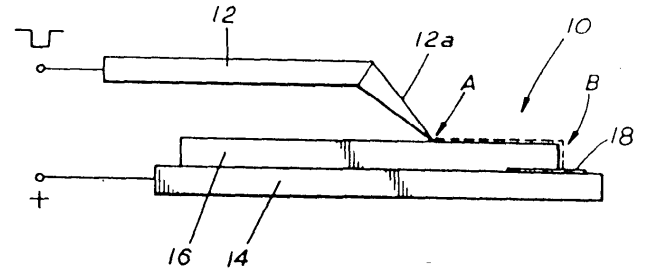


Fig. 1

2. Electric potentials ranging from 1,000 to 20,000 volts may be tried. The biggest problem may be in setting up an experiment so that a minimum amount of capacitance and inductance exists so that a very short pulse can be provided. Preferably, pulses of the order of 5 nanoseconds in duration would be used. Thyratrons and thyristors are typical devices that can produce short pulses. However, it is a challenging task to produce nanosecond pulses at these high voltages. Any suggestions on how best to create high-voltage pulses at high repetition rates would be greatly appreciated.

3. When properly produced, an electron high-density charge cluster can ionize the fluid (gas or liquid) in which it is produced and pick up or collect about 1 positive ion for each 100,000 to one million electrons [3]. In addition, these clusters can apparently carry and accelerate such positive ions to very high velocities (strongly dependent on the accelerating potential between the cathode where the charge cluster is produced and the positive anode or target).

4. It is standard physics that such a charge cluster with piggy-back positive ions can provide sufficient energy to the positive ions so that nuclear reactions can be expected when the cluster hits a target [4]. When working at atmospheric pressures, the charge cluster may be producing nuclear reactions with the nuclei of atmospheric gases between cathode and anode.

5. Evidence for the production of charge clusters are pin holes in insulators (of the range of 1 to 20 microns), melted craters or holes in thin metal

anodes, or in target metals, and more extensive craters in target materials when nuclear charge clusters are produced [3]. A residual gas analyzer with a quadrupole mass spectrometer could be used to determine if there were nuclear reactions occurring in the gaseous atmosphere between cathode and anode.

6. If you want to produce charge clusters with protons use a hydrogen atmosphere; for deuterons, use deuterium gas; for alpha particles as piggy-back ions use helium gas.

Have fun, but be careful in handling high voltages. We don't want to lose any readers.

REFERENCES

[1] Arne Bergström, "Electromagnetic Theory of Strong Interactions", *Physical Review D*, vol 8, no 12, 15 Dec 1973, pp 4394-4402, 29 refs.

[2] Kenneth R. Shoulders, "Energy Conversion Using High Charge Density", U.S. Patent 5,018,180, issued May 21, 1991, see also "Circuits Responsible to and Controlling Charged Particles", U.S. Patent 5,054,047, issued Oct. 1, 1991.

[3] Kenneth and Steven Shoulders, "Observations on the Role of Charge Clusters in Nuclear Cluster Reactions", *Journal of New Energy*, vol 1, no 3, Fall 1996.

[4] Shang-Xian Jin & Hal Fox, "Characteristics of High-Density Charge Clusters: A Theoretical Model", *Journal of New Energy*, vol 1, no 4, Winter 1996.

[5] H. Fox, R.W. Bass & S-X Jin, "Plasma-Injected Transmutation", *Journal of New Energy*, **Fall 1996**, vol 1, no 3, pp 222-230, 4 figs, 23 refs.

[6] Robert Bass, Rod Neal, Stan Gleeson, & Hal Fox, "Electro-Nuclear Transmutations: Low-Energy Nuclear Reactions in an Electrolytic Cell", *Journal of New Energy*, vol 1, no 3, Fall 1996.

[7] Reiter and Faile, "Spark Gap Experiments", *New Energy News*, Sept 1996, pp 11ff.

CHARGE CLUSTERS IN KNOTS?

Antonio F. Rañada, José L. Trueba (Dept. of Phys., Univ. Complutense, Madrid), "Ball Lightning an Electromagnetic Knot?", *Nature*, vol 383, 5 Sept 1996, page 32, 9 refs, 2 figs.

EDITOR'S SUMMARY

Rañada and Trueba propose that ball lightning, ranging in sizes from a few centimeters to a meter or more can be explained by magnetic knots. The concept is that in an electromagnetic field where any magnetic lines form a link adds stability to the electromagnetic structure. Such ball lightning must be formed by a plasma and the plasma will require a high temperature -- therefore the shining. Also the plasma ball radiates and causes a reduction in the **knotedness** of the structure, thus reducing its stability. The end result is the fading away or the explosive demise of the ball lightning. The authors state: "To design an experiment to test this model in ball lightning is not easy for obvious reasons. There are two possible laboratory settings: tokamaks and devices constructed to produce fireballs. Thus it may be possible to test the ideas proposed here in an appropriate experiment." **NEN would like to suggest that they investigate the formation and demise of high-density charge clusters**, of the Ken Shoulders variety. It may be that their knot linkage would explain the variety of sizes and forms of the charge clusters.

Fusion Briefings

NOTES ON THE BIG TOKAMAK

Courtesy Steve Roen

Malcolm W. Browne, "Cold Calculations Chill the Hot Pursuit of Cheap Fusion Power," *New York Times*, Dec 10, 1996, page C14.

EDITOR'S SUMMARY

A team of American fusion scientists have used their model of a Tokamak to show that the current design of the proposed **International Thermonuclear Experimental Reactor (ITER)** will

not produce more energy out than used as input energy. The U.S. has allocated \$50 million a year to this international project. Dr. Anne Davies, director of the Department of Energy's office of fusion energy is quoted as saying, "I think that our partners will all find the publicity about this one piece of work -- the assertion that I.T.E.R. can't achieve its objective -- very distressing. ... I'm not prepared to call for a redesign of the reactor."

The mathematical model used, which indicates non-performance of the ITER, was done by professors at the University of Texas at Austin and by others at the Princeton Plasma Physics Laboratory. This editor hasn't checked with the sources, but I would expect that this criticism may come from some who will not be funded by the \$50 million per year allocation. We heard very little criticism from any of the hot fusion scientists when the budget was \$500 million per year.

We would like to call attention to the new technology of charge clusters that can promote nuclear reactions. **Nature's Micro-Mini Tokamaks** are the way to harness nuclear energy for the future. See the lead article in this issue by Fox and Faile and especially read some of the referenced literature if you are interested in this topic.

REVIEW OF COLD FUSION PUBLICATION CONTENTS

Cold Fusion, Issue 20, December 1996

Mark Goldes (Magnetic Power Inc., Sebastopol, CA), "A Creative Solution to the Heat-to-Electric Dilemma," *Cold Fusion*, Issue 20, Dec. 1996, p 4.

Hideo Kozima (Dept. Phys., Fac. Sci., Shizuoka Univ., Japan), "The 3rd Symposium (1996) - Basic Research Group of the Japanese NHE Project," a brief report, *Cold Fusion*, Issue 20, Dec. 1996, pp 37-41.

Chuck Bennett (Sacramento, CA), "Nuclear Shear," *Cold Fusion*, Issue 20, Dec. 1996, pp 42-43.

Chuck Bennett (Sacramento, CA), "A Quantized Aether," *Cold Fusion*, Issue 20, Dec. 1996, pg 44.

Hideo Kozima (Dept. Phys., Fac. Sci., Shizuoka Univ., Japan), "ICCF6 Report," *Cold Fusion*, Issue 20, Dec. 1996, pp 48-52.

Richard T. Murray (Room For All, Santa Fe, NM), "A Critique of George Miley's Recent Preprints," *Cold Fusion*, Issue 20, Dec. 1996, pp 59-70.

ABSTRACTS from *Cold Fusion*, Dec. 1996.

Hideo Kozima (Dept. Phys., Fac. of Sci., Shizuoka Univ., Japan), "On the Existence of Trapped Thermal Neutrons in Cold Fusion Materials," *Cold Fusion*, Issue 20, Dec. 1996, p 5-11, 48 refs, 1 table.

AUTHOR'S ABSTRACT

The stable existence of the thermal neutron assumed in the TNCF model has been discussed in this paper on the basis of the interaction of the neutron and the nuclei on the lattice points in crystal. In an optimum shape of a boundary is formed stochastically, neutrons could be trapped in a crystal region surrounded by the boundary. The trapped neutron can form the neutron Cooper pair lowering its energy interacting each other through the phonon. The stabilized neutron, then, will not decay spontaneously and also not be captured by one of the lattice nuclei. To specify the stability of a neutron in a crystal, a new concept "neutron affinity of a nucleus" was introduced. Trapped neutron destabilized by a large perturbation can induce a trigger and succeeding breeding reactions resulting in the cold fusion phenomenon.

Hideo Kozima, Masahiro Nomura, Katsuhiko Hiroe and Masayuki Ohta (Dept. of Phys., Fac. of Sci., Shizuoka Univ., Japan), "Nuclear Transmutation in Cold Fusion," *Cold Fusion*, Issue 20, Dec. 1996, pp 16-20, 8 refs, 1 fig.

AUTHORS' ABSTRACT

Nuclear transmutation in chemical and biological systems are investigated with use of Trapped Neutron Catalyzed Fusion Model (TNCF Model). In the TNCF model, it is possible to analyze experimental data consistently and quantitatively. We present the investigation of experimental

results in cold fusion systems with various materials and methods in this paper.

Hideo Kozima, Masayuki Ohta, Masahiro Nomura, Katsuhiko Hiroe (Dept. of Phys., Fac. of Sci., Shizuoka Univ., Japan), "Analysis of Nickel-Hydrogen Isotope System Using the TNCF Model," *Cold Fusion*. Issue 20, Dec. 1996, pp 21-25, 13 refs.

AUTHORS' ABSTRACT

Experimental results obtained in the Ni-H and Pd-H systems generating the excess heat and/or with transmuted nuclei (NT) were investigated on Trapped Neutron Catalyzed Fusion (TNCF) model proposed by one of the authors (H.K).

Experimental results, which are not able to be explained by d-d or p-p reaction, are explained by n-p or n-⁶Li and the following breeding reactions on TNCF model, assuming the existence of the trapped thermal neutron. The trapped neutron works also as a key particle to transmute elements in the system. The same as the excess heat, it is difficult to understand the NT without thermal neutrons.

Using the TNCF model, the excellent experiment data showing excess heat and NT in the Ni-H and Pd-H systems are explained consistently and quantitatively.

Masayuki Ohta, Masahiro Nomura, Katsuhiko Hiroe, Hideo Kozima (Phys. Dept., Sci. Fac., Shizuoka Univ., Japan), "Cold Fusion in an Ni-H System (II)," *Cold Fusion*, Issue 20, Dec. 1996, pp 25-27, 8 refs.

AUTHORS' ABSTRACT

The excess heat production in Ni-H system of gas phase was investigated again. In a previous paper, a qualitative explanation of the experiment was reported. A quantitative analysis of excess heat production in Ni-H system is given in this paper.

There is a coincidence in the order of magnitude with another experiment in a Ni-H system. The successful analysis using the TNCF model shows the reality of trapped thermal neutrons in a crystal lattice.

Hideo Kozima (Dept. of Phys., Fac. of Sci., Shizuoka Univ., Japan), "Tritium Generation in Mo/D Cathode in Glow Discharge with D₂ Gas," *Cold Fusion*. Issue 20, Dec. 1996, pp 28-31, 12 refs.

AUTHOR'S ABSTRACT

The trapped neutron catalyzed model for cold fusion (TNCF model) was used to analyze experimental data showing tritium generation in a glow discharge system with Mo cathode and D₂ gas. The density of the trapped thermal n_n in the Mo cathode was determined from the production rate of tritium of 10¹⁵ s⁻¹ observed in the gas where deuteron density was 10²⁰ cm⁻³ and a path length of tritium in the cathode was assumed as 10⁻² cm:

$$n_n = 10^7 \text{ cm}^{-3}.$$

Hideo Kozima (Dept. of Phys., Fac. of Sci., Shizuoka Univ., Japan), "Cold Fusion Phenomenon Explained by using the TNCF Model," *Cold Fusion*, Issue 20, Dec. 1996, pp 31-36, 29 refs.

AUTHOR'S ABSTRACT

A model based on the stable existence of thermal neutrons in crystals was used to analyze experimental data obtained in electrolytic cold fusion experiments in these seven years. The density of the trapped thermal neutrons n_n in samples was determined by using the experimental results of excess heat helium 4 (⁴He), tritium, neutrons and/or nuclear transmutation (TN). The values of the density n_n determined by the experimental data were 10⁵ ~ 10¹⁵ cm⁻³. Other quantities we could determine from experimental data were the ratio of events generating tritium and neutrons t/n and the ratio of events generating the excess heat and tritium (and ⁴He) N_Q/N_t, which had been a controversial quantities to reconcile with the existing common sense of physics. The values determined on our model were t/n ~ 10⁵ and N_Q/N_t ~ 10, substantially

consistent with experimental data to one order of magnitude.

Hideo Kozima, Masahiro Nomura, Katsuhiko Hiroe and Masayuki Ohta (Dept. of Phys., Fac. of Sci., Shizuoka, Univ., Japan), "Consistent Explanation of Experimental Data Obtained from SRI International and EPRI," *Cold Fusion*, Issue 20, Dec. 1996, pp 45-48, 8 refs.

AUTHORS' ABSTRACTS

Experimental data on the isotope ratio changes (^{10}B and Pd) in a PdD_x/Li cathode which produced the excess heat were analyzed on the TNCF model. A quantitative changes of the isotope ^{10}B and the amount of the excess heat generated in the cathode were consistently explained using a single adjustable parameter n_n , density of the trapped thermal neutron, the value of which was determined as $\sim 10^9 \text{ cm}^{-3}$ when the experimental time was assumed to be a week ($6 \times 10^5 \text{ s}$).

Evan L. Ragland (The Boiler Works, Diamondhead, MS), "Triode Cell Experiments for Controlled Fleischmann-Pons Effect," *Cold Fusion*, Issue 20, Dec. 1996, pp 53-58, 7 refs, 6 figs. Also in *Infinite Energy*, vol 2, no 10, Sept./Oct. 1996, pp 22-24, 7 refs, 6 figs.

AUTHOR'S ABSTRACT

Experimental research and evaluation of three electrode (triode) cold fusion electrolysis cells is reported herein. Apparatus development began, after patent application, 05 June 1995. The triode apparatus introduces controlled loading and operation of Fleischmann/Pons-type (F/P) cells. In August 1995, excess heat generation was observed in initial triode apparatus experiments conducted by Dr. Dennis Cravens in his New Mexico laboratory. In November 1995, the Boiler Works laboratory in Diamondhead began experimental evaluation of the triode apparatus. A series of experiments in December, January and February led to development of a functioning triode fusion reactor. The reactor was put into operation 20 March 1996 and operated continuously until 23 August 1996. Over the five months of operation of the reactor several

experiments were performed and over 65,000 data points were recorded. This data base is being applied in further triode apparatus developments.

A second reactor test bed for "quick change" cathode specimen evaluation is in operation. Thin film cathode specimens prepared by the Materials Science and Engineering Laboratory of the Univ. of Alabama in Birmingham are presently being evaluated. These include Pd film on Ag, Al, Cu, and quartz substrates and Pt films on Si bead specimens. Engineering design of a 2 KW reactor cell is underway.

Details of triode apparatus operation, control, and experimental results are reported. The general design approach to the 2KW reactor is described. It is concluded that sufficient experimental and theoretical understandings of cold fusion exist for engineering design and development of water heating appliances.

G.H. Miley, G. Name, M.J. Williams (Fusion Studies Lab., Univ. Ill.), J.A. Patterson, J. Nix, D. Cravens (CETI, Dallas, TX), H. Hora (Univ. of New South Wales, Australia), "Quantitative Observation of Transmutation Products Occurring in Thin-Film Coated Microspheres During Electrolysis," *Cold Fusion*, Issue 20, Dec. 1996, pp 71-84, 5 figs, 3 tables.

AUTHORS' ABSTRACT

Several research groups previously identified new elements in electrodes that appeared to be transmutation products (Bockris et al., 1996a; 1996b). However, due to the low concentrations involved, the distinction from possible impurities has been difficult. Now, by using a unique thin-film electrode configuration to isolate the transmutation region, plus measurements based on neutron activation analysis, the authors have achieved for the first time, a quantitative measure of the yield of transmutation products. Results from a thin-film (500-3000 Å nickel coating on 1 mm microspheres in a packed-bed-type cell with 1-molar $\text{LiSO}_4 - \text{H}_2\text{O}$ electrolyte were reported recently at the Second Intl. Conf. on Low-Energy Nuclear Reactions (Miley and Patterson 1996). Key new results are now presented for thin-film Pd and for multiple Pd/Ni layers. The transmutation

products in all cases characteristically divide into four major groups with atomic number Z @ 6-18; 22-35; 44-54; 75-85. Yields of ~1 mg of key elements were obtained in a cell containing ~1000 microspheres (~½ cc). In several cases over 40 atom % of the metal film consisted of these products after two weeks operation.

Space Energy

SPACE ENERGY JOURNAL REPORT

Courtesy of Don Kelly

The editorial of the latest (December 1996) issue talks about two potential projects that are seeking funding. Although not explicitly stated, one of the projects appears to be similar to the Papp engine. Papp died from apparent neutron radiation from his engine. At least three groups have attempted to develop the engine further. A Utah group took the technology to China. It is believed that at the heart of the Papp engine is the development of charge clusters which provide the energy to expand the gases. The gases used are a mixture of noble gases so that no chemical combination takes place. The second device for which funds are being sought has an available video. In the video, the inventor passes a magnet through a coil (to operate a magnetic switch?) and then the coil provides power to illuminate light bulbs.

The article by Needy, "Energy Suppression" reports on a collection of a number of inventors and devices that appeared to be of commercial importance but never made it to the market place. There may have been suppression of some of these devices. During the almost eight years that the Fusion Information Center has been in business, we have not been contacted by any person (directly or indirectly) to indicate that there was any opposition to our work in spreading the word (world wide) on cold fusion and other enhanced energy developments. By contrast we have been encouraged by persons at high levels of government and corporate America.

There may be good reasons why projects are not funded. An example: On page 8, Chris Needy tells about Joseph Papp and his "highly-regarded" Papp engine. **Needy does not tell how one person was killed and another injured in a demonstration of the Papp engine to representatives from the Stanford Research Institute, nor that Papp is believed to have been killed by harmful radiation from the engine.** Needy reports, "The idea has gotten nowhere amid accusations of suppression by the media."

Ed Skilling reports on "A Story of Free Energy - Hendershot's Fuelless Generator". These are interesting stories about inventions that almost made it. With the great freedom in America and the high-level of our standard of living, it is interesting to speculate as to why in seventy years (since this invention) no one has demonstrated a version of this remarkable device.

Keith Johnson provides a circuit diagram for a device which is reported to help alleviate ailments of man and beast. A copy of Tesla's patent on "System of Electrical Distribution" is in this issue. E.E. Richards, "Earth Power Spectrum and its Potential as a Usable Energy Source" reports on attempts (and successes) of tapping earth or cosmic energy and includes 16 references. Shadow Hawk (sounds like a pseudonym), in "The Resonant Gravity Field Coil" suggests that we may be able to alter "the spatiotemporal continuum as one desires". Tom Bearden and Bill Ramsay discuss the construction and use of the Rodin Coil. Wingate Lambertson's essay, "Timing is Important" urges the development of political clout to get more government funds allocated to new-energy development. The most information article that has a bearing of what can be accomplished, here and now, by living people is the report on "The Adams-Aspden Motor Patent" by Harold Aspden. Those interested should get a copy of Harold Aspden's latest publication: [Power From Magnetism: Over-Unity Motor Design, Energy Science Report No. 9](#), available for \$25 (U.S. check) from Sabberton Publications, P.O. Box 35, Southampton, SO16 7RB, England. [See book report in *New Energy News*, Jan 1997, pages 14-16.]

Miscellaneous

GREENPEACE NEWS - NUCLEAR DISARMAMENT

The GREENPEACE organization, at 1436 U Street, NW, Washington, DC 20009, has sent us information on their Nuclear Disarmament Campaign. Here is some of the information provided: The U.S. plans to spend \$40 billion over the next ten years on R&D related to nuclear weapons. France and China plan to introduce new, more powerful nuclear weapons. So are the U.S. and Russia. The Indian government will not sign the test ban treaty because India still wants to have laboratory experiments.

The known nuclear weapons are the following: U.S. 1,030; Commonwealth of Independent States (the old USSR) 715; France 210; U.K. 45; China 45; India 1. Other countries not listed but who have nuclear weapons capability are Israel and South Africa. Countries known to be working on nuclear weapons include Iran and North Korea. GREENPEACE states that the time has come for world-wide nuclear disarmament and that the U.S. should lead the way.

Wars are fought over mineral rights. The line between North and South Korea bisects the worlds largest tungsten deposit. The Viet Nam war was really about the oil fields in the South China Sea. Hitler sought to expand Germany into the oil fields of southeast Europe and to obtain other natural resources. The latest, the Persian Gulf War was to protect U.S. interests in the oil imports from the Middle East.

The best way to prevent nuclear war, or any other kind of war, is to make energy and scarce elements available to everyone. That objective is now in sight. For example, the Plasma-Injected Transmutation inventions will provide for enormous amounts of thermal energy to be produced and will allow for the making of scarce elements from plentiful elements. In addition, this new technology also provides a means by which some types of radioactive wastes can be cleaned up by fissioning the

radioactive elements into stable elements. If GREENPEACE wants the world to be green and peaceful, they should support this and other new energy developments.

GEET SHEET REPORT

Courtesy of GEET Research, LLC.

According to this December-January Vol 1, Issue 2 *GEET SHEET* considerable progress is being made in getting Paul Pantone's Fuel Processor to market. The newsletter did include some data: "Canada has been doing emission testing on the 10 HP unit and the results are terrific.

<u>Emission</u>	<u>Stock</u>	<u>GEET</u>
Oxygen	5.7	13.7
Carbon Dioxide	11.3	5.4
Carbon Monoxide	3680 ppm	307 ppm
Hydrocarbons	1.02%	0.09%
Nitrogen Oxide	270 ppm	224 ppm"

No specific source of data was supplied nor any information about test conditions. This data looks good. We hope to learn more about this invention.

(For further information: GEET Research, PO Box 439, Price, UT 84501, Voice 801/637-2654; Fax 801/637-3198.)

OCCULT CHEMISTRY & MODERN SCIENCE

Courtesy William Patrick Bourne

William Patrick Bourne, "A Possible Reconciliation of Theosophical *Occult Chemistry* With Modern Physical Science", *The Theoscientist*, vol 3, no 1-2 (1996), 11 manuscript pages, 2 figs, 17 refs.

AUTHOR'S INTRODUCTION

In 1908 Annie Besant and C.W. Leadbeater published the first edition of their book Occult Chemistry, which recorded their investigations, utilizing specialized clairvoyant faculties capable of high powers of magnification, into the fundamental structure of matter. The earliest investigations had first been published in the magazine *Lucifer* in 1895, and the first edition of the book was a summation of the work to 1908. A second edition, with new material, followed in 1919. The third enlarged, and final, edition was published in 1951.

The third edition contains transcripts of sessions in which Leadbeater attempted to directly perceive the electron, discovered by English physicist J.J. Thomson in 1897, as well as to discern the true nature of electromagnetism and the origin of the positive and negative charges on atomic and subatomic particles. Leadbeater died (1934) before he was able to complete this aspect of his work.

The book mainly deals with the structures of the elements, each atom being described and diagramed. Leadbeater and Besant began their investigations by observing the Hydrogen atom. Modern physical science says that the Hydrogen atom consists of a single proton surrounded by an orbiting electron. In 1911 British physicist Ernest Rutherford found that the mass of an atom is located in a small region called the nucleus, and discovered the proton in 1919 as the product of the disintegration of the nucleus. But when Leadbeater and Besant began their investigations there was no real notion of protons or neutrons (discovered in 1932), or the nature of the interior of the atom. They described the Hydrogen atom as composed of 18 smaller units, called "Anu" in the third edition of the book. Their descriptions of the elements are strictly in terms of the numbers and the configurations of these Anu. It is also not clear if they were observing the total atom, including the electron shells, or just the nucleus.

EDITOR'S COMMENTS

For those who are interested in the author's paper and do not have access to the publication, you may want to contact the author at 456 44th Street, #1, Oakland, CA 94609, or phone him at 510-655-5457, or email: wpb@sirius.com. The many years spent by Annie Besant and C.W. Leadbeater to study the structure of all of the available elements is a fascinating story. However, until the concept is accepted by Science that some humans can learn to perceive objects in the ultra-miniature size, this type of investigation will be deemed as not natural or as **supernatural** and, therefore, denied to the official study of science. Remember that much of the advancement of science has occurred since there was an agreement to use only natural phenomena to explain experimental results. Assuming that there is **truth** in the supernatural, it is not an accepted part of the study of nature. However, the more we learn about nature, the more we extend the boundaries into the unknown, perhaps someday,

into parts of what today is considered to be the supernatural.

ELECTRETS - WHY DON'T WE HEAR MORE?

By Hal Fox

We hear a lot about magnets, supermagnets (wherever they may be), electromagnets. Why don't we hear more about **ELECTRETS**? [For more information on Electrets see Ref 1, 2.] Just as a **MAGNET** (at least permanent magnets) can capture and hold a strong magnetic field, some materials can capture and hold an electric field - these are called **ELECTRETS**.

The first **electret** was made by a Japanese scientist in the 1920s [1]. The first **electret device** was an electret microphone described in 1927 [3]. An electret can be made in several ways, depending on how the charge is placed into a dielectric material. The earliest electrets were made by heating a dielectric to a state where the dielectric material is subject to polarization by the application of a high-intensity electric potential or electrostatic field. For example, the earliest work was done with carnauba wax mixed with bee's wax, various plastics are now used.

References

[1] Bozena Hilczer & Jerzy Malecki, Electrets, Studies in Electrical and Electronic Engineering 14, Elsevier, 1986.

[2] J. Lewiner, D. Morisseau, C. Alquiè, Editors, 8th International Symposium on Electrets, IEEE, ISE-8, 7-9 Sept 1994, available from the IEEE Service Center, Single Publications Sales Dept., 445 Hoes Lane, Piscataway, NJ 08854, USA. Former International Symposia on Electrets were held in 1967, 1972, 1975, 1978, 1985, 1988, and 1991. The next symposium is scheduled for 1997.

[3] G.M. Sessler, "New Applications of Electrets", ISE-8 see ref. 2., pp 937-941, 4 figs, 36 refs.

REPORT ON TWO CONFERENCES

E.D. O'Brian, "The Pundit Curmudgeon - Thoughts Caused By Attending Two Conferences", *Borderlands*, vol 52, no 4, 4th Qtr 1996.

EDITOR'S SUMMARY

The author attended the U.S. Psychotronics Association and the Tesla Society's 1996 conferences. For the energy-news, O'Brian tells us about Don Smith's presentation on a device for getting electric power from the ambient world which is reportedly now being funded by the Japanese. Information about this astounding development will supposedly surface early in 1997. No details. The author did mention cold fusion and the work by Mr. [sic] Patterson. No details. Lots of comment throughout the article about the influence of the government and the DOE with the flavor of some lurking entities that are going to keep us from getting new energy adopted.

Here is another view about who can stop new energy: **The Japanese import 90% of their energy. Any new energy device or system that the Japanese adopt and support will not be prevented from getting to the market place!** As Mark Goldes has stated, there is not any gorilla big enough to stop the commercialization of new energy systems or devices that really work and really have commercial potential. So let's stop parading the past to excuse some misinformed inventors who had an inadequate device and wants to blame their failure on some organization that is going to provide concrete boots for every successful new-energy inventor. If the energy conspiracy theory were true in the past, there is little evidence that it is true today. So lets stop beating a dead horsepower and unite to develop those inventions that work. There are several live and working devices and cold fusion and its fallout are among the living. [For more information get the Fall 1996 issue of the *Journal of New Energy* which is the proceedings of the second conference on Low-Energy Nuclear Reactions.]

REVIEW OF INFINITE ENERGY

vol 2, no 10, Sept./Oct. 1996.

Radioactivity Reduction Patent Approved

"CETI's Table-Top Research Nuclear Reactor for New Hydrogen Energy Studies Now Commercially Available," pp 11-12, by Mike Carrell who writes:

"That week, CETI's CEO James Reding stated that the company had leased some 40-plus kits

already at \$3,750.00/year each - about one-third of those kits being sold at the Washington meeting."

The patent title is:

"Systems in Electrolytic Cell and Method for Producing Heat and De-Activating Uranium and Thorium by Electrolysis."

"This patent describes a method by which radionuclides are inserted into a special matrix designed for radioactive elements, according to Reding and inventor Dr. Patterson. *Conservatively they have demonstrated the reduction by up to 50% of the radiation activity from uranium and thorium. The process takes only from 2 to 24 hours.*"

"Attendees at the show ranged from doubtful to *"I knew there was something to it"* among the academics; the business people seemed more positive."

"Cravens said that in the radioactive remediation, the beads were removed and the target material substituted in another form, which I took to be granular."

"Review of the ICCF-6"

by Jed Rothwell, *Infinite Energy*, vol 2, no 10, Sept./Oct., 1996, pp 13-21.

"Transcripts of Dr. Michael McKubre's Conference Summary - ICCF-6," *Infinite Energy*, vol 2, no 10, Sept./Oct., 1996, pp 25-26.

Old United States Patent issued 1897

Hilliary Eldridge, Daniel Johnson Clark, and Sylvain Blum of Galveston, TX.

"ELECTRICAL RETORT - Specification forming part of Letters Patent No. 603,058, dated April 26, 1898, application filed June 28, 1897, Serial No. 042,701. (No model)." pp 45-48 of *Infinite Energy*.

"Our invention related to electrical retorts for manufacturing hydrogen gas from water to be

utilized as a fuel for heating purposes. We construct the apparatus with electric appliances and with means for feeding water thereto, so as to produce an electric arc within a closed vessel containing a suitable quantity of water."

"The oxygen, freed by the decomposition of the water in the retort, unites or combines with the vaporized carbon evolved by the consumption of the anodes and cathodes of the retort and produces carbonic-acid gas."

Dr. Peter Graneau (Center for Electromagnetics Res., NE Univ., Boston, MA), **"Gaining Solar Energy from Ordinary Water,"** *Infinite Energy*, vol 2, no 10, Sept./Oct. 1996, pp 59-60, 11 refs, 1 fig.

AUTHORS' ABSTRACT

This paper deals with the liberation of intermolecular bonding energy stored between H₂O molecules in liquid water at room temperature. This bonding energy derives from the thermal motion of vapor molecules in the atmosphere and is, therefore, largely solar energy. The conversion from kinetic (thermal) to potential (bonding) energy occurs in the process of condensation. Part of the bonding energy can be liberated with an electric arc current flowing through water. The current generates cold fog and mist droplets. Fractions of a gram of fine droplets created in microseconds have been found to explode violently. Pressure and kinetic energies freed by the explosion have been measured. Prospects are good for harnessing the internal water energy for electricity generation.

John O'M. Bockris (Texas A&M Univ., College Station, TX), **"Speculative Interpretation of Over-Unity Experiments Involving Water Electrolysis,"** *Infinite Energy*, vol 2, no 10, Sept./Oct. 1996, pp 61-62, 18 refs.

AUTHOR'S ABSTRACT

The background to this paper is a number of papers reporting low temperature nuclear reactions outside the system Pd-D. These experiments (up to June, 1996) have been

summarized in the review by Bockris, Lin and Bush.

Comments on:

- 1) Experiments with Brown's Gas
- 2) Stanley Meyer
- 3) AquaFuel
- 4) Water Explosions Observed by Graneau and Graneau
- 5) Correas' Over-Unity Discharge Tubes

Possible Eventual Development to Energy Sources

These remarks may be applied to futuristic concepts of the organization of States in which the computer-directed and automated factory has reached an asymptotic state of development. Thus, within a few generations, perhaps no more than one, most of our means of production will have little need for the employment of people. The needed energy and goods could be available if there is sufficient "free" energy, applied to automated systems. A high degree of recycling would be necessary.

Thus, Bockris and Dandipani have shown that average personal income in countries is related to the average energy per person available by an \int -shaped curve. 10kW averaged per person would bring an affluent (work-free) post-industrial society to the whole planet.

V.I. Vysotskii (Kiev Shevchenko Univ., Ukraine), A.A. Kornilova (Moscow State Univ., Moscow), I.I. Samoylenko (Gamaleya Inst. of Epidemiology and Microbiology, Moscow), **"Experimental Discovery and Investigation of the Phenomenon of Nuclear Transmutation of Isotopes in Growing Biological Cultures,"** *Infinite Energy*, vol 2 no 10, Sept./Oct. 1996, pp 63-66, 3 refs, 3 figs, 1 table.

For the first time the experimental study of cold nuclear transmutation of isotopes was carried out in growing microbiological culture with controlled conditions of growth. With the help of Mossbauer effect the formation of Fe⁵⁵ in nutrient medium based on heavy water was observed. the possible mechanism of low-temperature nuclear transmutation is discussed.

Obviously, no modification of micro-accelerating mechanisms connected with formation of microcrack, accelerating plasma waves and similar processes can take place in a liquid nutrient medium. It is also evident that tunneling quantum processes can't provide a great probability of nuclear transmutation. We assume that the most effective action in this case would be the one provided by the mechanism suggested in "Conditions and Mechanism of Nonbarrier Double-Particle Fusion in Potential Pit in Crystal," which is capable of providing a short-term elimination of the Coulomb barrier of the pair reaction in micro-potential hole with the structure that is close to parabolic.

Michael C. Nicolaou (Scientific Consultant in Thermoelectrics, Norwood, MA), "**The Goldsmid-Grigorov Accomplishment: A Major Breakthrough in Thermoelectrics**," *Infinite Energy*, vol 2, no 10, Sept./Oct., 1996, pp 67-69, 10 refs.

"Should there be a breakthrough in thermoelectric energy conversion, it will outdo superconductivity in both technological significance, as well as market volume worldwide, by several orders of magnitude."

"When Dr. Goldsmid published his historic paper of 1988, the high critical temperature, or room temperature superconductors, were still not available - they were unknown - yet he had the courage to put forth his ideas, regardless of the difficulties he was facing. It was nothing less than a stroke of genius. Dr. Grigorov's experimental results likewise definitively proved that his superconducting polymer is the right material for the manufacture of passive thermoelectric branches."

"As to the technological significance of the eventual discovery of new material for thermoelectric energy conversion having a figure of merit as indicated above or even high, we note the preface to the pioneering book on Thermoelectricity. The book states that an eventual breakthrough in thermoelectricity will probably prove more significant to the future development of science and technology than the Bardeen-Shockley-Brattain invention of the transistor in 1949. These were Paul Egli's prophetic words in 1960, and they are much truer today, than they were 36 years ago."

Infinite Energy BRIEFS

By Eugene Mallove

"Magnetic Supermotor/Generator in Arizona?"

Galtech Semiconductor Materials Corporation of Mesa, Arizona is working on a magnetic motor and power source. *Infinite Energy* has contacted CEO Russ Chapman of Galtech, who confirms that the company has a working prototype of an ultra-performance motor and motor/generator.

Company engineer, David Porter, has been working on the devices for which patents have been sought - the applications are filed. A concept called "magnetic compression," is the basis for their technology. *Infinite Energy* has seen the Galtech device demonstrated in a video tape. but measurements supporting the claims for the motor/generator have not yet been provided. It is clear they are using sophisticated test equipment to monitor power, but whether this is being done correctly cannot be determined from the video.

How this new technology works

The design features a magnetically suspended, flywheel-like rotor that contains ultra-powerful, Neodymium permanent magnets. the flywheel rotates inside a series of coils placed in a circular pattern. The fields of these internal magnets interlock and rotate with the fields of magnets rotating on the exterior faces of the coils. This arrangement provides complete flux penetration of the coils, and levitation of the internal ring, which acts as a flywheel, storing energy. All moving parts ride on magnetic fields, creating a nearly frictionless condition. This process results in a generator that produces impressive amounts of power output without the drag associated with iron coil designs.

NEW EXPERIMENTS ON GRAVITY REDUCTION

Replication of the Podkletnow's gravity-reduction reported achieved by an Ohio researcher. In a report on the Internet under sci.physics, A small YBCO superconductor was used at liquid nitrogen temperatures in conjunction with a strong NdFeB magnet to induce a supercurrent. A balance pan was reduced by about 5% of the pan's weight when an AC field generator was operating. You can direct comments to grav@t-d.com if you are interested in replicating the experiment. Courtesy of Troy Dawson (td@twics.com) and Dr. Samuel Faile.

Orvin E. Wagner, "**All Pervading Waves Suggest Universal Control and Communication**," *Frontier Perspectives*, vol 6, no 1, pp 41-47, 2 figs, 13 refs.

Wagner tells about the discovery of W-waves (first found in live wood). He describes a gravity experiment as follows: "Using small accelerometers in small holes in vertical tree trunks, I found a large reduction in the gravitational field when sap was flowing. I also hung weights in holes in slightly leaning trees with weight loss indicated during sap flow periods. These effects indicate that forces are present that cancel gravity to facilitate sap flow." It appears that it is difficult to invent something that nature hasn't already invented and is using. If you like antigravity, become friends with your nearest tree.

EMPTY SPACE AND CASIMIR FORCE

Courtesy of Dr. Samuel Faile

Charles Seife, "Quantum Mechanics. The Subtle Pull of Emptiness", *Science*, vol 275, 10 Jan 1997, pg 158.

Steven Lamoreaux of Los Alamos National Laboratory has measured the pull of the Casimir force. The result is a value of less than 1 billionth of a newton (a newton is a force of a kilogram meter per sec per sec) which agrees within 5% with theory. The interpretation is that the force is the result of zero-point fluctuation in the electric field due to the seething activity of the vacuum. The experimental results are used to justify the quantum mechanic's view of the vacuum (Max Planck and Werner Heisenberg's work in the 1920s). An alternative interpretation

of the Casimir force would be more in accord with Dr. Hal Puthoff and others who have shown that space is full of energy and that such energy can be tapped.

BURNING THE MIDNIGHT (& DAYLIGHT) OIL

Courtesy of Gordon B. Moody

Gordon B. Moody is editor/publisher of *Global Energy Outlook*. In vol 2, no 1, January 1997, Gordon reports on the latest production and consumption of oil. The US will import an additional 300,000 barrels of crude oil **per day in 1997 as contrast to 1996**. Net imports will average 8.9 million barrels a day in 1997 compared to 6.5 million barrels of domestic oil production. The U.S. consumes more than 25 percent of the entire world's oil production. With increasing demand for fossil fuels from emerging countries such as China, the price of oil is expected to remain strong. However, for the U.S. the Alaska oil production is decreasing but the Gulf of Mexico oil production is increasing but not sufficient to meet U.S. increasing demands for oil.

EDITOR'S COMMENTS

At a cost of \$22 a barrel for oil, the U.S. imports add up to \$195.8 million per day that the U.S. pays out to foreigners for just this one form of energy. With the projected cost of clean, unlimited energy estimated at about one-third the cost of oil-produced energy, it is time that some of the potential new-energy sources were more adequately funded. Thermal energy from Plasma-Injected low-energy nuclear reactions appears to have the potential for greatly reducing the U.S. dependency on imported oil, gas, and coal. **It is past time for a wake-up call to the American sleeping corporate giant that can out-invent, out-produce, and out-manage any other groups in the world** - when they are convinced that the technology is real and can solve problems.

Global Energy Outlook
1828 Southpark
Arlington, TX 76013

LETTERS

Dennis Lee and Better World Technology are planning to install 50,000 "free electric" units in homes.

Letter dated Dec. 20, 1996

Dear prospective "Free Electricity Machine Recipient,

We are writing to inform you of the schedule as it currently is being planned. I am sure you realize that to put 50,000 "free electric" units on homes is an expensive and difficult proposition.

"We are in the process of obtaining a 500 million dollar loan for the purpose of putting the units on homes across the country to establish the beginnings of the National Tesla Electric Company."

"We will always own the free electric machine! It will be put on your home with your permission to produce electricity for **us** to sell, however, and to whomever we wish. You will be given an allowance of a portion of the electricity produced. Your liberal allowance will be sufficient to supply the needs of your family, and *there will be no charge for the electricity you use*"

Letter from Gregory Hodowanec
Dated Jan. 3, 1996

Dear Hal,

I received the Dec. issue of *NEN* on this date in mint condition. It thought for a while it might have been lost in the Christmas mail. It is always a pleasure to read.

Enclosed is a copy of the original release of some 2-D observations of the Universe using gravity signal detections coupled to a Rustrak chart recorder. The Note is pretty much self-explanatory as of the date of release to my colleagues. You may have already received a copy (I am not sure since the original was misplaced and only recently found again). This may be of personal interest to you.

The reason for its re-release is that recently world-wide weather conditions are again most unusual. During the past two months, I had been running FW Circuit 300B with the Rustrak and 'looking' for possible unusual responses at our location here which could possibly relate to these weather conditions. **As you may know, I observed our Galaxy's 'rebirth' as a new deep black hole in December 1986 and then its 'demise' in a violent explosion in 1991.** These events were speculated to have resulted in much 'instabilities' in our Galaxy and thus could have been responsible for the 'strange' weather patterns since that time. I am unable to 'look' at fast scans with the Esterline-Angus recorder since I no longer have chart paper for that unit. However, I have plenty of Rustrak chart paper (old, but useful) which I run at 1/2" per hour so that I can get plenty of scans in - weeks at a time - the system runs unattended - requiring only dating daily.

These recent scans are showing up some 'new' very massive structures in our Galaxy in the Orion, Cygnus, and Bootes regimes. These structures take 15-25 minutes to scan so that they are relatively close-in. They appear to be rapidly expanding and thus could be a good source of 'gravity winds,' which could affect our jet stream patterns and thus our weather.

It is a bit sad for me that we could not interest the amateur astronomers (specially the professionals) in this simple technique. It is a new window to our universe (in real time) and with higher sampling rates and computer data storage it could provide for a highly detailed 'look' at our Universe. Perhaps with the continued 'strange' weather (and no conventional explanation for it) we might get more interest. We may even be 'seeing' the very early stages of a new ice age!

Best Regards to all at *NEN*
Sincerely
Greg

A GREETING & A CHALLENGE

Extracted from Francisco J. Muller's letter to N.P.A. Members and Related Intellectual Friends.

Certainly the approaching third millennium "deserves" some [hope for change] ... To me

one of the greatest tasks of historians of Science in the 21st Century is ... to explain how was it possible that a complete century of the best brains and talents in the physical sciences went so much astray with the philosophical absurdities: the scientific ambiguities and the logical irrationalities of 20th Century physics as a whole. ... Classical Physics was in a crisis at the end of the 19th Century. It needed a Revolution. But the Einsteinian revolution was the wrong kind of revolution: it made things worse. Einstein simply did not know how to "fix Newton." He even made worse the "Newtonian" philosophical errors like believing that "Time" flows of itself, without any change occurring in the Universe. Einstein "relativizes" only the measurement of Time, but he "absolutizes" the "nature" of Time by making it a substantive reality in phrases like **time dilation** (the same with Space and **space contraction**) and then multiplying these "substantialized (and hence absolute) times," breaking the dynamical unity of the universe, (making it, indeed, a pluri-verse not a uni-verse, which is the first step to chaos).

So here is the crucial choice we have to make:

Either: 1 - to continue with the "inertialistic," "postulational" approach of current mathematical-Physics, or
2 - aspire to a "new freedom," a new "dimension" of thought. One that goes beyond Einstein... and beyond Newton!!!... in the search for a truly casual explanation of Nature's most hidden motions, changes and ... secrets.

ENERGY-EFFICIENCY DAY, MARCH 6, 1997

NEN has received information from Austria about the World Energy Efficiency Day to be held on March 6, 1997 in Wels, Austria. Speakers from five continents will give papers under the following headings:

Energy Efficiency - the gateway to our future.

Local and regional strategies for energy efficiency.

Energy efficiency in industry.

Energy efficiency in buildings.

Only one paper has any hint in the title of any type of alternative energy sources: "Job Creation Through Energy Efficiency and Renewable Energy Sources," by Michel Miller, European Trade Union Confederation, Brussels, Belgium.

In these days, when we are beginning to commercialize new energy sources, this conference would be equivalent to calling a conference on conservation of whale oil just before the discovery and wide-spread use of natural gas and "coal-oil" for lighting the lamps of America and Europe. In fairness, the editorial introduction to the conference does mention, "Energy efficiency and renewable energy sources are important factors in assuring our future economic development." If there is an *NEN* reader who would like to donate the basic costs, we will send 300 copies of a "special edition" of *New Energy News* to be handed out at the conference. The cost would be about \$300 for paper and air mail.

For further information about this meeting the fax number is +44-732-6584-4383

Meetings

INTERNATIONAL SYMPOSIUM ON NEW ENERGY

Memorial Day Weekend

May 23-26, 1997

Marriott Denver Tech Center

Call for information on presenting papers.

Registration fees: \$150 through March 15, 1997, \$180 until May 22, \$200 at the door. \$75/day, \$45/half-day.

216 Commerce Drive #4, Fort Collins, CO 80524

Phone 970-482-3731, Fax 970-482-3120

Website: www.acad4newenergy.com

Cust. Service: csrep@acad4newenergy.com

Marriott Denver Tech Center: Reservations

800-228-9290 or 303-779-1100

Intersociety Energy Conversion Engineering
Conference

IECEC - 1997

July 27 to August 1, 1997

Hilton Hawaiian Village, Honolulu, HI

Abstracts in the area of "Innovative Concepts – Cold Fusion" and other Advanced Energy Conversion Technology areas are being accepted until January 17, 1997. Draft papers due March 1997, and Final papers are due in May 1997.

Submitting abstracts – more information available at:

<http://members.aol.com/busassist/IECEC97.H>
TM

or mail 4 copies of your abstract to:

Eileen M. Grady

IECEC-97 Program Office

Business Assistants

16216 Frederick Road

at Comfort Inn Shady Grove

Gaithersburg, MD 20877

or Email to: <busassist@aol.com> for more information.

**THE 17TH IEEE/NPSS SYMPOSIUM
ON FUSION ENGINEERING**

SOFE'97

OCTOBER 6-10, 1997

The Bahia Resort Hotel

on Mission Bay

San Diego, California

Sessions will include the following topics:

Next-Generation Devices

Fusion Power Plant Design

Divertor Technology & Systems

First-Wall & Blanket Tech. & Systems

Plasma Heating, Current Drive & Fueling

Laser & Ion-Beam Drivers for Inertial Fusion

Target Chamber Tech. & Systems

Materials Engineering / Remote Handling

Instrumentation, Diagnostics, Data Conversion

Vacuum Systems / Tritium Systems

Safety and Environmental Studies

Authors will be invited to submit 400-word abstracts.

Deadline for Abstracts: May 2, 1997

Notification of Authors: June 6, 1997

Registration Deadline: Aug. 29, 1997

To receive further information contact:

Allisa Becker

SOFE'97 Symposium Secretary

Fusion Energy Research Program

Univ. of CA, San Diego

LaJolla, CA 92093-0417

phone: 619-534-2983

fax: 619-534-7716

web site: <http://aries.ucsd.edu/SOFE97>

Commercial Column

The following companies (listed alphabetically) are commercializing cold fusion or other enhanced energy devices:

COMPANY: PRODUCT

American Pure Fusion Engineering and Supply:

Information and trouble-shooting for the fusion research and development industry. Developing "Fullerene Fusion Fuel™." Salem, Oregon. The president, Warren Cooley, can be reached at 1-800-789-7109 or 503-585-6746. Email to: Coolwar@aol.com

CAI, Inc., CAI has acquired rights to develop and produce a new-type of thermal power based on the controlled production of clean nuclear reactions from micro-miniature tokamaks (provided by nature). Contact through FIC, Voice 801-583-6232, Fax 801-583-2963. Note: CAI and FIC have agreed to merge.

CETI (Clean Energy Technologies, Inc.): Developers of the Patterson Power Cell™. Dallas, Texas. Voice 214-982-8340, FAX 214-982-8349.

Clustron Sciences Corp.: New energy research consulting and information. Contact: Ron Brightsen, 703-476-8731.

ENECO: Portfolio of intellectual property including over thirty patents issued or pending in cold nuclear fusion and other enhanced energy devices. Salt Lake City, Utah. Contact Fred Jaeger, Voice 801-583-2000, Fax 801-583-6245.

E-Quest Sciences: Exploring The Micro-Fusion™ process. Seeking qualified research partners for their sonoluminescence program. Contact Russ George, FAX 415-851-8489.

Fusion Information Center (FIC): Research and development of new energy systems. The world's most complete resource depository for cold fusion research information, as well as other new energy research including zero-point energy; space energy research; electronic, electromagnetic, and mechanical over unity devices and transmutation. We are the publishers for *Fusion Facts*, *New Energy News*, and *the Journal of New Energy*. Voice 801-583-6232, Fax 801-583-2963. Contact Hal Fox.

Note: FIC and CAI have agreed to merge.

Holotec AG: Clean Energy Technology, contact André Waser, Gen. Mgr., Bireggstrasse 14, CH-6003, Luzern, Switzerland. Phone 011 41-41 360 4485, or Fax 011 41-41 360 4486.

Hydro Dynamics, Inc.: Hydrosonic Pump, heat-producing systems using electrical input with thermal efficiencies of 110 to 125 percent. Rome, Georgia. Contact James Griggs, Voice 706-234-4111 Fax 706-234-0702.

JET Energy Technology, Inc.: Design and manufacture of π -electrode systems, calorimeters, and associated equipment and systems. Consulting regarding radiation, materials, and other scientific and engineering issues. Weston, MA. Contact Dr. Mitchell Swartz, Voice 617-237-3625. Fax 617-237-3625.

Labofex, Experimental and Applied Plasma Physics: R&D of PAGD (Pulsed Abnormal Glow Discharge) plasma technology. Applications under development include portable power supplies, electric vehicles and autonomous housing. Licensing. Ontario, Canada. Contact Dr. Paulo N. Correa. Tel 905-660-1040 Fax 905-738-8427

Magnetic Power Inc.: Solid-state, heat to electric transducers, for temperatures up to 300°F (low energy nuclear reactions, waste heat, etc.) featuring Ultraconductors™ under development by ROOTS, a subsidiary. Sebastopol, CA. Contact Mark Goldes, voice 707-829-9391, Fax 707-829-1002.

Nova Resources Group, Inc.: Design and manufacture ETC (Electrolytic Thermal Cell); EG (commercial power cogeneration module); and IE (integrated electrolytic system). Denver, CO. Call Chip Ransford, Phone 303-433-5582.

UV Enhanced Ultrasound: Cold Fusion Principle being used for an ultrasonic water purifier. Hong Kong. FAX 852-2338-3057.

"YUSMAR"- Scientific-Commercial Company: manufacture, licensing, research and development of water-based generators: thermal (5 sizes), electrothermal (up to 2 MW), and 'quantum' types. President: Dr. Yuri S. Potapov, 277012 Kishinev, Moldova. Phone and Fax 011-3732-233318.

Zenergy Corporation: Founded in 1996 to facilitate the introduction of commercially viable energy alternatives. 390 South Robins Way, Chandler, AZ 85225. Contact Reed Huish: 602-814-7865, Fax 602-821-0967, e-mail: info@zenergy.com

Note: The Fusion Information Center has been acting as an information source to many of these companies. We expect to augment our international service to provide contacts, information, and business opportunities to companies considering an entry into the enhanced energy market.

INFORMATION SOURCES

Academy for New Energy (ANE) is a subsidiary organization to the International Association for New Science, which has specific goals directed toward the field of alternative and "New" energy research. 1304 S. College Ave., Fort Collins, CO 80524. Tel. 970-482-3731

ANE Newsletter, quarterly publication of ANE, providing an open forum for discussion, and disseminating newsworthy and inspirational information on invention and new energy. Edited by Robert Emmerich.

Advanced Energy Network Newsletter, quarterly, a reprint of articles and papers from other energy publications, with book reviews and worldwide conference list. Advanced Energy Network, P.O. Box 691, Rondebosch 7700 Capetown, Rep. South Africa.

Cold Fusion, monthly newsletter, edited by Wayne Green, 70 Route 202N, Petersborough, NH 03458.

Cold Fusion Times, quarterly newsletter published by Dr. Mitchell Swartz, P.O. Box 81135, Wellesley Hills MA 02181. Home Page: <http://world.std.com/~mica/cft.html>

Cycles, a R&D newsletter, published by Dieter Soegemeier, Editor, GPO Box 269, Brisbane, QLD.4001, Australia. Phone/Fax: +61 (0)7 3809 3257.

Electric Spacecraft Journal, quarterly, edited by Charles A. Yost, 73 Sunlight Drive, Leicester, NC 28748.

Electrifying Times, 3/year magazine, covers electric vehicles extensively, magnetic motors, and battery development.

63600 Deschutes Market Rd, Bend, OR 97701
541-388-1908, Fax 541-388-2750,
E-mail <etimes@teleport.com>
www.teleport.com/~etimes/

Fusion Facts monthly newsletter. Salt Lake City, UT. 801-583-6232, also publishes **Cold Fusion Impact** and **Cold Fusion Source Book**. Plans on-line database access. Final issue Dec. 1996, but will continue to publish abstracts in JNE.

Fusion Technology, Journal of the American Nuclear Society, edited by Dr. George Miley, publishes some papers on cold nuclear fusion. 555 N. Kensington Ave., La Grange Park, IL 60525.

Infinite Energy, new bi-monthly newsletter edited by Dr. Eugene Mallove (author of **Fire from Ice**), P.O. Box 2816, Concord, NH 03302-2816. Voice: 603-228-4516. Fax: 603-224-5975
E-mail 76570.2270@compuserve.com

Institute for New Energy (INE), organization to promote and help find funding for new energy research. Home Page: www.padrak.com/ine/ contains many important scientific papers and current reports on all areas of research. E-mail: ine@padrak.com Salt Lake City, Utah. Voice 801-583-6232, Fax 801-583-2963.

New Energy News monthly newsletter for INE, highlighting the research and development in the worldwide new energy arena. Edited by Hal Fox.

Journal of New Energy (JNE), quarterly, presenting papers representing the new areas of energy research, leading-edge ideas in the development of new energy technology, and the theories behind them. Published by the Fusion Information Center, Inc. Editor: Hal Fox.

KeelyNet BBS - Science and health oriented information exchange that specializes in nonstandard research, much of it on new energy. Jerry Decker, 214-324-3501

Internet: www.keelynet.com
E-mail: jdecker@keelynet.com

Planetary Association for Clean Energy Newsletter, quarterly, edited by Dr. Andrew Michrowski. 100 Bronson Ave, # 1001, Ottawa, Ontario K1R 6G8, Canada. Web page: <http://energie.keng.de/~pace>

Now available: *Clean Energy Review*, a technical and scientific discussion on nuclear fuel wastes

disposal. Discusses transmutation as one possible solution. \$5 U.S. and Canadian, \$7.50 other countries.

Space Energy Journal, quarterly, edited by Jim Kettner & Don Kelly, P.O. Box 1136, Clearwater, FL 34617-1136.

The above list of commercial and information sources will be growing. New listings will be added as information is received. Send information to *NEN*, P.O. Box 58639, Salt Lake City, UT, 84158.

For further technical information get the Winter 1996-7 issue of *The Journal of New Energy*, which includes the following papers:

"Characteristics of High-Density Charge Clusters: A Theoretical Model," Shang-Xian Jin and Hal Fox.

"Nuclear Transmutation in Cold Fusion Experiments," Hideo Kozima, Masahiro Nomura, Katsuhiko Hiroe and Masayuki Ohta.

"Hydrogen Redistribution by Catastrophic Desorption in Select Transition Metals," Mitchell R. Swartz.

"Excess Heat Measurement in Gas-Loading D/Pd System," Xing Zhong Li et al.

"Nuclear Reaction Calused by Electrolysis in Light and Heavy Water Solutions," Reiko Notoya, Toshiyuki Ohnishi and Yohichi Noya.

"A New Approach Towards Fusion Energy with No Strong Nuclear Radiation," Xing Zhong Li.

"Carbon Production on Palladium Point Electrode with Neutron Burst Under DC Glow Discharge in Pressurized Deuterium Gas," H. Yamada, H. Nonaka, A. Dohi, H. Hirahara, T. Fujiwara, X. Li and A. Chiba.

"Experimental Evidence Favoring Brightsen's Nucleon Cluster Model," Robert W. Bass.

“Electron Charge Cluster Sparking in Aqueous Solutions,” Atul Bhadkamkar and Hal Fox.

“Some Features of H₂O Low-Pressure Discharge in Pulse Mode,” E.E. Antonov, V.G. Dresvyannikov, V.I. Popovich.

“Antio-Gravity Implies Infinite Free Energy,” Robert Bass, November 9, 1996.

“Experiments of Underwater Spark Discharges with Pinched Electrodes,” Takaaki Matsumoto.

“Contraction Energy,” Robert L. Carroll.

“An Alternative Solar Energy Source,” David R. Criswell and Philip R. Harris (originally appearing in *Earth Space Review*, vol 2, no 2, 1993)

“In Search of a Warp Drive,” Norman Silliman.

Letter to the Editor: **“Unemployment Gives One Time to Think,”** Wingate A. Lambertson, Ph.D.

Fusion Facts Abstracts

“Cold Fusion Arising from Hydrogen Evolution Reaction on Active Metals in Alkali Metallic Ionic Solutions,” R. Notoya.

“Quantitative Observation of Transmutation Products Occurring in Thin-Film Coated Microspheres during Electrolysis,” G.H. Miley, G. Name, M.J. Williams, J.A. Patterson, J. Nix, D. Cravens, and H. Hora.

“Consistency of the Biphasic Nature of Excess Enthalpy in Solid-State Anomalous Phenomena with the Quasi-One-Dimensional Model of Isotope Loading into a Material,” Mitchell R. Swartz.

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Abstracts from the Proceedings of the Twelfth Topical Meeting on the Technology of Fusion Energy, Reno, NV. June 16-20, 1996:

“The International Thermonuclear Experimental Reactor,” R. Aymar.

“Prospect of Nuclear Waste Transmutation and Power Production in Fusion Reactors,” E.T. Chang and R.J. Cerbone.

“The Need for the National Ignition Facility,” David H. Crandall.

“Near-Term Commercial Opportunities from Long Range Fusion Research,” G.L. Kulcinski.

“Status of Japanese Fusion Technology,” Mitsuru Ohta.

LETTERS TO THE EDITOR of *FUSION TECHNOLOGY*

“Comments on Composite Electrolytes and Cold Fusion,” Alexandre E. Pozwolski

“Comments on the Possible Nature of ‘Cold Fusion’ Phenomena,” A.V. Nedospasov, E.V. Mudretskaya.

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