

TWO ZONES OF 'IMPURITIES' OBSERVED AFTER PROLONGED ELECTROLYSIS OF DEUTERIUM ON PALLADIUM

J.O'M. Bockris and Z. Minevski
Department of Chemistry
Texas A&M Univ., Texas

Reprinted with permission of *Infinite Energy* magazine, vol 1, nos 5 & 6, 1996, pp 67-68.

AUTHORS' ABSTRACT

In experiments carried out recently in which hydrogen was electrolyzed from water in contact with a palladium electrode, the concentration and depth of impurities were measured as a function of electrolysis time. It was found that after 3 weeks, two different sets of impurities could be observed, one set within 50Å of the surface and another set of different chemical species, about 1µ inside the metal.

Thus, the XPS measurements (Table 1) showed materials which correspond roughly to elements found in the solution after three weeks by ICP measurements (see Fig. 1). The concentration of platinum found in the palladium, for example, rose to a maximum at about 8-11Å from the surface and decreased exponentially so that by 50Å from the surface no further platinum could be seen. Similar concentration profiles were observed for silicon and zinc.

From these XPS determinations it can be concluded that the impurities measured, which spread no further than a few tens of Å inside the Pd, originated in the solution by means of electrochemical deposition or adsorption on the electrode surface and subsequent diffusion into the electrode.

In confirmation of this, the information in Fig. 1 shows materials in solution as a function of the time of electrolysis.

DEPTH (Å)	ELEMENTS ON THE ELECTRODE SURFACE (ATOMIC %)			
	Pd	Pt	Si	Zn
5.0	0.39	49.16	20.02	30.42
7.5		78.93	13.98	7.08
10.0	0.34	78.38	11.35	9.94
12.5	6.90	65.53	12.38	15.19
15.0	40.99	40.19	6.40	12.41
25.0	84.36	5.63	1.87	8.13
35.0	93.16	2.12	2.36	2.36
45.0	96.87	1.54	0.51	1.07
55.0	96.81	1.06	1.06	1.06

TABLE 1. Atomic weight percent of elements found on the electrode surface after three weeks of electrolysis (XPS).

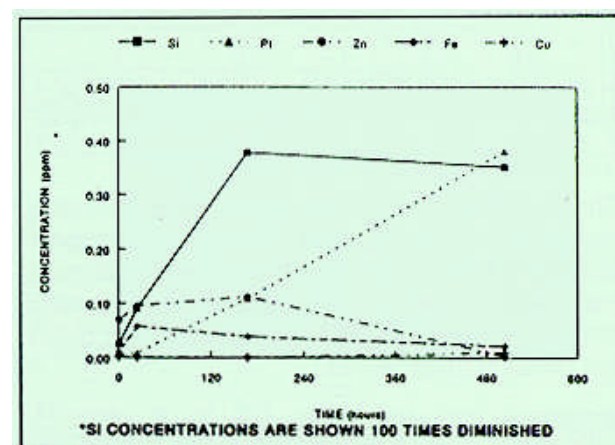


FIGURE 1. Concentration time dependence of Pt, Zn, Fe, Cu, and Si from ICP measurements during a 3 weeks period.

Energy dispersive spectroscopy was also used to seek material which might be further into the metal. In EDS, the maximum intensity of the signal arises from a greater depth than that of XPS [1]. In fact, for palladium, for a 20 kV X-ray

beam, the escape depth maximizes at about 2μ inside the palladium and the signals found both after one hour's electrolysis, and then after three week's electrolysis, are shown in Fig. 2 and Fig. 3, respectively. It is seen that new nuclei have appeared at this depth in the presence of hydrogen at high fugacity (overpotential more than 0.5 volts). The concentration of the new atoms is in the range

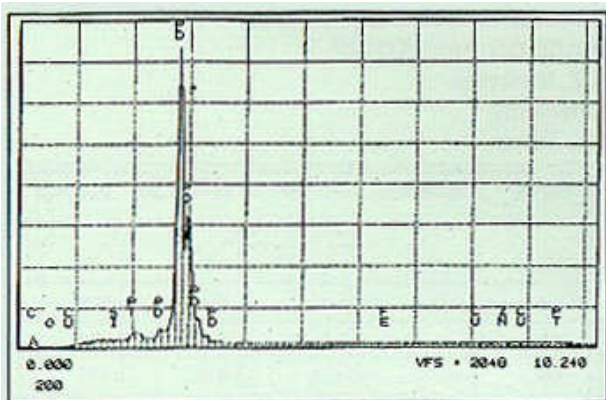


FIGURE 2. EDS scan of Pd electrode after one hour of electrolysis.

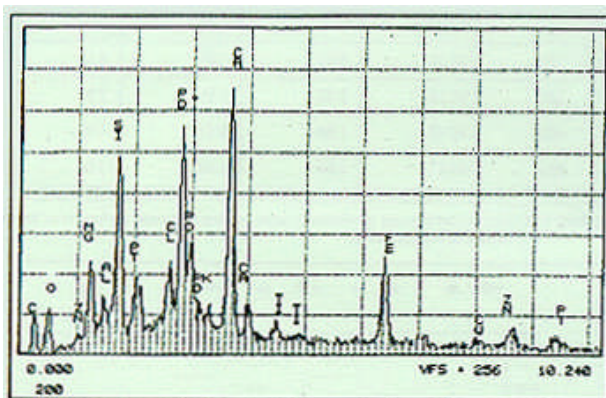


FIGURE 3. EDS scan of Pd electrode after three weeks of electrolysis.

1-10 atomic percent. The materials shown in Table 2 have no relationship to the impurities in the solution (further, diffusion of the materials cited in Figures 2 and 3, into depth of $\sim 1\mu$ could not occur in three weeks).

Thus, protons at high fugacity in Palladium may give rise to new nuclei ("proton capture"). These results are similar to those of Karabut, Kucherov and Savvatimova [2] who found many new materials formed in palladium after electrolysis. Similar results, according to T. Passell [3], were found by K. Wolf after examination of his palladium electrodes subject to similar electrolysis (radioactivity was also observed in this study).

T. Ohmori and Enyo [4] have reported the formation of new iron nuclei in gold and palladium cathodes; J. Dash [5] has described the formation of Au and Ag on Pd electrodes after hydrogen evolutions. Correspondingly, Bush and Eagleton [6] have observed new strontium during the electrolysis of platinum in a rubidium containing solution; while Notoya [7] has found that new Ca^{++} forms K^+ in solution. Such results are, to some degree, rationalized by models of the excited nucleus discussed by Greiner, et al [8].

Element	ELEMENTS AT $1\mu\text{m}$ DEPTH (Atomic %)		
	Virgin Pd		Electrolyzed Pd 3 weeks/EDS
	Johnson-Matthey/ICP	Present Work/EDS	
Mg	$< 1.0 \cdot 10^{-4}$	-*	6.7 ± 1.0
Ag	$< 1.0 \cdot 10^{-4}$	-*	1.9 ± 1.0
Si	$8.0 \cdot 10^{-4}$	-*	10.2 ± 1.0
Cl	-	-*	3.0 ± 1.0
K	$9.0 \cdot 10^{-4}$	-*	1.1 ± 1.0
Ca	$3.5 \cdot 10^{-3}$	-*	19.9 ± 1.0
Ti	$< 3.0 \cdot 10^{-4}$	-*	1.6 ± 1.0
Fe	$< 4.0 \cdot 10^{-4}$	-*	10.5 ± 1.0
Cu	$4.5 \cdot 10^{-3}$	-*	1.9 ± 1.0
Zn	$< 4.0 \cdot 10^{-4}$	-*	4.2 ± 1.0
Pt	$1.0 \cdot 10^{-2}$	-*	7.1 ± 1.0
Pd	99.80	98.10 ± 1.0	31.9 ± 1.0

Table 2. Concentrations of impurities (Atomic weight percent) found in virgin Pd after 3 weeks of electrolysis (EDS). * = Lower than measuring limit of EDS.

REFERENCES

1. D.C. Joy, in A.G. Fitzgerald, B.E. Storey and B. Rabin (eds.), in Proc. 40th Scottish Universities School in Physics "Quantitative Microbeam Analysis," Dundee, Scot. Univ. Sum. Sch. in Phys. and Ins. Phys. Publishing, Bristol and Philadelphia, 1992, p. 213
2. D.B. Karabut, Y.R. Kucherov and I.B. Savvatimova, 5th International Conference in Cold Fusion, Monte Carlo, 1995.
3. K. Wolf (through T. Passell), "Overview of EPRI Program in Deuterated Metals," J. New Energy, vol 1, no 1, 1996, pp 5-14, 25 refs, 10 figs, 1 table.

4. T. Ohmori and M. Enyo, Cold Fusion Source Book, Russian ed., Belarussian St. Univ., Minsk, 1994.

5. J. Dash, G. Noble and D. Dimen, Cold Fusion Source Book, Russian Edition, Belarussian St. Univ., Minsk, 1994.

6. R. Bush and T. Eagleton, "Evidence for Electrolytically Induced Transmutation and Radioactivity Correlated with Excess Heat in Electrolytic Cells with Light Water Rubidium Salt Electrolytes," Proc. Fourth Internat. Conf. on Cold Fusion: vol. 3 - Nuclear Measurements, p. 2-1 to 15. Maui, Hawaii, Dec. 1993 (EPRI).

7. R. Notoya, "Alkali-Hydrogen Cold Fusion Accompanied with Tritium Production on Nickel," Proc. Fourth Internat. Conf. in Cold Fusion: vol. 3 - Nuclear Measurements, p. 1-1 to 13, Maui, Hawaii, Dec. 1993 (EPRI).

8. W. Greiner and A. Sandelescu, "New Radioactivity," *Chem. Rev.*, 1990, March.

IMPLICATIONS OF THE BOCKRIS-MINEVSKI & MIZUNO, ET AL. PAPERS

By Hal Fox

The recent paper by Bockris and Minevski [1] reports on finding a thin-layer of "**impurities**" at a depth of one micron below the surface of a palladium cathode. See Fig. 1. Although called **impurities**, it is obvious that these elements are the result of nuclear reactions.

The recent paper by Mizuno, Ohmori, & Enyo [2] reports similar results. These authors report, "...but the element concentrations at 1 micron below the electrode surface were almost the same as at the surface."

The authors [1] have reported the factual results of an experiment that, as replicated by other electrochemists, **must have profound results in**

changing our concepts of permitted nuclear reactions at low-energy levels! The data shows that in this thin layer, one micron below the surface of the palladium cathode, there is developed a thin cylindrical shell of elements, many of which were not present at the start of the experiment.

The authors [2] have reported similar results but have added other factors that were not provided in [1]. For example, Mizuno, et al., state in their summary, "It was confirmed by several analytic methods that reaction products with atomic numbers ranging from **20 to 28, 46 to 54, and 72 to 82** are produced in palladium cathodes..." Assuming the data is correct, palladium under electrolysis can produce groups of elements that would clearly be expected to be fission products (daughter products) in two groups: calcium to nickel and silver to xenon. In addition, **and worthy of serious attention by theorists**, the palladium under electrolysis produces lesser amounts of what appears to be fusion reactions that range through hafnium, rhenium, iridium, platinum, mercury, and even lead!

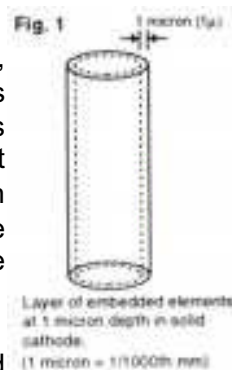
The following are the measurements of various **impurities** at about 1 micron depth in the palladium cathode after three weeks of electrolysis as found by Bockris and Minevski [1]:

Element	Mg	Si	Cl	K	Ca	Ti
Atomic No.	12	14	17	19	20	22
Percent	6.7	10.2	3.0	1.1	19.9	1.6

Element	Fe	Cu	Zn	Pd	Ag	Pt
Atomic No.	26	29	30	46	47	78
Percent	10.5	1.9	4.2	31.9	1.9	7.1

Note: All percent accuracy is +/- 1.0 percent. Palladium, in this thin layer, has been reduced from 99.8 to 31.9 atomic percent!

Mizuno, et al. [2] performed their elemental analysis by energy dispersive X-ray spectroscopy (EDX), Auger electron spectroscopy (AES), secondary ion mass spectroscopy (SIMS), and electron probe microanalyzer (EPMA). With EDX they found chromium, iron, copper, and platinum. With EDX and SIMS the presence of calcium (20), titanium (22), chromium (24), manganese (25), iron (26), cobalt (27), copper (29), zinc (30),



cadmium (48), tin (50), platinum (78), and lead (82) were determined. The SIMS analysis showed these additional elements: gallium (31), arsenic (33), bromine (35), antimony (51), tellurium (52), iodine (53), xenon (54), hafnium (72), rhenium (75), and iridium (77). The SIMS counts ranged from 10^3 to 10^6 where background was about 10.

Dr. Xian Jin, when reading the Bockris paper [1] wrote, "This could lead to applications in reducing radioactivity." Dr. Robert W. Bass, in a telephone call, suggested that these results are strong evidence for resonance. A 0.8 eV deuteron could have a Schrödinger wave length of about one micron. The thought occurs as to whether this one micron effect could be the result of the "comb filter" resonance transmission as suggested by Leaf Turner [3] and further developed by Bass [4] and Bush [5]. Mizuno, et al. [2], made the following observation: "AES and SIMS measurements were also made after bombardment by Ar^+ or O_2^- ions, thus removing surface layers, **but the element concentrations at 1 micron below the electrode surface were almost the same as at the surface.**"

One would suggest that some of the elements might be created by the accretion of neutrons. Bockris [1] does not report neutron measurements. Mizuno, et al., reported, "Neutron intensity and energy measurements were carried out simultaneously, in parallel. The neutron evolution rate as sporadic and weak...with levels of about 0.4 counts per second."

Those who suggest that protons or deuterons might easily penetrate the Coulomb barrier of high-mass palladium, should note that **experts in the field can marshal significant experimental evidence to show that the probability of such charged particle penetration of nuclei having high proton count is many orders of magnitude less probable than a p+d fusion.**

It is noted that the highly-successful thermal-energy producing **Patterson Power Cell™** uses nickel-palladium-nickel plated spheres where the

outer plating thicknesses are about one micron. It is certain that further experiments will be devised to determine the significance of this "about one micron" parameter. The following experiment is suggested: plate a single rod-shaped silver cathode with palladium by incrementally withdrawing it from a palladium electro-plating solution so that a series of 0.5 micron layers are successively plated to provide areas of palladium thicknesses ranging from 0.5 micron to 5 micron. After prolonged electrolysis, using the protocols observed in Bockris and Minevski's work [1], or in Mizuno's work [2] it would be fruitful to determine both depths and intensities of any layers of nuclear transformations.

It would also be of interest to determine if there is any significant post-run radioactivity developed in the various layers of thin palladium plating. A simple self-radiography test would be of interest. Neither Bockris [1] nor Mizuno [2] report measurements of beta emission nor of X-ray emission.

We commend Bockris and Minevski & Mizuno, Ohmori, and Enyo on their experimental work and for reporting these remarkable discoveries.

IMPLICATIONS OF THESE EXPERIMENTS

This editor has elsewhere reported on experiments that appear to produce protons and electrons from the aether (*Fusion Facts*, April 1996, page 10). The suggestion is made that this would be an explanation of how to avoid the Coulomb barrier. Universal agreement of this explanation is not expected. However, we must admit that there is nothing in any present theory or model of atomic nuclei and/or metal crystal lattices that would explain the highly unusual anomaly provided by these experiments.

Assume that a plausible explanation is found for palladium nuclei to be fused with protons or deuterons. The idea of a nucleus becoming unstable with the addition of one or more protons or deuterons and fissioning into two small elements such as iron and calcium may be an

acceptable model. **The most anomalous experimental discovery is that the palladium can create elements with atomic numbers ranging from 72 to 82.**

According to experimental results reported by Mizuno, et al. [2], the number of elements in the range of atomic numbers from 72 to 82 is less than 5% of the total number of elements produced in this **element-creating** palladium lattice. A possible model is the following: A palladium atom combines with one or more protons or deuterons producing an instability that causes fission of the palladium into iron and calcium. The iron nucleus has sufficient energy from this fission event to impact an adjacent palladium atom, resulting in fusion and the creation of an atom of reasonably higher atomic mass. To obtain sufficient energy for this hypothetical case, the mass defect (sum of the isotopic masses of the fusion products minus the isotopic masses of the fission products) must exist, be turned into energy (using $e = mc^2$), and the energy be imparted to the fission products. By using a table of Nuclides and Isotopes, **and observing all of the conservation rules (conservation of baryon number, conservation of spin, conservation of neutron number, etc.)** a possible nuclear reaction could be proposed.

The next experimental step is to determine if those specific isotopes exist in the elements produced. A further step would be to perform experiments with isotopically pure palladium. Palladium has the following long-term stable isotopes (with indicated percentage as naturally occurring): Pd-102 (1.02); Pd-104 (11.14); Pd-105 (22.33); Pd-106 (27.33); Pd-108 (26.46); Pd-108 (26.46); and Pd-110 (11.72). The isotopic masses range from 101.90562 to 109.90616. To have the largest mass defect, one would try the heavier Pd isotopes fused with deuterons or protons (maybe even more than one) and fission into something like the isotopes of iron and calcium. According to the Bockris and Minevski data, iron and calcium are relatively abundant. However, the iron is less, suggesting that some of the iron nuclei may have fused with palladium to make hafnium (which was found in Mizuno's data). The occurrence of

platinum is a little harder to explain but one could possibly consider zinc and palladium plus two protons or zinc and silver plus a proton. **These are number games to help guide the experimenter.** [We will print papers treating this subject in the next issue of the *Journal of New Energy*.]

Depending on which isotopes of palladium are involved, on the number of protons and/or deuterons involved, and on which of the several daughter products are involved, a range of elements in the 72 to 82 atomic numbers could be produced. The fusing particles could feasibly be iron, copper, zinc, gallium, and arsenic. Of course, there is the possibility that these fused nuclei could also fuse with a proton and be increased in their atomic number.

With this type of scenario, we can suggest the following implications:

1. There will definitely be new models of nuclear reactions suggested.
2. The much ridiculed concept of cold nuclear fusion will become an accepted part of nuclear science.
3. The concept that high energy is required for atomic fusion or fission to occur will be considerably modified.
4. New applications will be found for a large range of discoveries, for example, the concept of stabilizing radioactive nuclei will not be dismissed as being without merit.
5. The concept of low-energy nuclear reactions will be adopted **and become one of the most explored subjects in nuclear physics.**
6. The creation of scarce materials from abundant materials will be successfully demonstrated for several elements.
7. The concept of an energetic aether will be adopted by new scientists (the old scientists will die off).
8. Most important, a variety of new methods of providing clean, abundant, and inexpensive energy will be achieved, commercialized, and improve the world.

REFERENCES

- [1] J.O'M. Bockris & Z. Minevski, "Two Zones of **Impurities** Observed After Prolonged Electrolysis of Deuterium on Palladium," *Infinite Energy*, vol 1, no 5&6, 1996, pp 67-69, 2 tables, 3 figs, 8 refs.
- [2] T. Mizuno, T. Ohmori & M. Enyo, "Anomalous Isotopic Distribution in Palladium Cathode after Electrolysis," INET# Document Id: UX00e.BUX0462455.
- [3] Leaf Turner, "Peregrinations on Cold Fusion," *Journal of Fusion Energy*, vol 9, no 4, 1990, pp 447-450, 4 refs, 2 figs.
- [4] Robert W. Bass, "Proof that Zero-Point Fluctuations of Bound Deuterons in a Supersaturated Palladium Lattice Provide Sufficient Line-Broadening to Permit Low-Energy Resonant Penetration of Coulomb 'Barrier' to Cold Aneutronic Fusion," presented at ICCF4, 16 pages, 8 refs, 3 figs. Copy available from Fusion Information Center.
- [5] Robert T. Bush, "A Unifying Model for Cold Fusion," *Fusion Technology*, vol 26, no 4T, Dec. 1994, pp 431-441, 9 figs, 37 refs.

COMMENTS FROM JOHN O'M. BOCKRIS

I would like to make the following comment: There is suggestive evidence that new nuclei occur in occupied sites within the palladium and that these sites are "damage areas" consisting of "holes" in the palladium. Similar observations were made by Nate Hoffman when he analyzed our palladium samples in March 1992, where he found Helium-4. Russ George and Stringham have also reported within their sonoluminescence work (sono-fusion), the new nuclei turned up always at the point of damage.

Now damage in metals which absorb hydrogen is an old phenomenon redolent with >1,000 publications. In fact, Minevski's thesis contains an

account of the damage in terms of the high H₂ fugacity concepts. But another speculation might be that the so-called holes are made by local melting of the metal lattice due to local nuclear reactions forming new materials.

Fusion Briefings

A TRIO OF THEORIES

Robert W. Bass, (Innoventech, Inc., Pahrump, NV, Technical Advisory Board, Fusion Information Center, Inc., Scientific Advisory Board, ENECO, Inc., Salt Lake City, Utah), "Quantum Resonance Transparency (QRT), Zero Point Fluctuations (ZPF), and Lattice Induced Nuclear Transmutations (LINT)," to be presented at ICCF-6.

AUTHORS' ABSTRACT

This work generalizes the author's previously-presented cold fusion theory (QRT/ZPF/LINT) to predict fusion-fission reactions involving protons &/or deuterons and the nuclei of metals comprising a lattice supersaturated with hydrogen isotopes. The claimed **unique** virtue of the earlier versions (Poster Papers at ICCF-k, k = 2, 4, 5) is that they provided the **only** theory which quantitatively discriminates predictively between palladium and nickel lattices loaded with protons or deuterons as to the probability of **inelastic** collisions of **excited** resonantly-transmitted, positively-charged nuclei with **bound** positively-charged nuclei. Prior versions considered only the embedded hydrogen-isotope lattice but now the embedding metallic lattice is included.

A COLD FUSION REVIEW

Courtesy of the author.

Edmund Storms, "Review of the 'Cold Fusion' Effect," accepted for publication in *J. of Scientific Exploration*, 1996, 62 manuscript pages, 190 refs, 10 tables, 12 figs.

AUTHOR'S ABSTRACT

More than 190 studies reporting evidence for the "cold fusion" effect are evaluated. New work has answered criticisms by eliminating many of the suggested errors. Evidence for large and reproducible energy generation as well as various nuclear reactions, in addition to fusion, from a variety of environments and methods is accumulating. The field can no longer be dismissed by invoking obvious error or prosaic explanations.

AUTHOR'S LIST OF CONCLUSIONS

1. Excess energy is generated without producing significant chemical products. Several studies claim power densities near 3 kW/cm³ Pd, total energies in excess of 200 MJ and power amplification over 1,000 times. Evidence for local melting of palladium has been observed. **Therefore**, energy can be produced at rates and in amounts well above the result of any conceivable chemical reaction or plausible error. This experience indicates that commercial application is highly probable.
 2. Energy can be created by several methods, in at least nine different chemical environments. **Therefore**, the effect has a general nature and is not unique to palladium or to deuterium.
 3. Significant helium (⁴He) is found after anomalous heat is produced in environments containing deuterium. **Therefore**, at least one heat-producing nuclear reaction is probably a complex and unusual form of d-d fusion. Evidence for other types of nuclear reaction has been obtained.
 4. Neutrons and tritium are occasionally produced but in amounts too small to account for measurable energy. **Therefore**, an explanation for excess energy must involve different products. In addition, commercial applications will not be handicapped by these hazardous products.
 5. Largely absent are gamma-rays, X-rays, and radiation produced when energetic neutrons or tritons pass through matter. **Therefore**, the released nuclear energy is at least partially coupled by some strange process to many atoms rather than to individual reaction products.
 6. Emission of high-energy charged-particles and 2.5 MeV neutrons show that regions exist in which the nuclear reaction energy is not coupled to individual particles. **Therefore**, nuclear products can leave the surface without coupling their energy to the atomic lattice.
 7. The neutron, tritium, helium, charged-particle, gamma-ray, and high-Z elements are produced under different conditions largely independent of each other. **Therefore**, a variety of different environments can produce different nuclear reactions.
 8. Presence of light water in the heavy water stops energy production without producing ³He. **Therefore**, heat is not produced by d-p fusion in this environment.
 9. Heat generation using D₂O is independent of whether ⁶Li or ⁷Li is used and is sometimes independent of whether lithium is present at all.
 10. Application of RF frequencies at certain values, but especially near 82 MHz, are said to enhance heat production in Pd-D₂O cells. Application of micropulses of very high current are also very successful. **Therefore**, application of energy enhances the effect.
 11. Tritium is produced in electrolyte and helium is produced in the gas during electrolysis of palladium. **Therefore**, both nuclear processes occur within the surface region of the metal, not within the bulk.
-

NEW FUSION PLAN IN WASHINGTON D.C.

Courtesy of Dr. Samuel P. Faile

Andrew Lawler (Staff writer), "Fusion Plan Gathers Steam," *Science*, 22 Mar 1996, vol 271, no 5256, pg 1660.

EDITOR'S SUMMARY

"Stunned by a massive cut in the U.S. fusion budget," the academicians and workers in the hot-fusion community have joined in a massive public relations campaign to salvage the U.S.'s continuing role in the development of hot fusion. The new direction, that has met with inter-university agreement, is to set aside **five percent of the budget for basic research in a shift from large-scale to small- and medium-scale experiments.** Under this new direction, the group is lobbying for a minimum of \$250 million for 1997 (just \$6 million more than 1996 budget). This amount would "sustain the domestic program, step up the search for alternative technologies, and maintain a foothold in the planned International Thermonuclear Experimental Reactor."

"Forty years and \$14 billion!" was the comment by Representative Dana Rohrabacher (Republican from California), a member of the House Science Committee and chair of the Energy and Environment Panel. He also complained, "If we keep shoveling money out of the back of the truck, nobody is going to get more efficient."

EDITOR'S COMMENT

For about ten years, there has been very little money spent by DOE on alternative energy sources. There is enormous government literature on solar, wind, geothermal, biomass, and tidal projects, with no studies that demonstrate cost effectiveness of any of these alternative energy sources. **This newsletter humbly suggests that for \$10 million spent on a combination of cold fusion, solid-state systems, and super motors, we can demonstrate that a viable alternative energy industry can be commercialized!** More important, the community of caring professional scientists, inventors, and business managers **will do the job without the government's help!**

Space Energy

LATEST DEUTSCHE PHYSIK

Courtesy of Stefan Marinov, Editor

NENEDITOR'S REVIEW

Stefan Marinov is a scientist with a purpose. The purpose is to correct many of the errors being taught by tradition-bound academia. Marinov is multi-lingual, therefore, you will find original articles published in both German and English with quotes in Italian, Russian, Greek, or whatever language is appropriate. For example, in this June 1996 issue, Marinov's editorial begins with quotes in German, Italian, Russian, and English. The translation of the Russian quote is: *"If you find no difficulties on your path through life, you have lost your way."*

The contents for this vol 5, no. 18 include the following:

Editorial by Stefan Marinov lauding the international conference, "Descartes and Scientific Thought" to be held in Perugia, Italy, September 4-7, 1996. No mention is made of the language of the conference but probably will be Italian with English translation. Contact person for "Europe" is our friend Josef Hasslberger, Rampa Brancaleone 25, I-00165 Roma, Italy. Tel +396 637-4160, Fax 637-2196. Marinov notes: "...where the contemporary state of science is critically examined and where unlimited freedom is given for presenting falsifications of existing theories and for presenting new theories and experiments."

"Last Experimental Steps Before Running the Double Magnet SIBERIAN COLIU Machine as a Perpetuum Mobile", by Stefan Marinov. This is Stefan's report on his latest perpetual motion device.

"Marinov Vector and Scalar Magnetic Intensities Generated by an Infinitely Long Ring SIBERIAN

COLIU Magnet", by Stefan Marinov. This article shows the calculations that have lead Marinov to be quite sure that a perpetual motion machine can be constructed.

"Easy Experiment for Establishing the Existence of Magnetic Kind of Energy in Gravitation," by Stefan Marinov. Here is the abstract: "After presenting the fundamentals of my gravitational and electric theories based on the concepts of absolute space-time, I reconsidered a previously proposed experiment. By making a more detailed technical analysis, I show that with the help of such an experiment one can easily establish the existence of a gravitational analogue to magnetic energy and measure the absolute velocity of the Earth." Marinov concludes this interesting concept with: "They [his proposed cosmic speedometers] will be used not only in cosmonautics but, if coupled with respective computers which will take into account Earth's absolute, orbital and axial motion, also as **reliable** speedometers on ships and planes giving the vehicle's velocity **with respect to the Earth's surface.**"

"Has Osamu Ide Observed a Violation of the Energy Conservation Law?" by Stefan Marinov. The abstract is: "After presenting shortly the recent electromagnetic motor of Osamu Ide, I show that it is a repetition of the historic Edwin Gray's pulsed capacitor discharge electric engine. Similarly as Gray, Ide has observed a violation of the energy conservation law, due to the appearance of induced forth electric tension. I show that forth electric tension is induced in every electromagnetic generator and motor when the phase difference between tension and current is near to 90 degrees, and I report on simple experiments where induced forth tensions lead to a patent violation of the energy conservation law." Marinov loves to discuss experiments that demonstrate violations of scientific laws.

The last several pages of this issue contain reprints of a series of letters between Marinov and several editors of scientific journals. **These letters demonstrate the obstinacy of many journal editors who refuse to publish articles contrary to accepted scientific dogma.**

LISTENING FOR EVs

by Hal Fox

In this case, EV stands for "electron validum," Kenneth Shoulders' high-density charge clusters and not for electric vehicle. EVs are created almost every time there is a spark or arc or lightning. Out here in the West, where there are not so many radio stations on the AM dial, we detune our car radios from nearby AM stations (this procedure increases the volume due to the operation of the automatic volume control on most modern radios). Then we listen for the cracks that indicate lightning storms. If you are out in the wilds of the desert or in the mountains (also known as boondocks or boonies) and you hear a lot of lightning discharges **then stay away from stream beds and watch for flash floods!**

In the case of working with equipment that may be producing EVs, detune away from any station on the AM dial; listen for smacks or cracks -- these are usually the sound of an EV hitting a metal and disintegrating with a burst of energy. **This will not work on the FM dial because the clipping circuits cut off all the amplitude modulated peaks and the amplitude bursts are what you want to hear.**

MAGNETIC ENERGY

Courtesy of Kenneth Shoulders

At the third International Symposium on New Energy, a discussion ensued about the capability of a strong magnet to provided stored magnetic energy so that a magnetic motor would appear to be running at very high efficiencies, such as the Takahashi Motor. Kenneth has provided the following information: Assume that the permanent magnet has a BH_{MAX} of 150 megaGauss Oersted -- about three times as strong as any previous magnet produced in the U.S. The stored energy would be equivalent to about 1.2×10^6 kiloJoules per cubic meter or about 1.2 kiloJoules per cubic cm. Assume that the motor's permanent magnets had a volume of 10 cm^3 . The energy stored would be about 12 kiloJoules = 12 kiloWatt

seconds. **Therefore if 100 watts was being output, then if one could drain the energy from the permanent magnets, there would be about 120 seconds of runtime.**

The message is that if a magnetic motor can provide generated electricity for any reasonable period of time without an electrical input, one had better seek another reason than the draining of the stored magnetic energy from the permanent magnets.

Solid-State Space-Energy Devices

SUMMARY OF RECENT SPARK GAP FIREBALL RESEARCH

Nicholas A. Reiter and Samuel P. Faile
May 27, 1996

One of the recent offshoots of our micro-inductive array research involves a possible non-conventional aspect of spark gap fireballs (plasmoids) produced either from activated voltage sources, or non-inductive pickups, or enhanced by chemical additives.

N. Reiter has surveyed various chemicals applied to the arc region of a tungsten rod spark gap, powered by a 15 kV DC power supply from an old photocopier. The intention was to look for anomalous aspects of the arc fireballs such as drastic increase in fireball size or plasma color.

One interesting observation was made with simple deionized (DI) water. The DI water was swabbed onto spark gap points prior to energizing. Arc fireballs were produced which appeared to be at least double the width of control discharges from dry points. Accordingly, the sound energy released was much greater, as discerned by ear. With tungsten gap points set at 5mm, an arc fireball 2 cm across was obtained by this method. Some aqueous solutions of heavy compounds,

such as Thorium Nitrate, also produced lesser improvements.

One of our speculations is that an arc discharge breaking through a relatively high resistance DI water film may "jar" the aether more than a dry air discharge, and possibly produce new energy effects such as the electron beads (EVs) noted by Shoulders. Such structures are said to produce over-unity effects. [US Pat. 5,018,180]

S. Faile has also conducted experiments with spark gap fireballs, using a small (7 watt) commercial plasma globe as an active energy source, a unipolar connected dual rectifying circuit (mentioned earlier in *NEN*) and a massive homemade capacitor. Comparison testing has been done with a 110v line power source coupled through two 1.0 μF capacitors. The homemade capacitor (Faile's) is rather unique, constructed of aluminum foil and plastic lined paper. The total value of the capacitor is approximately 0.86 μF . Special attention was made to build the capacitor as non-inductively as possible, using serpentine folds. Most commercial capacitors of modest value seem to be rolled, and thus have an inherent high inductance.

At the suggestion of Hal Fox, S. Faile has looked for indications of electron cluster beads, using a method proposed by Mr. Shoulders. This involved listening for broad-band signals manifested as isolated "smacking" sounds as heard over an AM radio [tuned off-station]. S. Faile has encountered this phenomenon with both the circuit geometries previously mentioned.

An additional AM radio interference phenomenon has been observed. When the non-inductive homemade capacitor was in use, a strong humming was noted over the radio, at 1500 kHz. This effect was detectable up to 7 feet away. Strongest emission seemed to be from the capacitor, connecting wires, and especially the ground lead at the load side of the diode assembly. When the homemade capacitor was replaced with a commercial unit of similar value, the RF interference ceased, and arc fireballs were reduced in size and apparent strength by perhaps one-half. With the homemade capacitor setup, a strong humming was also noted around the

ground wire even if it was not earthed [grounded], but at a very close range. We believe that the non-inductive nature of the massive homemade capacitor may be allowing some sort of resonance with a high frequency phenomenon emanating from ground. The humming effect, along with the arc fireball enhancement, may be a sign that very high frequencies are being utilized to augment a new energy process.

Recently, N. Reiter has duplicated these observations with an identical homemade non-inductive capacitor and plasma globe source.

One interpretation of all of this might be the possible harvesting of zero-point energy. However, S. Faile has suggested that cold fusion processes involving nitrogen (with hydrogen) could be at work.

Recently, N. Reiter has been experimenting with evacuated quartz tubes containing equal molar amounts of rock salt (NaCl) and liquid mercury. This concept has been developed and studied in Italy. Faint grey-white flares occur inside these tubes, along with radio interference when the tubes are shaken or rotated. N. Reiter has found that if the tube is backfilled to 50 mTorr pressure with N₂ before sealing, the plasma discharges are enhanced (of a bluish white color), and radio interference is heightened. S. Faile has theorized that in such a system, hydrogen and electrons are from the aether, and nitrogen could yield oxygen or carbon and helium, and release cold fusion energy.

COSMOLOGY NOTE

by Greg Hodowanec

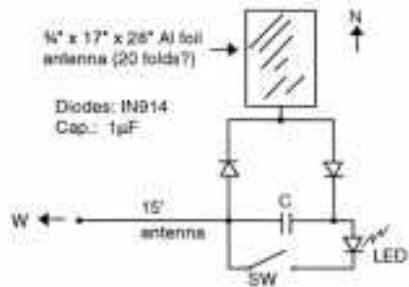
I. Some more esoteric energy tests

COSMOLOGY NOTE

by Greg Hodowanec

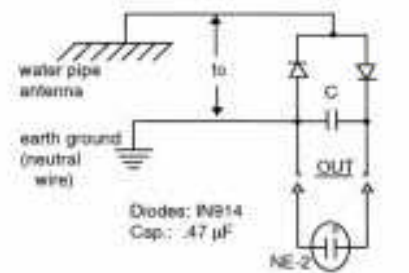
I. Some more esoteric energy tests

A. Dr. Faile's test of 3/20/96:



Results: with closure of switch (SW)
 1. **Brilliant** flashes of LED every minute.
 2. Faint flashes every second.
 Note: device must be at least 10' above ground level.

B. Hodowanec test of 3/25/96:



Results: NE-2 neon bulb flashes **brilliantly** every two seconds when left connected to the output. If the capacitor is allowed to fully charge, the neon flash is **very brilliant**.

Measurements:

A. Normal responses

V out = 90V (dc)
 I out = .007 mA (S.C.)
 P out = .63 mW (max. dc)
 fo = 34 KHz
 (at times 17 KHz)

B. High-level response (when present)

V out = 121V (dc)
 I out = .021 mA (S.C.)
 P out = 2.54 mW (max.)
 fo = 47 KHz
 (when present)

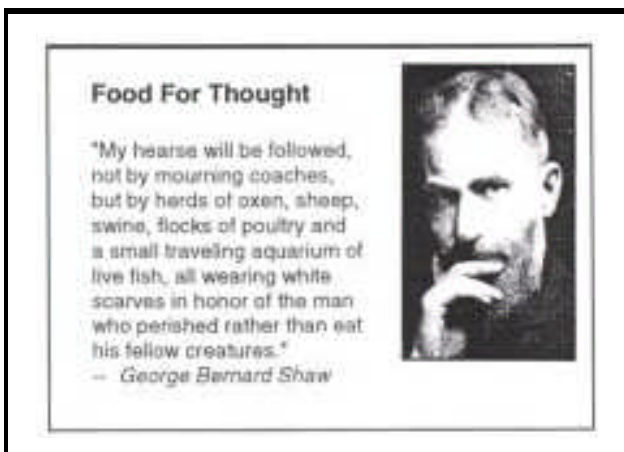
Measurements:

A. Normal responses

V out = 90V (dc)
 I out = .007 mA (S.C.)
 P out = .63 mW (max. dc)
 fo = 34 KHz
 (at times 17 KHz)

B. High-level response (when present)

V out = 121V (dc)
 I out = .021 mA (S.C.)
 P out = 2.54 mW (max.)
 fo = 47 KHz
 (when present)



II. Conclusions:

Both of these tests seem to be due to similar causes. Perhaps the 60 Hz 'leakage' fields pump the simple circuitry at one of the 'natural' resonance frequencies present while these energies might still be supplied by the 60 Hz power grid, I am of the opinion that the circuits are really extracting energy from the aether as was speculated in many past notes.

COIL WINDING TO INCREASE POWER 62.5%

Marko Rodin (Honolulu, Hawaii), Aerodynamics, "Concerning: Double the Output Coil,"(as compared to a conventionally wound coil with exactly the same amount wire) Proc. Internat. Symp. on New Energy, April 25-28, 1996, Denver, Colorado, pp 371-381.

AUTHOR'S ABSTRACT

For many long years I have been making the effort to interest people in the discovery about how I can model accurately energy in it's most efficient state. This was written into a book titled AERODYNAMICS. "The Dandelion Puff Principle: Point Energy Creation Physics." This book can be ordered for \$30.00 through the Tesla Society in Colorado Springs, Colorado at telephone 1-800-397-0137 or from me directly.

To those requesting detailed information about how to make a power and propulsion coil with a 62.5% greater electrical potential gain, I am providing in this paper the manufacturing winding schematic to enable you to produce a prototype for experimental research purposes only so that you may independently verify these results. My request is that you keep me informed of the outcome. I am available for consultation by telephone and you should indeed call me for clarification on the more obtuse issues of positive emanations, boundary conditions and changing aspect ratio of the conductors. My goal is to make the coil engineering as basic as possible and easily attainable.

Miscellaneous

NEW ENERGY OVERVIEW

Patrick G. Bailey and Toby Grotz, "A Critical Overview of the Available Information Regarding Claims of Zero-Point Energy, Free-Energy, and Over-Unity Experiments and Devices," *The AEN Newsletter*, vol 3, no 1, March 1996, pp 1-7.

AUTHORS' ABSTRACT

A summary review is presented of the experiments, motors, generators, devices, and demonstrations that have been reported in the past few years to produce near-unity or over-unity operation. The concepts of free-energy, zero-point energy, and over-unity devices are not new, and many examples of such devices have been built within the last 100 years. 26 researchers are reviewed and 11 are selected for immediate interest and support. Whether a new form of potential energy can be demonstrated and successfully utilized within the near future for the ultimate benefit of the human race remains to be seen.

EDITOR'S COMMENTS

To show how fast the neo-energy field is changing, almost none of the "11 selected for immediated interest and funding" are considered to be current strong contenders for commercialization. Note that the Bailey-Grotz paper was originally presented in the new *AEN Newsletter*, March 1996. We are pleased to welcome the *AEN Newsletter* to our list of friendly publishers of neo-energy information.

ENERGY FROM EARTH'S SPIN-MOTION

Douglas J. Buerger (Inventor, Wauwatosa, WI), "SpinBreeder, a Rotary Machine Constantly Driven

by Only the Earth's Spin-Motion," Proc. Internat. Symp. on New Energy, April 25-18, 1996, Denver, CO, pp 35-41, 3 refs.

AUTHOR'S ABSTRACT

Picture the Earth as a giant flywheel that spins around its axis and holds a vast reservoir of rotative kinetic energy in its spin-motion. In recent years, many scientists have become aware, that the earth's reservoir of flywheel-like spin-motion offers the ideal fuel source, provided a means for tapping into it could be discovered.

The moon naturally taps into the earth's spin-motion and uses it as fuel, in order to constantly move further and further away from the earth. This is sometimes called moon receding phenomena.

My SpinBreeder Machine is a rotary machine that mechanically simulates moon receding phenomena, as a means to tap into the earth's spin-motion as fuel and thereby, my SpinBreeder is continuously driven around and around by the earth's spin-motion.

A FUNDAMENTAL ERROR IN PHYSICS

Henry P. Dart, III (Tucson, Arizona)

One of the most fundamental principles of physics, in the eyes of those members of the establishment who write the physics textbooks, is the following: That a pellet, say one gram of iron, at rest in outer space has zero kinetic energy because by definition it is at rest, and that it also has **ZERO POTENTIAL ENERGY**. The sum of the potential and kinetic energies, therefore, is zero. Since we all believe in conservation of energy, the sum of the kinetic and potential energies must remain zero as the particle begins to fall toward the earth, the moon, the sun, or some other massive body. Therefore, as the falling body gains kinetic energy, which is the energy of motion, and always positive, the potential energy must be reduced. Since the potential energy starts at zero, then as the body falls, the potential energy must become negative.

What is wrong with this postulate? Just about everything. One of the most obvious defects is the fact that energy of any kind, whether kinetic or potential, has the dimensions of a mass multiplied by the square of a velocity. Now a velocity is a vector, which means that it can be positive or negative, but the square of a velocity must always be positive, for a negative number multiplied by a negative number is a positive, a fundamental principle of arithmetic. And a mass is always positive. Therefore, the concept of a negative energy of any kind is nonsense in its purest and most pristine form.

Another way to think about it might be called the layman's point of view. Since the total energy we start with is zero, and since from that we get a positive amount of energy as the particle falls, it is like starting in outer space with an empty basket, and as the basket falls, apples suddenly appear in the basket. And where did the apples come from? They came from the basket's potential to produce apples, which was zero to start with, and which becomes more and more negative as it goes along. This is a species of voodoo science.

Then why is it that so many allegedly intelligent people have gone along with this fable for so many years? I can only say it is the tendency of many scientists to accept what was accepted in the past without critically analyzing the postulates that form the basis of the establishment thinking.

What then is the solution? Obviously we have to start with a potential energy that is a large positive number, which can be drawn against for conversion to kinetic energy. There is nothing wrong with the concept that the sum of the kinetic and potential energies must always be constant. What is wrong is the concept that the potential energy is zero to start with. So what is that big positive number that we must start with? The answer is: mc^2 . For a one gram pellet of matter that happens to be 9×10^{20} ergs, which is the rest energy of any one gram particle in outer space. Then, as the particle falls, a portion of that energy is converted to kinetic energy, so that the total energy at all times is still mc^2 .

The basic error in concluding that gravitational potential, GM/R , which has the dimensions of a

velocity squared, is always negative, and that gravitational potential energy, GMm/R , likewise, is always negative, leads of a number of other errors. It leads directly to an incorrect formula for the gravitational time dilation factor, for example, and this in turn leads to the concept of the "Black Hole." Black Holes do not exist because they are based on the spurious idea that gravitational potential is always negative.

Physicists and astronomers should rethink this basic postulate, which is transparently false, and the consequences that flow from it. [I like this concept. Thank you. -- Ed.]

GULF STREAM ELECTRICAL GENERATION

B.V. Davis, "Generation of Electrical Power from the Florida Current of the Gulf Stream," Proc. Internat. Symp. on New Energy, April 25-28, 1996, Denver, CO, pp 93-100, 9 refs, 5 figs. This paper was also presented at the 18th Annual OTC in Houston, Texas, May 5-8, 1986.

AUTHOR'S ABSTRACT

The authors have developed, built and tested Darrieus type Vertical Axis Hydro Turbine (VAHT) which extracts electrical energy from ocean currents. This paper covers research, design, construction, instrumentation and field testing of the VAHT, which was named VEGA I (Venturi Energy Generating Apparatus One). The turbine was installed in the Florida Current of the Gulf Stream off Fort Lauderdale in April 1985. The energy potential of the Gulf Stream and the technology required to capture this energy are discussed.

The following VEGA I and II research and development work was commissioned by Hampton C. Robinson, Jr. M.D. of Houston, Texas, to verify his belief that the Gulf Stream is a viable source of environmentally benign renewable energy.

TESLA AND THE 21st CENTURY

J.J. Hurtak (Academy for Future Science), "Tesla, Total Energy and the 21st Century," *The AEN Newsletter*, vol 3, no 1, March 1996, pp 13-15.

J.J. Hurtak, "Tesla's Contribution to Future Physics," *ibid.*, pp 15-18.

Two articles on the research of Nikola Tesla and its application to our new energy development today.

PLANETARY ASSOC. FOR CLEAN ENERGY

A. Michrowski (President of P.A.C.E), "The Planetary Association for Clean Energy, Twenty Years of Science," *The AEN Newsletter*, vol 3, no 1, March 1996, pp 8-12.

AUTHOR'S ABSTRACT

The Association is now entering its 20th year of existence. It began as an initiative by Hon. Chesley W. Carter, chairman of the Canadian Senate Standing Committee on Health, Welfare and Science, "to encourage maximum utilization of science and technology to the problems that face us... to keep [ourselves] as well informed as possible about what was being done in this respect, particularly with regard to the development and possible application of new technology, new devices and new approaches to current problems." [P.A.C.E. is a non-profit, charitable corporation whose objectives are to facilitate the discovery, research, development, demonstration and evaluation of clean energy systems.]

RODIN COIL RESEARCH

Bill Ramsay (independent researcher, SC), "Preliminary Rodin Style Coil Findings," Proc. Internat. Symp. on New Energy, April, 25-28, 1996, Denver, CO, pp 321-343, 6 refs, 5 figs, 4 tables.

AUTHOR'S ABSTRACT

Described are results of simple tests performed on a number of small "model" coils constructed somewhat according to Marko Rodin's unique geometries. Rodin feels there is potential, with properly made and powered coils, to tap the universal energy-matter creation process with startling results. A vision, I'm convinced, deserves attention especially since early tests are yielding surprising results which may be clues to the actual potentials. More tests on different and more refined versions by many researchers should help better define this potential. Included are some suggestions and speculations for directions these might take.

SANTILLI'S HADRONIC ENERGY

Shannon D. Smith (Research Assoc., Inst. for Basic Research, Palm Harbor, FL), "Santilli's Clean, Subnuclear, Hadronic Energy, Recycling of Nuclear Waste, and Quantitative Treatment of New Energies," Proc. Internat. Symp. on New Energy, April 25-28, 1996, Denver, CO, pp 395-414, 16 refs.

AUTHOR'S ABSTRACT

We outline the following three topics:

1) Hadronic Energy. Neutrons are large reservoirs of energy which is released spontaneously via beta decay. The hadronic energy, recently identified by the American physicist R.M. Santilli, deals with mechanics in the interior of the neutrons (thus being of subnuclear type), which are capable of tapping such energy with current technology. Theoretical and experimental studies on the hadronic energy currently going on in the USA, Europe and Russia are outlined.

2) Recycling of nuclear waste on site. New forms of energy generally contain the basic principles for the recycling of nuclear waste inside the water pools of nuclear power plants, thus avoiding the need for transporting and storing the waste in a site yet to be identified which, according to official DOE estimates, is expected to cost 230 billion

dollars during the next five years. For instance, the capability of stimulating the decay of the neutron of hadronic energy implies the capability of recycling on-site nuclear waste via its stimulated decay.

Similar capabilities of waste recycling on site are expected for other forms of energy, including cold fusion.

3) Quantitative treatment of new energies. All conceivable forms of energy permitted by relativistic quantum mechanics (RQM) were exhausted during the first half of this century.

To be truly "new," a form of energy must necessarily be beyond the capabilities of RQM. When at Harvard University in the late 1970's under DOE support, Santilli proposed a broadening of RQM called "relativistic hadronic mechanics" (RHM), which can provide a quantitative representation of interactions due to mutual wave overlappings which are *nonlinear* (in the wavefunction), *nonlocal* (because extended to a region) and *nonpotential* (because of contact character), thus being outside RQM. The hadronic energy is numerically predicted by RHM and *not* by RQM. RHM is also expected to provide quantitative treatments of cold fusion and other new energies. In fact, nonlinear, nonlocal and nonpotential interactions can produce *attraction* among particles, nuclei or atoms of the *same* charge, as established in the neutron structure, superconductivity, chemical bonds. Thus, RHM provides a rigorous explanation how cold fusion processes can be initiated even against repulsive Coulomb barriers.

"So we went to Atari and said, "Hey, we've got this amazing thing, even built with some of your parts, and what do you think about funding us? Or we'll give it to you. We just want to do it. Pay our salary, we'll come work for you." And they said, "No." So we went to Hewlett-Packard, and they said, "Hey, we don't need you. You haven't gotten through college yet." -- Apple Computer Inc. founder, Steve Jobs, on attempts to get Atari and H-P interested in his and Steve Wozniak's personal computer.

Moral: The "experts" aren't!

LETTERS

AUTHORS' DISCLAIMER AND CORRECTIONS

Dear Mr. Fox,

You have, in error, published in the May issue of *NEN* an Authors' Abstract bearing our names, which we must disclaim as we did not write it, and which contains certain obvious mistakes. The said Abstract is followed by your own comments which will have further compounded the confusion in the minds of your readers. We request that you publish a copy of this letter, in the next issue of *NEN*.

We would like to offer the following corrections to your comments: 1) Dr. P. Correa presented our paper at the Symposium, not Ms. Alexandra Correa. 2) Glow discharges are not the same as vacuum arc discharges (VADs). 3) Our work has not been on the subject of VADs, but on the subject of the autogenous PAGD (pulsed abnormal glow discharge), which we isolated (although we have also utilized interrupted VADs in the course of our research). We presented evidence in the talk, in our patents and in our paper published in the Proceedings from the Symposium, which demonstrates that, in a Fowlet-Nordheim plot, the PAGD slope is precisely the reciprocal of the VAD slope. The PAGD regime also occurs at much lower applied fields and at lower currents than are experimentally required by VADs. 4) Even though Dr. Aspden's excellent work in plasma electrodynamics is indeed extremely relevant to our own, that was not what led us to our discoveries either experimentally or theoretically.

Lastly, we note that it is your prerogative as the *NEN* editor to doubt whether commercialization of our inventions is readily apparent to you. We can only wonder on what you make such an assertion.

Thank you in advance for your good will.

/s/

Dr. P. Correa, M.Sc., Ph.D.

Ms. A. Correa, (Hon) BA

EDITOR'S COMMENTS

We apologize to Paulo and Alexandra for the errors. We published the abstract that appeared in the *Abstracts and Biographies of the International Symposium on New Energy*. We assumed that this abstract was written by the authors. Following is the abstract from the Conference Proceedings. In the excellent presentation by Paulo in the symposium, there was not time to present sufficient details of costs of construction and value of produced energy to enable one to make a judgement on commercialization. The comment about commercialization was not meant to be negative and we will applaud this and any other new energy devices that achieve commercial acceptance. Thank you for your kind letter in calling our attention to our errors.

Paulo N. Correa, and Alexandra N. Correa (Laboflex Applied and Experimental Plasma Physics Lab., Ontario, Canada), "Excess Energy (XS NRGTM) Conversion System Utilizing Autogenous Pulsed Abnormal Glow Discharge (PAGD)," *Proc. Internat. Symp. on New Energy*, Denver, CO, April 25-28, 1996, pg 43-62, 33 refs, 9 figs, 1 table.

AUTHORS' ABSTRACT

By producing sustainable pulsations in a cold-cathode vacuum tube, the (XS NRGTM) energy conversion system operates to generate electrical energy output well in excess of power input. After capture, the energy from the plasma reactor passes through the rectification circuit of the XS NRGTM System as DC output. An overall performance efficiency of 483% is reported in the data to be presented. The pulsations occur at a controlled frequency without the need for an external pulse forming circuit. The observed spontaneous auto-electronic emission occurs under conditions not anticipated by the Fowler-Nordheim paradigm, and appears to involve an anomalous cathode reaction force

conforming to Aspden's Law of Electrodynamics, first enunciated by Dr. H. Aspden in 1969. High resolution metallographic results give evidence of the auto-electronic signature responsible for the anomalous PAGD (Pulsed Abnormal Glow Discharge) function we have identified.

LETTER FROM JEANE MANNING

May 22, 1996

Environmentalists Misinformed about Emerging Energy Tech.

The frustration that comes from speaking with the "experts" - experts on yesterday's energy-technology paradigm - is a feeling that I've had to shake off all too many times lately, and it lingered after I hung up the phone this morning.

I was requesting information from a top researcher at Greenpeace Canada headquarters in Toronto. The expert on global climate change was helpful and agreeable; he's aware that Canada's prime minister "represents the dinosaurs" regarding technology for generating power. However, the tone of the conversation changed when I mentioned what I see as "good news for the Planet" - that research on what is called cold fusion is thriving in laboratories all aground the world.

He said he'd read "scientific writings" but it sounded like he'd been reading the negative Huizenga/Taubes books, or magazine articles which give the impression that cold fusion researchers "deliberately misrepresent" their results and don't practice good science.

I asked if he'd heard about James Patterson's successful invention or other new developments in what the Japanese call New Hydrogen Energy. Then the Greenpeace researcher said he resents the money that goes to such efforts (I didn't get a chance to ask: "What money? In North America, certainly NOT taxpayers' money,") He resents any effort put into new research because "we already have the alternatives ready to use - solar, wind and biomass." My phone bill and an incoming call prevented me from staying on the

line to convince him to look at the emerging energy technologies that, if developed, could outperform those traditional alternatives.

Is there a fear underlying the anger of entrenched academics - a subconscious fear that the New could cause the Old to become obsolete? I contend that long-time environmentalists sometimes develop closed minds, just as do long-time experts on any topic. Any messenger-for-a-new-worldview coming along with information that seems to oppose the experts' bodies of accepted knowledge, is resented. The messenger is experienced as an irritant or an antagonist, depending on how closed-minded the expert is.

My sympathies are certainly with those people who have devoted their careers to saving this planet's ecosystems. Does anyone have any suggestions on how to build bridges to them verbally - how to detour around their resistance to topics such as cold fusion? If only we all had Gene Mallove's and Hal Fox's speaking ability! I'm heading to my nearest Toastmasters' Club, because we have to convey the good news in time to clean up this planet!

Jeane Manning, author of
[Angels Don't Play This HAARP](#)

LETTER FROM SEAN L. DOEL

1 May 1996

Thank you very much for permission to extract information from *New Energy News* for publication in *The Advanced Energy Newsletter* and thank you for the information contained in your fax. I shall alert our members of the appropriate details contained therein. Please find enclosed a copy of the March issue of the AEN Newsletter.

I have attached an Advanced Energy Network pamphlet which provides some information on objectives of the network. To give you my background briefly, I have a degree in the Earth Sciences and I am presently completing my Masters in Environmental Geochemistry. I formed the AEN in '94. At present the activities of the Network are purely networking and exchange of

information. However, the aim is to establish a R & D centre in the not to distant future. For the time being, I would like to help in any way that I can with the accessing and exchange of information and would be very happy to hear from your members and any news of their research that they would like "aired" in South Africa. In the interests of rapid information exchange there is no charge for advertising in the AEN Newsletter at present.

Please let me know when your new energy devices become commercially available.

Kind regards

Sean L. Doel, Director, Advanced Energy Network
30 Tullyallen Road, Rondebosch, 7700 Cape Town
Republic of South Africa

[Memberships are R50/year (surface mail). Make postal money order payable to the Advanced Energy Network.]

LETTER FROM GERMANY

May 11, 1996

TESTING OVER-UNITY DEVICES IN GERMANY.

A two-hour discussion with a high ranking official and his group in Dusseldorf (the capital of the state Northrhine-Westfalia. which is, with some 17 million inhabitants, the largest state of Germany) has recently brought the following good result:

The State Ministry of Economic Affairs, Technology and Transport in Dusseldorf is willing to support activities in which an over-unity device (or perhaps two or more) is tested by specialists at a Northrhine-Westfalian university or research institute.

A positive test result will be a breakthrough in matters of "New Energy" in Germany and a tremendous support of the device tested successfully (great publicity etc.). A negative test result would be disastrous in many respects. For

these reasons, the test has to be planned and carried out very carefully.

We plan to coordinate and accompany these testing activities in Northrhine-Westfalia, (and perhaps also in other States which might provide similar support of the "New Energy" field).

Please let us know soon whether you could supply one or more devices for testing. If yes, please give detailed information which may help us in planning and carrying out successfully the intended tests. A negative test result would be a great problem as you can imagine.

Below we specify a few points which may help us in Germany to test your device successfully and to support thereby this device in particular and Space Energy Technology (SET) in general.

1. We believe that it is absolutely necessary that you provide as much information about a proper test of your device as available. This may mean, for example:

The leaders of the test group and we as coordinators are instructed in detail (preferably in your laboratory) before the testing in Germany begins.

We receive results of previous tests, a brief description of the testing procedures used, the name and address of the testing person or group; in case that differences in test results may be due to differences between or among versions of the device tested, it would be helpful to receive from you information about such differences.

2. If there are video cassettes of your device, please send us soon some copies: two in the American system (NTSC), some 6 or more in the European/German PAL format if available.

3. We receive from you the patent documents in full length.

4. Please, state your financial and legal conditions clearly, in a detailed manner.

5. We are sure that the German test team(s) insist(s) on an agreement with you to publish the test results (with or without prior statistical analysis of the data).

We look forward to your prompt reply.

Sincerely yours,

Prof. Dr. Josef Gruber
Chair of Statistics and Econometrics
Dept. of Economics
Univ. of Hagen

and

Diplomat W. Bahmann
European Secretariat of PACE
and
International Committee of INE

EDITOR'S COMMENTS

(Portion of a letter sent to Prof. Gruber) Although we will be pleased to help, the following message should be shared with German scientists:

We wonder why the renowned scientists of Germany are so embroiled in outdated scientific models that they have ignored the vigorous developments in cold nuclear fusion and other enhanced energy technologies. If they are too busy protecting outmoded theories, why should scientists in other countries be concerned about their intellectual welfare? Japan does not have this problem and the so-called "new-hydrogen energy" (cold fusion by another name) is now being commercialized in Japan as well as in the U.S. From few to none German scientists have attended the previous five International Conferences on Cold Fusion. Have German scientists let *Nature* magazine and Douglas R.O. Morrison do their thinking for them?

Hal Fox, President
Fusion Information Center

LETTER & POEM FROM DONALD P. WALTON

The quatrain previously submitted was inspired by the description of an experiment undertaken by a good friend formerly residing in Hawaii. He is an excellent engineer and also has many of the gifts associated with Edgar Cayce. So when he told me that this project arose from intuition, and had been undertaken successfully, I was cautiously optimistic. I am sure he would feel that information freely given is meant to be shared internationally.

From the quatrain many references are quoted which were studied by myself, e.g. Worrell-Keeley, Tom Beardon, Bhuddist and Hindu philosophy, plus many fringe science papers including publications on how the pyramids were really built and references to levitation by Bhuddist monks of Tibet. The NASA technical briefs on levitation were also investigated. If you assemble all the pieces of a jig-saw, then the whole picture is presented.

At this point a few extracts from his letter would seem appropriate:

"Each energy level has three unique frequencies, also due to the constructive and destructive interaction of the three frequencies produces a specific composite energy level." The levels may be designated 1 through 4, with 1 being the highest. For our purposes the frequencies are not important (they vary from 10^{21} to 10^{24}). What is important is the relationship these frequencies have to each other within their respective energy levels.

By interfering the frequency relationship of the highest energy level such that the particular frequencies we choose generate earth resonances as one of its heterodynes, we can create a most powerful field that actively interferes with the earth's magnetic envelope.

The frequency ratios of that level are 1;4; and 5, or in musical terms: do, fa, so. By selecting as representative frequencies 48Hz; 64Hz; and 72Hz - but moving the three down just a hairsbreadth so that the heterodyne of the two highest frequencies becomes 7.83 Hz, we achieve just that.

Since the quality of the actual energy level is that of Scalar Standing Waves, longitudinal in nature, using sound waves can simulate or mirror their interaction if the medium through which we convey them is ionic.

I set up a waveguide with three arms converging to a center, each on a 120 degrees leg. Each leg was cut from square cross-section PVC gutter pipe and measured to correspond to an exact fraction of the wavelength for one of the frequencies, that is 12, 9 and 8 inches or multiples thereof. Transducers capable of producing 120dB in the medium selected must be used and these are placed at the ends of the cavities. Measurement is done from the face of the transducer to the point of intersection."

Generating the required frequencies is relatively straightforward and we should start with a master oscillator with fine incremental tuning operating at 576Hz, this is coupled to three buffer amplifiers whose outputs are taken to:

1. A divide by 8 which = 72Hz
2. A divide by 9 which = 64Hz
3. A divide by 12 which = 48Hz.

All three are then taken via a square to sin convertor and to the transducers vial power amplifiers. Not being partial to noise, not least 3 x 120dB, I am considering the possibility of alternatives to the above. Do beware of "Pop" music groups standing in a circle, do not stand at the focal point or you might just become closer to heaven than you would wish.

**No claims are made by myself and the above is passed on purely as a gift. On the basis of my own investigation I would suggest there is a better than average chance of success.

Yours sincerely, Donald P. Walton

A Quatrain for Today's Boffins
(Can anyone rise to the challenge?)

In ancient times monks of Tibet
With music found that they could get
Rocks and stones to levitate -
Against the laws of gravitation
In disbelief by western nations.

Around about 1895, a Keeley boffin did arrive,
It's elementary, you must be fools,
It's all related to intervals.
Not only that, but he had a notion,
How to create perpetual motion.

Some years later the American nation
Saw in print this revelation.
The government were not impressed,
They declared it SECRET with great zest.

It is quite laughable to say
I was attempted by N.S., S.A.
From what they published there's no doubt
They haven't much to shout about.

THESE MONKS KNEW A THING OR TWO.

Three frequencies must be played in bursts,
All three below 100 Hertz,
And if you've got the signals right,
You will behold a wondrous sight.

REMEMBER THE INDIAN ROPE TRICK.

Although it has not yet been stated,
Schuman frequencies are related.
Combine this with what Keeley said,
See objects float above your head.

To get results don't throw the dice,
Geometry must be precise.
If you would rise above your station
Be sure to use the right equation.

Think carefully, don't be naive,
Standing waves you must achieve.
Tonight before you go to bed
Think on what Tom Bearden said.

If you would build a pyramid
Do what the Tibetans did.
I'm sure by now you all well see -
A need for mental agility... May the FORCE be with you..

Donald P. Walton
(Apologies to Nostradamus)

Meetings

World Renewable Energy Congress IV
Denver, Colorado, USA 15-21 June 1996

RENEWABLE ENERGY
Energy Efficiency
and the Environment

Generally dealing with the established "renewable resources" with a lesser place for other technical topics.

Preregistration required. For information contact Mr. Steve Hauser, Division Director NERL, 1617 Cold Blvd., Golden, CO 80401. Tel: 303-384-7416, Fax: 303-275-4320.

INTERNATIONAL SYMPOSIUM ON
CONSCIOUSNESS,
NEW MEDICINE AND NEW ENERGY

Yomiuri Hall, Tokyo, Japan
November 21-22, 1996

Dr. Shiuji Inomata is organizing a symposium to discuss and present research results in such broad topics as consciousness phenomena, holistic medicine, integration of Western and Eastern medicine, and new energy technology. The sponsor is the Japan Green Cross Society. Paramahansa Tewari has been chosen as the keynote speaker for the conference. Participation fee is US\$ 190.

Contact: Mr. Tetsu Nagano, Japan Green Cross Society

2F Kamon Building
2-7-14 Hamatsu-cho
Minato-ku Tokyo 105 JAPAN
Tel: +81(0)3-3437-2218
Fax: +81(0)3-3437-2808 or +81(0)3-3437-2624

ICCF6

Sixth International Conference on Cold Fusion

will be held 13-17 October 1996
Hotel Apex Toya, Hokkaido, Japan
Conference Secretariat:
Tel +81-3-3508-8901
Fax +81-3-3508-8902
E-mail mac@iae.or.jp

The conference will consist of both oral and poster sessions covering experimental work and theory on the following topics:

- Excess Energy Phenomena in D₂/Metal Systems
- Correlation Between Excess Energy and Nuclear Products
- Nuclear Physics Approaches
- Material Science Studies
- Innovative Approaches (Miscellaneous Phenomena)

Registration fee of ¥40,000 (about \$400) includes a banquet and proceedings. A technical tour to the NHE lab is scheduled on Oct. 18, along with other professional and social events.

Hotel: Deadline for guaranteed accommodation is August 1. Contact:

Hotel Apex Toya Hokkaido
Aza-Shimizu, Abuta-machi, Abuta-gun
Hokkaido 049-56, Japan.
Tel: +81-142-73-1111 Fax +81-142-73-1157

Registration: Final Deadline August 1. Send for application package to Conference Secretariat c/o NHEI-Center, IAE
Shinbashi TS Building
1-22-5 Nishi-Shinbashi, Minato-ku
Tokyo 105, Japan
(tel. info above)

PLANNING FOR 1999 - POLLUTION SOLUTION

The World Harmony Foundation (P.O. Box 1148, Midland 6936, Western Australia) proposes **THE POLLUTION SOLUTION** Conference to be held at the Sheraton Mirage Hotel, Port Douglas,

Queensland, Australia, October 15-22, 1999. Those interested, please write or fax 619/454-3024, E-mail: steveb@iinet.net.au
In USA contact World Harmony (US), P.O. Box 317, Rainier, Washington 98576.

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 troubleshooting for the fusion research and development industry. Salem, Oregon. The president, Warren Cooley, can be reached at 1-800-789-7109 or 503-585-6746.
Email to: Coolwar@aol.com

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 more. We are the publishers for *Fusion Facts*, *New Energy News*, and *the Journal*

of New Energy. Voice 801-583-6232, Fax 801-583-2963.

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.

International Management Systems Co. (IMSC): Technical project/program management assistance, and technology development and commercialization assistance. Contact Mark Harris or Richard Youngs, Phone 801-583-6232, Fax 801-583-2963, or Phone/Fax 801-255-3000.

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.: The Joint Venture partner with Sciex (UK) for Takahashi supermagnets and supermotors in North America. 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.

Zenergy Corporation: Founded in 1996 to facilitate the introduction of commercially viable energy alternatives. (formerly Power Cell Technologies)

Chandler, AZ. Contact Reed Huish: 602-814-7865, Fax 602-814-7665, e-mail: reedh@indirect.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.

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.

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, 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., for the Institute for New Energy. Editor: Hal Fox.

Planetary Association for Clean Energy Newsletter, quarterly, edited by Dr. Andrew Michrowski. 100 Bronson Ave, # 1001, Ottawa, Ontario K1R 6G8, Canada.

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.

21st Century Science & Technology, P.O. Box 16285, Washington, D.C., 20041. Includes cold fusion developments.

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

CONTENTS FOR JUNE 1996

BOCKRIS' NEW PAPER	1	EARTH'S SPIN ENERGY	12
IMPLICATION OF IMPURITIES	3	FUNDAMENTAL PHYSICS ERROR	13
FUSION BRIEFINGS	6	GULF STREAM POWER GENERATION	14
TRIO OF THEORIES BY BASS	6	TESLA & 21ST CENTURY	14
COLD FUSION REVIEW BY STORMS	7	PLANETARY ASSOC. FOR CLEAN ENERGY ..	14
WASHINGTON'S FUSION PLANS	8	RODIN COIL RESEARCH	14
SPACE ENERGY	8	SANTILLI'S HADRONIC ENRGY	15
<i>DEUTSCHE PHYSIK</i> CONTENTS	8	LETTERS	16
LISTENING FOR EVs	9	Paulo Correa, Jeane Manning, Sean Doel, Dr. Josef Gruber, Donald Walton	
MAGNETIC ENERGY	9	MEETINGS	21
SOLID-STATE DEVICES	10	Renewable Energy Congress IV	
SUMMARY OF RECENT FIREBALL RESEARCH	10	Consciousness, New Medicine, New Energy	
HODOWANEC'S COSMOLOGY NOTES	11	6th International Cold Fusion	
NEW COIL WINDING DESIGN	12	Pollution Solution in 1999	
MISCELLANEOUS	12	COMMERCIAL COLUMN	22
NEW ENERGY OVERVIEW	12		