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OUR HOLIDAY SEASON'S GIFT TO YOU By the Institute for New Energy Staff

May your home be bright with intelligence and light.
May your hearth be warm with heat and charm.
May your heater be hot with new energy sought.
May you charge up your car and travel most far
With a new-energy source for which you rejoice.

There are many gifts but the greatest is love or charity. Charity comes in various forms, and often springs from love. There are those of us that, for various reasons, have devoted our minds, our funds, and our time to be numbered among those who are striving to make this world a better place for our friends, our children, our grandchildren, and ourselves. We, the staff of the Institute of New Energy, believe that our efforts **coupled with yours** are making a breakthrough in new energy.

Here is who we are:

Dr. Patrick Bailey, space power engineer. Patrick is donating his own time and his own money to maintain and improve the INE web site. Pat is the president of INE.

Hal Fox, missile system engineer, research scientist, and wordsmith. Hal is the secretary of INE and editor of the monthly newsletter, *New Energy News*.

Robyn Harris, office manager. Robyn is the treasurer of INE, takes care of all subscribers problems and requests. Robyn also banks your checks when you subscribe.

Dineh Torres, desk-top publishing specialist and graphic artist. Dineh is the one that takes many of our contributors' drawings and turns them into works of art. She also serves as cartoonist, proof reader, and editorial assistant.

Most important are INE members, correspondents, contributors, and subscribers.

A financial note: Members' dues and subscription payments pay about one-third of the costs of INE. The rest is contributed by the INE staff.

A HOLIDAY GIFT FROM YOU: This is a great time to help the development of new-energy and to help someone near to you: **Give a gift of membership in INE which will deliver your friendship twelve times a year!**

HOLIDAY GIFTS FROM NEN: Elsewhere in this issue, you will find several other things that you can give as special holiday gifts: the Magnetic Spinner, a video on "Free Energy", a subscription to the *Journal of New Energy* (great for your local college or university), or a Low-Energy Nuclear Transmutation Kit. If you live in Utah or Nevada, you may be able to give some shares in TREENERGY, Inc. (ask your Utah or Nevada broker and give them *NEN's* phone and fax numbers as a source for further information).

COMING IN THE NEW YEAR: Plans are being made to put eight years of *Fusion Facts*, five years of *New Energy News*, and perhaps two years of the *Journal of New Energy* onto a high-density computer media disk. Also, *NEN* expects to begin a listing of public companies that are devoted to new-energy devices and systems (including their latest share prices).

WISHING YOU "ENERGETIC HOLIDAYS AND A NEW-ENERGY YEAR!"

Fusion Briefings

BOCKRIS LETTER OF INTEREST TO ALL

From Dr. John O'M. Bockris:

When I resided in Hamburg, Germany in 1937 and '38, I recall writing to a friend to say that, if the German paper said that the USA had been invaded by the British from Canada, - great U.S. losses in Detroit, - the Germans would believe it. There was no possibility of checking (the discovery of radios tuned to the BBC carried a **Death Sentence**).

A key to the technique Murray uses is **outrage and anger**. As you say, - I can't believe this, - you claim, - why this is **absurd**, - that one atom turns into another? But that is magic and Medieval Alchemy, and etc., etc., etc.

Science is a 90% game. Don't take it too seriously. There has been in this century perhaps no more **utterly idiotic** idea than de Broglie's suggestion that **Waves accompany solid particles**. Compared with the transparent lunacy of this idea, low temperature transmutation is an easy catch. But de Broglie's suggestion is now the basis of Modern Physics.

Transmutation research has been going on in **modern scientific journals** since at least 1937 and the first paper I could quote you is by Enrico Fermi himself, - the electrolysis of deuterated ice to give neutrons and He₃.

Now, to Gleeson and Co.:

The evidence you have sent me and the descriptions sound good. Here are my worries.

(1) Of course, the removal of radioactivity from the solution is classical electrochemistry. AC is never 100% symmetrical and electrochemical processes rectify. Hence, there will be deposition on each electrode. The radioactivity will leave the solution and go to the electrodes. No big deal.

(2) The high temperature and pressure will tend to dissolve the electrodes and shower lots of stuff into the solution. This will be greatly helped by the AC which will help dissolution electrochemically. As to what gets into the solution in this classical way, -- I suggest a mass balance. Dissolve the electrodes completely in hot aqueous regia (be careful!) and

have the solution completely analyzed for everything. Then, you know what you've got. Would an independent observer be able to account for the new material from what is in the electrodes?

Then I would suggest surrounding the cell with 4 to 6 Geiger counters and following the total radioactivity in the cell. The radiation should be unconcerned with screening and come out anyway. Thus, if there is no transmutation, the total of the gammas will be the same throughout the process of AC. electrolysis. Of course, transmutation will change the radiation. Use a gamma-ray spectroscope and it may be possible to detect new materials by their signal.

One last thing: Why are not transmutationists in fax and e-mail touch with Mizuno and Co.? They have such good apparatus and are very active. Reiko Notoya, too, has more reports of radioactivity in electrodes than any one. All at Hokkaido University.

COMMENTS BY HAL FOX:

Dr. Bockris has made some excellent suggestions for the Cincinnati Group experiments. Here are some possible problems: The LENT-1 reactor uses a thick-walled metal electrode which would shield most of the emissions detected by a Geiger-Mueller tube. Operations in an open beaker have been successful, however, the gradual creation of precipitate may move the radioactivity from one part of the cell to another part of the cell. Critics would immediately point out that the reduction in overall emissions were the result of change of position of radioactive materials with respect to the Geiger counters.

The chemical analytical techniques are one of the best methods available, however, the methods are very expensive. Due to the small amount of thorium currently used in the LENT-1 protocol (one-tenth of a gram of thorium), the byproducts of the expected nuclear reactions must be measured in parts per million. We have made just such measurements in replicating the LENT-1 protocols. Critics will claim contamination just as the infamous ERAB committee's report on cold fusion did.

The gamma-ray spectroscopy is, in our opinion, the best method to be used. Here are the tools required:

- ◆ The LENT-1 Kit (\$3,000).
- ◆ A two-board multi-channel analyzer for your PC. (\$4,000).
- ◆ A PC with Windows and at least a 486 CPU chip. (\$1,000 to \$5,000).
- ◆ A gamma-ray sensor. (Sodium Iodide Crystal at about \$1,000 **or much better a germanium crystal with cryogenic cooling at about \$14,000.**)
- ◆ Digital ammeter, voltmeter, and temperature meters. (Less than \$1,000).

For a price tag ranging from about \$10,000 to \$25,000, you can be reasonably well equipped to make a series of low-energy nuclear reactions and measure the results (just as we are doing and publishing our findings in this publication). We now have in our laboratory a sodium-iodide gamma-ray detector and a Pentium PC with a 2,000 channel analyzer, plus software. See our initial experimental measurements on page 5.

The basis of the multi-channel analyzer and sensor is to turn gamma-ray emissions into electric signals, amplify the signals, and store the signals **by energy levels**, in various **bins** in the 2,000 channel analyzer. Almost all nuclear reactions are characterized by the emission of gamma rays (electro-magnetic photons ranging in energy from a few kilovolts to tens of megavolts). Here are the gamma-ray energy levels for thorium and its daughter products:

Element	^a (KeV)
Thorium-232	59 (weak)
Radium-228	14 (weak)
Actinium-228	911, 969, 338
Thorium-228	84, 216, 132, 166
Radium-224	240
Radon-220	550
Polonium-216	805 (weak)
Lead-212	239, 300
Bismuth-212	40, 727
Polonium-212	--
Thallium-208	2615, 583, 511
Lead-208	stable

Assume that thorium nitrate is dissolved in pure distilled water. It is deemed to be unlikely that either radon-220 or any of the nuclear reaction byproducts following thorium would be of any

importance in the LENT-1 reactor **because radon is a gas and would likely escape. If present, the observed amounts would be very small.** The thorium-232 and the radium-228 give off weak gammas which may or may not be detected by the gamma spectroscopy. However, the actinium-228, thorium-228, and radium-224 should provide suitable signals so that the thorium daughter products can be observed. The gamma-ray spectroscopy can be calibrated by making measurements from the "before-processing" solution of thorium nitrate in distilled water.

Here are the technical challenges: The gamma-ray background is present everywhere. Even with a barrel-sized lead shield, there are still a lot of gamma-ray background emanations. The background changes with a change in whatever material is placed into the measuring area. Different metal "targets" will show a different background. Radioactive potassium is everywhere and must be considered.

Cosmic ray gammas travel through everyone's body at the rate of an average 11 per second. Assume that in the LENT-1 Reactor, a proton will penetrate the thorium-232 nuclei. If the thorium-232 fuses with the proton then protactinium-233 is produced. This isotope decays by beta emission with a half life of 27.8 days and becomes uranium-233 which decays by alpha emission. **If the thorium-232 is being bombarded with protons, what is the probability of creating an unstable nuclei that will fission and what is the probability that the proton energy will be just sufficient to provide a fusion event?** We don't know the answer, but it is reasonable to look for the gamma-ray energy characteristic of protactinium-233 (312 KeV).

Thorium (and all heavy elements) is neutron rich. Oxygen-16 has 8 protons and 8 neutrons -- a fifty-fifty ratio of neutrons to protons. Thorium-232 has 90 protons and 142 neutrons -- a ratio of more than 3 to 2. If nuclear fission reactions take place, then the reactions will have to get rid of many excess neutrons. **Many scientists believe that this type of nuclear reaction must emit neutrons.** No over-background neutron emission has been observed from the operation of the LENT-1 reactor.

Breakthrough Video on Breakthrough Technologies **Just Released**

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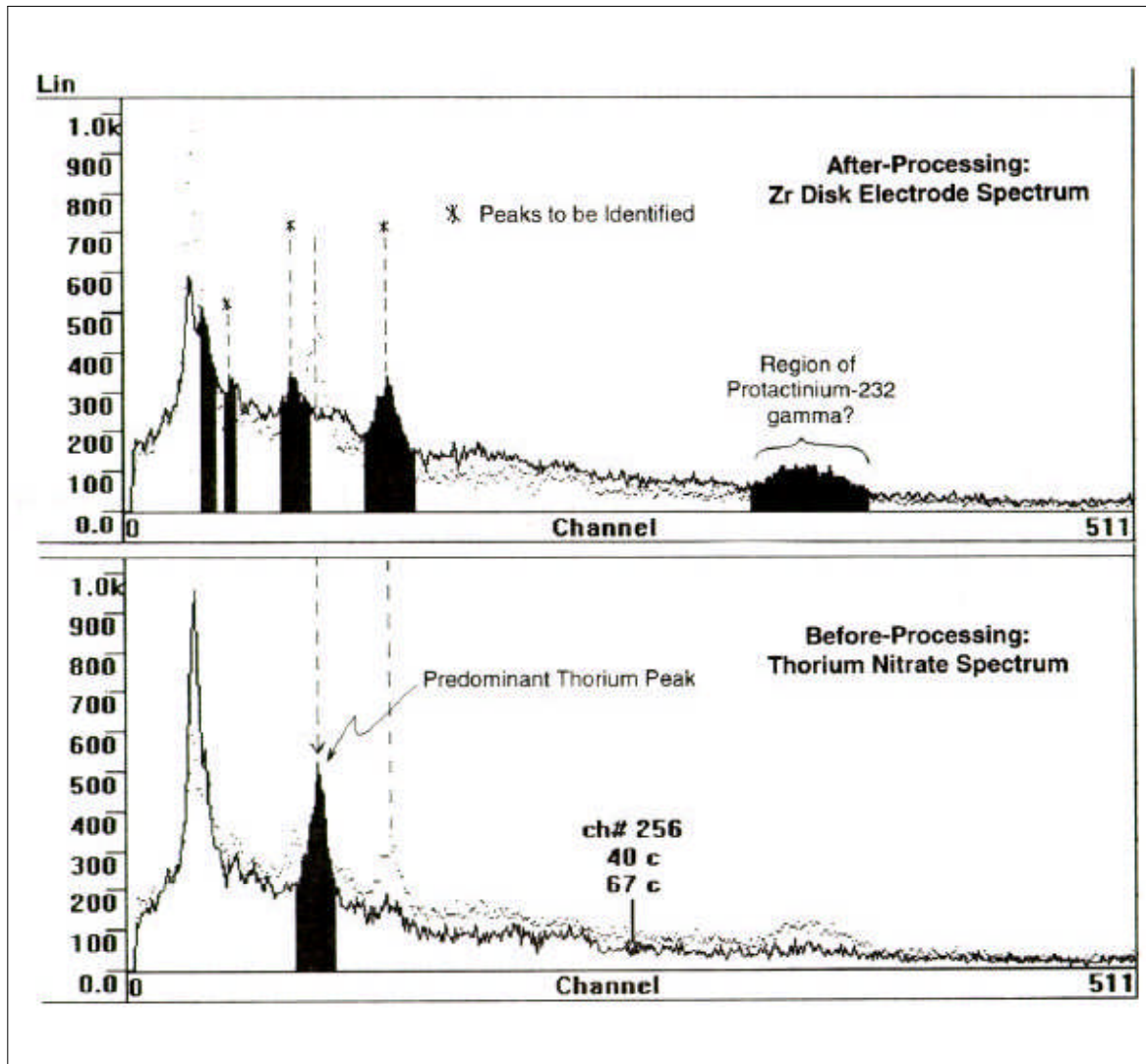
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What other possibilities are there to shed neutrons? The answer is by beta emission. In this reaction, the unstable isotope (example Protactinium-233) emits an energetic electron from one of its neutrons that changes the neutron to a proton. This process is called beta emission and is a highly predominant reaction following the fissioning of many uranium atoms. As previously reported in this publication, the beta-emission radioactivity of the electrodes after a 30-minute processing time is largely due to betas being emitted from unstable isotopes where the neutrons are changed to protons. Because this radioactivity decays over time, this experimental data is judged to be a **highly positive** indication of LENT-1 nuclear reactions. A series of nuclear reactions by beta decay almost always ends up with a stable isotope. Here is another major problem: The time in which stable isotopes can be formed by beta decay can be relatively short. Most of the beta decay half-lives are less than an hour. **To get significant and valid data above background into the 2,000 channels of the gamma-ray spectroscopy multi-channel analyzer requires reasonable exposure times.** Regardless of what the experimenter will be able to report, the skeptics will be most likely to claim that the experimental data is inconclusive.

The perorations of the "Internet oratorical society" have, as yet, added almost no intelligent suggestions that were not already obvious to a trained scientist. That does not mean that an exchange of information on the Internet should be avoided. We do suggest that Internet surfers should seek for peer-review (with all of its faults) and essentially ignore those who are not qualified to instruct the community of scholars. We don't want to interfere with the fun of those eager writers, who, unencumbered by education or experience, are titillated with the idea that millions can read the results as they play the role of scientific critic in the world's most democratic forum.

Therefore, if you want to get some hands-on scientific training and become one of the first cadre of new-energy scientists, organize yourselves into small groups and get started. Just like an investment club, the members can put in their monthly contributions, a nuclear reaction club can marshal their assets and capabilities and become new low-energy nuclear scientists. We will support you with a vehicle for information exchange and **we won't tell you that you don't know what you are doing because it is impossible.**



FIRST LENT-1 GAMMA SPECTRA

Courtesy of Trenergy, Inc.

Note to the Internet critics: Dr. Shang-Xian Jin, a highly-awarded Chinese scholar (whose work is the definitive Chinese text on plasma physics for Chinese scientists), with some scientific and wordsmith help from Hal Fox, has prepared this preliminary report. A more extensive paper will be submitted for peer-review and published in the next issue of the *Journal of New Energy*.

The Trenergy laboratory used a Ludlum Measurements, Inc., Sodium Iodide detector, Model 4410-D; the Aptec Autobias PC Card (AHV-1PC); the Aptec PC multi-channel analyzer (Series 5000 MCARD); and the Aptec Basic Display and Acquisition Software (PCMCA/SUPER). This

combination provides a relatively low-cost (about \$5,000) gamma-ray spectroscope.

Each gamma ray striking the sodium-iodide crystal (2 in. dia x 2 in. long) produces a burst of electrons. The detector assembly uses an electron multiplier and a signal splitter which produces negative-going pulses ranging from a few millivolts to a few volts, depending on the energy level of the incoming gamma ray. Most of the gamma counts in the low-energy (X-Ray) energy level come from the background sources, such as cosmic rays, spurious electronic signals, radioactive contaminations and the particular source being measured (including gamma-ray scattering, X-ray production, beta particles or bremsstrahlung). The computer software allows for selection of lower energy bounds to be displayed. Because the background

radiation for a specific setup can be subtracted from experimental spectra, it is rigorously necessary to take background radiation spectra with each experiment.

In the accompanying figure, the gamma-ray spectroscopy was "calibrated" using a small amount of powdered thorium nitrate. If there are no nuclear reactions produced by the LENT-1 reactor, then the spectra obtained from (for example) the zirconium disk electrode should be consistent in various peaks with the thorium spectrum. Obviously, if the reactor was merely plating thorium and its daughter products onto the reactor electrodes, the shapes of the two spectra would be highly similar.

The second spectrum was obtained by placing a zirconium disk electrode immediately in front of the sodium iodide detector in the same manner as used for the thorium sample. It is evident that there is considerable difference between the spectra of the thorium nitrate and the spectrum for the disk electrode (see the accompanying figure).

Because this data was taken only one day before press time for this issue of *New Energy News*, there has not been sufficient time to carefully calibrate and analyze the data to identify which isotopes may be responsible for the disk gamma spectrum. The analysis will look for the Protactinium-232, gamma energy level (312 KeV) and, of course, other possible expected nuclear reaction sources. If identified, then it will be reasonable to claim that one of the identified nuclear reactions is the fusion of a proton with Thorium-232 to produce Pa-233.

If our hypothesis is correct we expect to find evidence of a considerable amount of neutron shedding by neutrons emitting electrons and becoming protons in short-term radioactivity. It is expected that there will be a variety of beta-emission reactions with a variety of specific gamma-ray energy levels that can be detected.

With proper funding and with better gamma-ray spectroscopes, it is a reasonable goal to identify all (or, at least, a majority) of the nuclear reactions resulting from the transmutation of thorium in the LENT-1 reactor.

SWARTZ ATTEMPTS TO TEACH MURRAY

Date: Sat, 01 Nov 1997 04:53:29 +0000
To: vortex-L@eskimo.com

From: Mitchell Swartz <mica@world.std.com>
Subject: Re: First Swartz Critique & more artifacts

Following my defense yesterday of Mr. Murray, at 08:47 PM 10/31/97,

Richard Murray wrote the following, thereby both begging correction, and heralding that no good deed will remain unpunished:

>>Dear all, Here I am raising questions re "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 (JET Energy Technology, Inc., P.O. Box 81135, Wellsley Hills, MA 02181, <mica@world.std.com>), *Fusion Technology*, 33, Jan., 1997, 63-74. This briefly describes experiments with a closed, static calorimeter with a recombiner for electrolysis from Pt anode to Ni cathode in light water. Reference #8 is Swartz, "The Relationship Between Input Power and Enthalpic Behavior of Nickel Cathodes During Light Water Electrolysis, submitted for publication to *Fusion Technology*. <<

HONESTY ON THE INTERNET

Dr. Michael Swartz asked on the Internet: "Would like to know what Mr. Murray's credentials are to handwave dismiss seven independent investigations that passed peer review?"

Rich Murray's response: "I am clearly unqualified in terms of education, employment, and experience." [Give Murray an "A" for honesty.]

Remember when you surf the Internet looking for qualified information that you may be highly disappointed. There are some who, while not qualified to open a laboratory door, are vociferously instructing prestigious scientists how they should be running their experiments. The Internet is highly democratic. Just don't expect to find substantive, accurate information from everyone. **The Internet surely makes the peer-reviewed literature look good, even with its enormous faults of over-skepticism for new technology.**

[Murray} >>The field of light water/nickel electrolysis reminds me of the wreckage of Star

Fleet, scattered through space, after the Borg attack. Swartz has arrived at the scene like the Enterprise, almost the only survivor. Can he prevail, when so many have failed -- months ago, I jotted with my red ballpoint, "References 1 to 7-- all bad." <<

[Swartz] Though I am neither a great fan of Star Trek or acupuncture to which Mr. Murray takes fond interest, I have reviewed the references #1-7, and Mr. Murray's comments are IMO more glib than supported by fact.

Would like to know what Mr. Murray's credentials are to handwave dismiss seven independent investigations that passed peer review?

Also, in addition to references 1-7, additional nickel excess heat has been confirmed by NASA and by two separate labs at MIT where the investigators have not published their work.

[Murray] >>Unusual care is taken to deal with artifacts. Appropriate for this day, "A light green-colored nickel colloid (which settles over hours) was observed to follow anodic polarization of the nickel electrodes. By allowing anodic polarization to continue for days, this voluminous gel, possibly consistent with nickel oxide and/or nickel hydroxide, was collected. This colloid material is capable of interfering with measurements because it may be able to store electrochemical energy and may contribute additional conduction polarization and other effects..." Green ichor? In my experiment?

COLD FUSION BIBLIOGRAPHY

Just updated and revised, the most complete bibliography of New Energy research papers and articles [predominantly cold fusion] is available again from the Fusion Information Center on disk [PC]. Containing over 2500 references, it traces the progress of cold fusion research since its beginning in 1989 through the abstracts and articles published in *Fusion Facts*, the world's first cold fusion newsletter/magazine, and abstracted from other scientific publications. Copies are \$15, postage and handling included.

Kidding aside, this got me to thinking -- or whatever it is that "pathological skeptics" do with their minds-- how many kinds of gels like this are there? <<

[Swartz] First, this material, putative nickel hydroxide only appeared with anodic polarization, and that was therefore NOT present in the experimental setups used. This was stated in the paper, and it is inaccurate for Mr. Murray to state otherwise.

Second, there are several materials potentially generated. At the ILENR2 meeting, I showed photographs of auric (gold) hydroxides, and platinic materials (possibly similar hydroxides) which had plated on the cathode, from the anode. This was discussed briefly in the paper by M. Swartz,, "Possible Deuterium Production From Light Water Excess Enthalpy Experiments using Nickel Cathodes", *Journal of New Energy*, vol 1, no 3, pp 68-80 (1996).

Third, when the experiment is performed correctly, these materials are not significant, and do not appear. It is recommended that they be looked for, it was taught how to do it, and it was not stated that they were always present as Mr. Murray implies.

[Murray quoting Swartz] >>"The experiments were conducted in the dark when possible. The enthalpy of visible and infrared electromagnetic radiation has not been previously discussed, although it may be significant. Therefore it was excluded from these studies." Thanks, Mitch, I never thought of that! How big can this artifact be?<<

[Swartz] We believe infrared irradiation, either incidental, or unappreciated during photography of the system, adds its own energy (heat) to the system. Our equipment was sensitive enough to detect it, and my calculations indicate it can be significant (e.g. during long videos with additional illumination if non-flowing water is used between the lights and cell) in some cases. Therefore, it was elected to remove its input, just as it was elected to measure all sources of noise, and to measure the noise power, and also remove its influence. This was stated in the paper.

Obviously many cells have been examined visually as well.

[Murray quoting] >>A control run with Pt anode and Pt cathode gave "recovered power ratios... comparable to noise... 1.19 ± 0.37 ." "Neither iron nor aluminum [cathodes] demonstrated excess heat." It is wonderful, and all too rare to find control runs. However, the controls necessarily differ in both their chemical and their nuclear properties. Artifacts can certainly vary according to the chemistry of the cathode. So what is proven, after all? No blame here -- it's a fact that we all face, that these simple electrolytic systems are surprisingly complex. What do we know, after nine years? We know that we don't know. <<

[Swartz] Actually, the iron and aluminum were in alternate electrical paths in the same electrolyte. This was stated in the paper. Therefore, these were correct controls. BTW, we had tried them separately as well.

We know nickel works, and iron does not. We know that platinum, if exposed to nickel as the anode, can develop nickel cathodically plated out upon its surface which can apparently create some of the reaction, leading to platinum, in my experience, once used and exposed to such nickel deposition probably not being a good control unless the surface is cleaned of the plated nickel. This was also stated in the paper.

MOST IMPORTANTLY the real issues are the following:

1. If Mr. Murray, or more likely a student or researcher of the field, would like to read further in the literature and apply some numbers, he/she might try issues of greater quantitative significance, such as discussed in M. Swartz, "Relative Impact of Thermal Stratification of the Air Surrounding a Calorimeter," *Journal of New Energy*, vol 1, no 2, pp 141-143 (1996). For example, the development of hydrogen over the cathode during electrolysis increases the thermal conductivity making the measured excess heat potentially a "lower limit" because the calorimetric thermal leakage increases with the generation of H₂ or D₂ in the pericathodic volume above the electrode.

2. Mr. Murray might examine the artifacts in the MIT PFC-II data, or the Harwell data, which covered up the confirmation of Fleischmann-Pons cold fusion. These artifacts were carefully examined independently by the US Navy (Dr. Melich), by myself, and others, and have been confirmed subsequently by others.

3. Would also point out that Dr. Melich, Dr. Miles, Dr. Noninski and myself in our SEPARATE studies, devoted weeks and months of time to the analyses [1] involving the errors in the Harwell, MIT PFC-II, and other calorimetric experiments that have been **WRONGLY** used to claim cold fusion does not exist. Attention is directed to the fact that these times of effort and degree of inspection and the critique wrought appear to have involved orders of magnitude more care (including passage through peer review) than Mr. Murray (or a few of the other arm-chair "critics" of this field) has unfortunately elected to devote to some of his (their) not-fully-baked brick-toss low wattage, and sometimes disinformational, "critiques".

[1] The references are available at the COLD FUSION TIMES web site
URL = <http://world.std.com/~mica/cft.html>

Hope that clarifies at least some of these important matters, and directs those seriously interested where to obtain more information on the scientific and engineering issues.

Dr. Mitchell Swartz (mica@world.std.com)

Miscellaneous

ANTIGRAVITY NEWS

Courtesy of the Editor

ANTIGRAVITY NEWS and SPACE DRIVE TECHNOLOGY is a new bimonthly newsletter published by J.E.Cox Enterprise, P.O. Box 655, Marietta, GA 30061-655 (Phone 770-218-9693). Volume 1, number 1, July-August 1997 provides the reader with a review and update on the latest developments in antigravity. Some anomalous results have been obtained from more than one

source. This newsletter has been inspired by the work of Podkletnov and has its purpose to share with the readers the latest reports on anti-gravity. A second purpose of the newsletter is to review antigravity research. A third purpose is to report on various achievements of inventors who are not mainstream scientists.

Editor James E. Cox is a graduate of California State Polytechnic University, with a B.S. degree in Physics. He has had extensive experience working with aerospace firms in a variety of engineering specialties including communications and propulsion. This first issue of AGN provides a good review of the work that has been reported on antigravity. At \$36 per year for U.S. and \$48 per year foreign, it is expected that this newsletter will be a leading publication in the strange and developing world of antigravity.

In vol 1, issue 2, Antigravity inventors are featured, with bios and accomplishments enumerated for those with names in the A to L range. The rest will be featured next month. Also in the contents: Engineering Notebook: Apollo Vehicle G-shield Trade Story; Update on Superconductor Gravity Shield Experiments; and Antigravity in the news, articles and papers.

GOOD INFO TO PASS ON, AND ON, AND ON

Dr. C. L. Olson, et al., of Sandia National Laboratories, Albuquerque, New Mexico, experimented with special ion accelerators using electron beams to accelerate protons. ("Experimental Demonstration of Controlled Collective Ion Acceleration with the Ionization-Front Accelerator," *Phys Rev Letters*, 26 May 1986, vol 56, no 21, pp 2260-63.) The highest electron density that they were able to achieve was about 10^{12} to 10^{14} electrons per cubic centimeter. **By contrast the plasma-injected charge clusters have an electron density of 10^{23} electrons per cubic centimeter.** This is an achievement of ten order of magnitude over previous technology.

PROTON BEAM PARTICLE ACCELERATORS

It is standard physics that high-energy proton particle accelerators can produce nuclear reactions and have been proposed to transmute high-level radioactive wastes into stable elements. The problem has been that it requires a nine-million volt (or more) acceleration potential to speed up the protons to about 0.1 the speed of light.

Using the charge cluster technology, protons can be combined with a high-density electron cluster so that about one proton is picked up for every 100,000 to 1,000,000 electrons in the cluster. The combined cluster can be accelerated to about 0.1 the speed of light with about 5,000 volt potential! An important question is, **"How does the density of protons using the charge cluster technology compare with the proton density in a high-voltage proton particle accelerator?"** The answer is the following:

The proton density in a standard high-potential particle accelerator is about 10^{12} protons per cubic centimeter.

The proton density in a table-top charge cluster particle accelerator is about 10^{17} to 10^{18} protons per cubic centimeter!

Not only is the proton density larger using charge cluster technology, but the cost of the table-top proton accelerator is about 1,000 times cheaper than classical proton accelerators!

These are very important concepts to get the attention of the decision makers and their scientific advisors in the DOE. Although these figures are based on limited laboratory experiments, **this technology deserves funding by the Department of Energy because it has the potential of saving taxpayers billions of dollars and possibly thousands of lives by on-site stabilization of high-level radioactive wastes.**

35-YEAR-OLD NUCLEAR PLANT CLOSES

Courtesy of Richard Shamp

Staff, "Nuclear plant shuts doors after 35 years as revenues decline", *Washington Post*, 29 Aug 1997, page A9.

EDITOR'S SUMMARY: Nuclear plants were originally designed and licensed for a 40-year operational period. Big Rock Point station in Charlevoix, Michigan, is shutting down after 35 years of operation. At its shut-down, it is the oldest operating nuclear power plant in the U.S. Big Rock

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Published by Fusion Information Center, Inc. Edited by Hal Fox with the assistance of an editorial board of peer-reviewers.

is the 22nd nuclear power plant to close and none of the commercial nuclear power plants has survived for the expected 40-year life. In regard to the closing, the Nuclear Regulatory Commission has approved a plan for restoring the Big Rock site to its prior condition by 2030. The goal is to dismantle the plant by 2002. However, the director of the Nuclear Information and Resource Service would like to let the plant **cool off** for a few decades before breaking it down.

Residents are concerned about the storage of "442 bundles of uranium rods" (probably zirconium rods containing spent fuel pellets). Plans are being made to move the rods from the pools of water and place them in 210-ton dry casks on the plant grounds. Some are concerned because "Cracks have shown up in casks at other plants, and fire broke out last year during cask loading at the Point Beach plant in Wisconsin."

The legacy of old energy continues. **Let's begin a legacy for a clean, environmentally-friendly energy industry.** Nuclear power was developed to ease the U.S. dependency on foreign oil imports. However, the enormous costs of nuclear power plants **and the larger costs of handling**

radioactive spent fuel pellets and of dismantling the plants is the responsibility of the U.S. government. It is suggested that these costs far exceed the savings that have been achieved in oil imports. However, not burning oil is a worthy objective. *New Energy News* believes that there is much better new-energy technology that can be developed and used.

AIR POLLUTION TO KILL 700,000?

Boston Globe Staff, "Could air pollution kill 700,000 yearly by 2020?," *Deseret News*, 8 Nov 1997, page A3.

EDITOR'S SUMMARY

According to scientists, the answer is "Yes, unless fossil fuel emissions are reduced." Eight million deaths could be avoided in the next two decades **if pollutants from fossil fuels could be reduced or averted.** Switch to natural gas, promote energy efficiency, increase the use of nuclear power, and energy conservation are the pallatives suggested by an international scientific group who published their report in *Lancet*, a medical journal. These ideas are reasonable but as old-fashioned as blood-letting for alleviating diseases (from which the medical journal derives its name). **Where are the scientists who will recognize that there are new energy technologies that should be promoted rather than ignored (or, in the worst cases, suppressed).** We now have several years of publications devoted to new-energy devices and systems, including two international conferences on Low-Energy Nuclear Reactions. It is not that we do not tell many of the mainstream decision makers and scientists, the problem is that the scientific advisors do not believe that their old version of science can be wrong.

WHAT IS SWIRLING, THE AETHER?

Staff (Associated Press), "80 years later, astronomers backing Einstein," *Deseret News*, 8 Nov 1997, page A3.

EDITOR'S SUMMARY

"Rapidly spinning black holes and neutron stars make the space around them swirl like water running down a drain." This report was given in a recent astronomy conference held in Estes Park, Colorado. Einstein's theory of general relativity, according to the writer, predicts that moving objects ought to generate a force in addition to gravity. That force, whatever it is, can drag space around. At least that was the prediction of two Austrian physicists in 1918.

With the basic premise that there is no aether, Einstein did develop his special theory of relativity. By the time of his general theory, he had to endow space with certain characteristics (such as permittivity) that would define space as something (rather than a volume of nothing). Now it is found that space spins near spinning black holes (whatever they are) and spinning neutron stars. The evidence comes from study of X-rays which are measured as "wobbling" and interpreted as the swirling of space. We wonder if that **thing** that is spinning is the same **something** that is responsible for the Aspden Effect. (A spinning magnetic rotor can be spun up after stopping with less energy that is required to spin-up after a few minutes at rest.)

NATIONAL PUBLIC RADIO ON NUCLEAR WASTE

On Thursday, 20 November 1997, National Public Radio's morning news provided the following information on the problems with high-level nuclear waste. Some eighty storage facilities in forty-one states are running out of room to store the spent fuel pellets or rods from nuclear reactors in commercial power plants. It is estimated that at least 15,000 trucks loads of high-level hazardous nuclear waste materials will be hauled through almost every state on their way to some storage location.

Currently, the only storage location considered to be appropriate to store high-level nuclear wastes for 10,000 years (or more) is the man-made tunnel in Nevada's Yucca Mountain. The estimated costs, to date, are four and one-half billion dollars to carve out and test this facility. When completed, the site is expected to store thousands of tons of high-level nuclear waste for 10,000 years. Currently engineers are studying the air and water

movement through the rocks in the vicinity of the proposed storage tunnels. In about another twelve years the facility will be ready to store nuclear waste on-site.

NEN Editor's note: Meanwhile, the DOE remains entirely unconvinced that low-level nuclear reactions can be created and that some of this technology can be developed into processes for stabilizing radioactive materials.

SALE OF URANIUM-ENRICHMENT AGENCY

Courtesy of Richard Shamp

Martha M. Hamilton, staff writer, "Decision Nears on Date for Sale of Uranium-Enrichment Agency", *Washington Post*, about November 7, 1997.

EDITOR'S SUMMARY

President Clinton signed an order on July 25, 1997, authorizing the sale of the federally-owned facility which enriches uranium and buys processed uranium from Russia to use as fuel in nuclear power plants. The expectations are that this will be the largest privatization deal since the government sold Conrail for \$1.6 billion in 1987. The U.S. Enrichment Corporation has operations in 14 countries, about 5,000 workers, and enrichment plants in both Kentucky and Ohio.

The timing is beautiful. Now is the time to unload an antiquated and outdated technology. Soon, new-energy devices and systems, such as Trenergy's plasma-injected transmutation technology, the Cincinnati Group's Low-Energy Nuclear Transmutation inventions, and the Shoulders' EV technology, are expected to make the current nuclear power plants obsolete.

SCI-FI OR E.T. SCIENCE?

By Hal Fox

Consider a person who has never listened to our busy electromagnetic spectrum. Assume that he or she discovers how to make a wide-band radio receiver on Mars, then travels to earth and tries out the wide-band receiver. Consider what this Mars person would hear: A combination of voices, music, code, carrier tones, etc. Now add on a

device that would separate all of the information into various audio (not radio) frequency bands in an attempt to discriminate what information content there might be in this background **noise**.

Bill Ramsay and Greg Hodowanec have been working on gravity-wave detectors that turn the celestial gravity waves into audible sounds. Ramsay has added features that separate out the audible sounds into three or four musical octaves. Then Ramsay made some tapes of these sounds: Absolutely fascinating! What are we hearing? The Music of the Spheres?

The Music of the Spheres? For the uninitiated, the planets were anciently thought to be celestial spheres moving strangely through a (sometimes crystal) heaven and having harmonic content. In the middle ages, one studied mathematics, astronomy, and harmony -- among other subjects such as language and history -- for a doctoral degree. The term used, and still alluded to in literature was the music or harmony of the spheres. (See Aristotle, Shakespeare 1608, George Chapman 1609, and Sir Thomas Browne 1643.)

Here is another hypothesis on what the gravity wave detector is sensing: Several groups of researchers in the Soviet Union (or in the Commonwealth of Nations) have been working on torsion fields [see *Journal of New Energy*, vol 1, no 2, pp 27-31, also vol 2, no 2, pp 67-84]. Torsion fields travel at an estimated 10^9 times the speed of light. Torsion fields can be used for communication. Very small power levels, properly applied, produce torsion fields that can travel through hills and buildings and be received many miles away.

If an advanced civilization knew of torsion fields, they would use "radio waves" only for short-distance communications. Therefore, the suggestions by Hal Fox (*NEN*, March 1997, p 14) and by Greg Hodowanec (*NEN*, Sept. 1997, p 12) that the Search for Extra-Terrestrial Intelligence -- SETI -- may be looking in the wrong place to detect ET communications. It is suggested that when you listen to Bill Ramsay's fascinating tapes, **you are listening to a wide-band conglomeration of communications signals plus the torsion field background (gravity waves) from the universe!**

This may not be the "Music of the Spheres", it may be just the "Chatter of the E.T.s" that Ramsay has taped. Now if you don't think this is an unreasonable suggestion, you haven't been paying

attention to the latest scientific dogma (models) for the physical universe **as we understand it today**. Of course, this is only a hypothesis at best, and rank speculation or worse. But what if....?

If you want to be involved in an absolutely fascinating adventure, get a copy of Bill Ramsay's meditation tape. Better still, get one of the gravity-wave detectors that is built for several musical octaves and listen to it live! (See advertisement following).

Listen to
The COSMIC CONNECTION

A unique Tech-Art transformational tool

A technique which may:

- ◆ Reduce and "lift" stress
- ◆ Give a sense of safety and well-being
- ◆ Nourish creative thought and action
- ◆ Increase spiritual awareness
- ◆ Stimulate verifiable brain-mind coherency
- ◆ Lighten the burdening effects of gravity
- ◆ Provide a Direct Connection with evolving universe Holograms through the audible output of a multi-octave Gravity Wave Sensor Array. Pitched to the Standard Musical Scale.

(This audio tapes gives a general sense of the potentials. Live is **much** more powerful.)

Bill Ramsay's workshop says: The device used consists of a compact array of a number of individual gravity-wave sensors, each selected to form parts of harmonious musical chords and provide a "topographical" sampling of universe-wide influences as these are mirrored by minute fluctuations in the earth's gravity field. It is thought that every cell in the human body is subject to these influences, which are usually below the thresholds of conscious awareness. The audible output of this array are thought to form a synergistic connection with these influences, thereby allowing conscious awareness of this "cosmic connection."

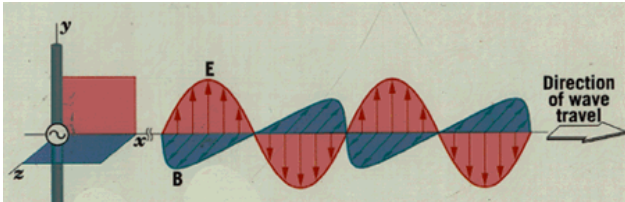
Cost: \$10.00 plus \$2 shipping & handling. Audio Tape c/o FIC, P.O. Box 58639, Salt Lake City, UT 84158 - 0639.

THE ELECTRO-MAGNETIC WAVE MISNOMER

Norman Silliman

Light Waves get their Name

Light waves (and by extension all electromagnetic waves) are assumed to have undulating components of electric and magnetic fields, oscillating sinusoidally. This figure is the standard view of what a light wave would look like close up.



The problem, from my point of view, is that light waves are not known to have any interactions with magnetic fields. Nor are they known to be influenced by an electric field. So, why do they have the name, 'electro' and 'magnetic' waves?

We know that Maxwell predicted the existence of radio (long waves) radiation while he was providing us with the equations that describe the relationship between electric effects and magnetic effects.

Henry Boorse, in his book, *The world of the Atom*, Vol 1, 1966 tells us about some of James Clerk Maxwell's work.

"First, his equations demonstrate that the speed of propagation of the electromagnetic field is exactly equal to the speed of light. He showed also that the propagated electromagnetic disturbance is at right angles (transverse) to the direction of propagation. In Maxwell's words 'This velocity is so nearly that of light, that it seems we have strong reason to conclude that light itself [including radiant heat, and other radiations, if any] is an electromagnetic disturbance in the form of waves propagated through the electromagnetic field according to the electromagnetic laws.'

"Second, Maxwell's equations demonstrate that the square of the refractive index of a medium is 'equal to the product of the specific dielectric capacity and the specific magnetic capacity.' These two results together show clearly the relationship of light to the electromagnetic field." [1]

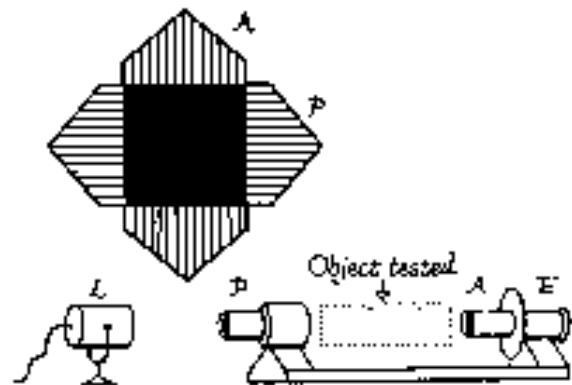
But this is not where the original idea of light having a magnetic component came from. For the

beginning of that mysterious relationship, we need to go back another 30 years, and to Michael Faraday.

Michael Faraday

John Tyndall, in his book, *Faraday as a Discoverer*, 1868, tells us about the work of Faraday. "In November 1845, he announced his discovery of the 'Magnetization of Light and the Illumination of the Lines of Magnetic Force.' This title provoked comment at the time, and caused misapprehension." [2]

What was this discovery that Faraday made?



Tyndall reports that Faraday discovered that "a piece of this [his own manufacture of heavy] glass, about two inches square, and 0.5 inch thick, having flat and polished edges, was placed as a *diamagnetic* between the poles (not as yet magnetized by the electric current), so that the polarized ray should pass through its length; the glass acted as air, water, or any other transparent substance would do; and if the eyepiece were previously turned into such a position that the polarized ray was extinguished, or rather the image produced by it rendered invisible, then the introduction of the glass made no alteration in this respect. In this state of circumstances, the force of the electromagnet was developed by sending an electric current through its coils, and immediately the image of the lamp flame became visible and continued so as long as the arrangement continued magnetic. On stopping the electric current, and so causing the magnetic force to cease, the light instantly disappeared. These phenomena could be renewed at pleasure, at any time, and upon any

occasion, showing a perfect dependence of cause and effect.” [3] Did Faraday show that the magnetic field affected the light, by rotating its plane of polarization? Or did he show that his ‘heavy’ glass, (and 150 and more aqueous solutions) had the ability of switching from non-polarizing to polarizing with the aid of a magnetic field.[4] The side bar lists the known related effects.[5]

Tyndall says, “Many substances possess the power of turning the plane of polarization without the intervention of magnetism. Oil of turpentine and quartz are examples.”[6] Thin sheets of the mineral tourmaline were used by Faraday to polarize light used in his tests.[7] “In fact Faraday had notions regarding the magnetization of light which were peculiar to himself, and untranslatable in the scientific language of the time.”[8] Faraday appeared to be so sure that the magnetic field was central to the process of crystals interacting with light that he even tested the diamagnetic crystal bismuth.

Photo-elasticity.

In 1816 Brewster discovered that transparent isotropic materials become optically anisotropic when subject to mechanical stress.

Faraday Effect.

In 1845 Faraday investigated the transmission of plane-polarized light through a block of glass in the presence of a magnetic field.

The Kerr Effect.

In 1876 J. Kerr showed that many isotropic substances, when placed in an electric field, behaved like a uniaxial crystal with the optic axis in the direction of the lines of force.

Cotton-Bouton Effect.

In 1905 Cotton and Bouton discovered a magneto-optical effect closely analogous to the Kerr electro-optical double refraction.

The Pockels effect.

In 1906 F. Pockels discovered an electro-optical effect similar to the Kerr Effect but only in crystal that are also Piezoelectric. This effect has switching times (picoseconds) an order of magnitude faster than the Kerr effect switching time.

“He [Faraday] looks at the crystal acted upon by the magnet. From its mass he passes, in idea, to its atoms, and he asks himself whether the power which can thus seize upon the crystalline molecules, after they have been fixed in their proper positions by crystallizing force, may not, when they are free, be able to determine their arrangement? He, therefore, liberates the atoms by fusing the bismuth. He places the fused substance between the poles of an electromagnet, powerfully excited; but he fails to detect any action. I think it cannot be doubted that an action is exerted here, that a true cause comes into play; but its magnitude is not such as sensible to interfere with the force of crystallization, which, in comparison with the diamagnetic force, is enormous. ‘Perhaps,’ adds Faraday, ‘if a longer time were allowed, and a permanent magnet used, a better result might be obtained. I had built many hopes upon the process’”[9]

“He then examined gases; but all his efforts to produce any sensible action upon the polarized beam were ineffectual.”[10]

“M. Verdet has since discovered that if a paramagnetic body, such as solution of perchloride of iron in ether, be substituted for the diamagnetic body, the rotation is in the opposite direction.”[11]

Source of the Misnomer

This table below summarizes the results that Faraday reported to the scientific community.

So, in the face of fact that the magnetic field by itself did not cause any effect on the polarization of light, Faraday proclaimed that light could be magnetized, based solely on the results of the heavy glass experiment.

For ten years Faraday ran experiment after experiment that showed electricity and magnetism intrinsically linked together. So when he decided that light had a magnetic component, he automatically assumed that light must also have an electric component.

Maxwell had developed his equations that showed magnetism and electricity linked. So he perpetuated this same assumption.

tourmaline	heavy glass	crystalline bismuth	pure water	various gases	vacuum
No magnetic field	using a magnetic field	using a magnetic field	using a magnetic field	using a magnetic field	using a magnetic field
Yes polarized light	Yes polarized light	No polarized light	No polarized light	No polarized light	No polarized light

But static electricity flows on the surface of materials, and has no associated magnetic fields. A simple experiment will show this. Using a magnetic compass as a primitive gauss meter to detect magnetic fields, and transparent tape as a source of static electricity, let us do a test. Stripping a segment of tape off of a roll of transparent tape is a simple way to generate a large static field with common household materials. Place the compass on a flat surface, away from all metals. On either the East or the West side of the compass, pull a strip of tape off of the roll, while the roll is within a few (1 to 2) inches of the compass. (Close but not touching.) If there was a magnetic field generated during the creation of the static field, the compass would have reacted.

The compass will not tell us how strong the magnetic field is, but, will distinguish between none and some.

So, the movement of surface (static) electricity has no magnetic field, while the movement of bulk (current) electricity does. **This [experiment] says that the magnetic field is associated with the bulk conductor metal, and not the electricity.**

The flow of electricity triggers the bulk metals to generate a magnetic field, exactly like a lodestone does naturally. And, the magnetic field triggers the heavy glass to polarize light, exactly like tourmaline does naturally.

Was Faraday's conclusion justified?

On the basis of this evidence, can we accept Faraday's conclusion, that light has a magnetic and electric components?

Norman Silliman, October 1997
415 Betty Lane, Pleasant Hill, CA 94523

References

1. Boorse, Henry A. and Motz, Lloyd, Editors, The World of the Atom, Vol 1, Basic Books, Inc, New York, 1966, p 335
2. Tyndall, John, Faraday as a Discoverer, Thomas Y Crowell Co, New York, 1961, p 97
3. *Ibid*, pp 98-99
4. *Ibid*, p 102
5. R. W. Ditchburn, Light, Dover, New York, 1991, pp 527-532
6. Tyndall, *op. cit*, p 103
7. *Ibid*, p 101
8. *Ibid*, p 97
9. *Ibid*, p 117
10. *Ibid*, p 102
11. Boorse, *op. cit*, p 338

WEB SPACE

INE WEBSITE UPDATED

[over 150,000 visitors]

Date: Wed, 29 Oct 1997 17:37
From: pgb@padrak.com (Patrick Bailey)
Subject: The INE Website Has Just Been

Updated at: <http://www.padrak.com/ine/>

Most New Data Files are at:
http://www.padrak.com/ine/index.shtml#INE_RECENT

All the revisions are in the file:
<http://www.padrak.com/ine/REVISIONS.html>

Date Included	Additions, Expansions, or Revisions
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Oct. 12, 1997

Added:

Commentary on the Death of Bruce dePalma
 Report of the Death of Bruce Depalma
 Info. About The Plasmoids And Cold Fusion
 Info. Web Site
 Integrity Research Institute Catalog

Updated: Authors, Subjects, and Websites.
 Fabulous Facts

Site Counter = 159,500

Oct. 18, 1997

Added: Formal Papers

Survey and Critical Review of Recent
 Innovative Energy
 Conversion Technologies, Paper by P. Bailey,
 T. Grotz, and J. Hurtak, Oct. 1997.
 Review and Status of Reported Innovative
 Energy Conversion
 Technologies, Contrasted Using A Consistent
 R&D Ranking Scale, Paper by P. Bailey, T.
 Grotz, and J. Hurtak, Oct. 1997.

A Review of The Patterson Power Cell, Paper
 by P. Bailey and H. Fox, Oct. 1997.

History and Applications of HAARP
 Technologies: The High-Frequency Active
 Auroral Research Program, Paper by P.
 Bailey and N. Worthington, Oct. 1997.

Site Counter = 161,674

Oct. 29, 1997

UPDATED: THE INE DATABASE

Added: NEN ToC Vol. 5, No. 6, October 1997

Additional LENT-1 Preliminary Experimental
 Data

Antigravity News and Space Drive Technology:
 A New Publication

INE Research Contacts Wanted

DOE Report On Rad-Wastes

Infinite Energy & Transmutation

Trenergy To Sell Shares

Added: Journal of New Energy, Vol. 2, No. 2,
 Summer 1997

Added: Formal Papers

High-Density Charge Clusters and Energy
 Conversion Results, Paper by P. Bailey and
 H. Fox, Oct. 1997.

Possible New Applications of Low-Energy
 Nuclear Reactions,

Paper by P. Bailey and H. Fox, Oct. 1997.

Updated:

Websites, Announcements and Meetings,
 Authors Index, Subjects Index,

Products Available from the INE,
 Commercial Sources, Information Sources,
 People, Addresses and Data,
 Organizations, Addresses and Data,
 Fabulous Facts.

The Formal Papers Listed under Oct. 18 below.
 Fixed: American Common Law Link (Expired,
 Moved).

Moved: The DBGUIDE.html file out of the /db/
 folder.

Site Counter = 165,807

LETTERS to the Editor & Others

THE ZPE NEWS BLACKOUT – A NATIONAL SHAME

From Wingate A. Lambertson, Ph.D.

I taught explosive ordinance in the Navy during World War II. When I first heard of the atomic bomb, I went to the Navy library to study a physics book on atomic energy. The librarian told me that all physics books had been withdrawn from the libraries. Can you imagine that today? An instructor in the Navy being unable to read a physics book!

Indications that the news media is exercising a blackout on zero-point energy stories came to me recently and is described below.

We have a friend who is a free-lance writer and she has been after me for years to let her do a story on my ZPE research. Finally, we thought – well why not let her see what she can do in selling an article on the subject. I gave her the go-ahead on the condition of no local publicity as I do not have time to respond to inquiries.

She sent one page descriptions of her articles to 10 national science and news magazines without one acceptance. Recently she sent me a copy of her submission to The New National Inquirer and I was at first shocked to learn that I now have an end to global warming and monthly electric utility

bills. "The past 200 years of the industrial revolution was just another form of the dark ages."

After thinking about it for a short time, I decided that she is right. I rode through Pittsburgh on the train during World War II and it was dark and dirty from pollution from the steel mills. That did not have to be because Tesla and Moray had both tried to get their ZPE methods developed.

Today, October 7, 1997, President Clinton is trying to decide just how the United States is going to deal with global warming and what we can offer to the world at the Japanese conference in December. We, who live in Florida, are concerned that seven pounds of plutonium will be shot into space in a few days as "the only available power source." A plutonium cloud burst could wipe out the entire state. Those of us in the new energy field know better. It is a very slim chance but the problem is there and concerns me.

Major decisions are being made today by our leaders whom we assume are uninformed about ZPE. The national press has a responsibility to inform its readers and it has not done its job. Is this not as foolish as withdrawing physics books from military libraries? I think it is a national shame!

SUPER-POOPER VORTEX

From: Alexis Guy Obolensky
Sent: Friday, October 31, 1997 8:57 AM
Subject: Mach-disc technology

In the late 1960s, my company submitted an unsolicited proposal to the US Justice Department. It recommended the study of the non-lethal air cannon I developed in the early 1950s. My friends called it a "Super Pooper," because its beam of Mach disc vortex pairs could induce visceral resonance.

My non-lethal approach to riot control was reportedly rejected because it dismissed fear of deadly force to favor exploitation of personal humiliation.

To pick up on earlier US interest in the Mach disc aircraft cannon, invented too late to save Germany, one should review progress reports from the six university research consortium sponsored by a US Navy and Air Force PROJECT SQUID authority. At this time I was privileged to be able to do experimental work for my mentor, Dr. R. P. Shaw. Shaw's PROJECT SQUID Job, at the NYU

Institute of Mathematics & Mechanics, was to design and build a resonant macrosonic vortex Mach disc particle beam generator. The Mach disc describes the virtual energy field carried by the central hole in a smoke ring like super-spin vortex. The Mach disc's 50 billion Pascal pressure standing-wave structure requires that the toroidal-spin exceed "normal" VELOCITY limits. Shaw's mathematical mastery made it possible for me to create a non-lethal embodiment and the US News & World Report's, July 7, 1997, "Wonder Weapons" cover story brought this non-lethal wonder weapon prototype to light.

To confirm the physical reality of a Mach disc slipline's 50 Giga-Pascal force field, see "Shock Waves in Condensed Matter - 1983" (Elsevier Science Publishers, Chapter V : 7). Here, Morris, McQueen and Marsh (Dynamic Testing Division of the Los Alamos National Laboratory) confirm entropy-flow differentiation with "Mach Disc Formation in Cylindrical Recovery Systems".

"At the triple point where the Mach stem (state 3), the incident shock (state 1) and the reflected shock (state 2) all come together, by necessity, a slipline is present. The region of flow above the slipline is the result of a two shock process, whereas the flow below the slipline is the result of a single shock process (the Mach stem). The pressure must be the same on both sides of the slipline so that the material velocity is in general different across the slipline. This is because single and double shock states at the same pressure are at different entropy states."

The experimenters used C-4 explosive with a detonation velocity of 8 km/s. This is 133% faster than initial plain shock waves for "ordinary" equations of state for the Mach disc. Given appropriate geometry, this velocity overdrive stimulates excess entropy production so "the Mach disc diameter changes very little with additional high-explosive. To illustrate the effect of how relative shock-impedances of the components of the capsule affect the diameter of the Mach disc, one shot was fired with the radiating sample being Bromoform (CHBr₃) rather than carbontetrachloride (CCl₄)."

Despite their widely differing shock-impedances, either CHBr_3 or CCl_4 can reveal the Mach disc's invisible energy structure through their stimulated radiation signature. Furthermore, the Mach disc's extraordinary spin-velocity may even bypass Einstein's Locality Principle since published experiments reveal Mach disc-like superluminal structure. Given the required electromagnetic spin waves, one could, in Shaw's words, "punch a hole in the fabric of time." In other words, the time direction is established by the Mach disc slipline entropy-flow polarity. Given Shaw's understanding, my subsequent electromagnetic shock wave experiments provoked unlimited vacuum-energy gain that resulted in ball lightning like-explosions. This dramatic 1958 accident ended the funding needed to continue Mach disc experimentation.

Meetings

ICCF-7

INTERNATIONAL COLD FUSION FORUM
Vancouver, B.C., Canada
April 19-24, 1998

An International Conference on Cold Fusion (ICCF) is held every 18 months to present laboratory results and to exchange ideas for the advancement of scientific knowledge in this promising new field. With the maturation of the field, ICCF-7 seeks to attract a more diverse audience including additional scientists, research institutes, students, national funding agencies, commercial interests, journalists, and spouses. It is the objective of ICCF-7 to provide a productive international forum for communication and education.

Calendar:

December 1997: Final notification to all presenters regarding the format of their presentation.

January 1998: Deadline for final abstracts to be published in ICCF-7 Program Manual and Website.

April 1998: Conference. All presenters must hand in their final papers during the conference for timely inclusion in the publication ICCF-7 Proceedings.

A different topic is planned for each day at ICCF-7. An invited presentation with summary review or global implications for the entire field will begin each day's topic, followed by five oral presentations on the topic. Afternoons will be entirely devoted to enhanced poster sessions, which include a 3-5 minute oral preview and summary. A "Top Ten" poster presenters will be selected by the attendees, and each will conduct an expanded 15 minute presentation to the full audience on Thursday afternoon. Three evening workshops will also be held.

Topics include: Heat & Related Products, Nuclear Processes & Products, Materials & Innovative Approaches, and Theory & Nuclear Physics.

Registration fee \$450 until January 1, 1998, when it raises to \$500. Hotel reservations are still open at all prices. For more information or to get on mailing list, contact:

ICCF-7 c/o ENECO

391-B Chipeta Way, Salt Lake City, UT 84108 USA

Phone (801) 583-2000 Fax (801) 583-6245

jaeger@ENECO-USA.com

18th International Symposium on Discharges & Electrical Insulation in Vacuum

August 17-21, 1998

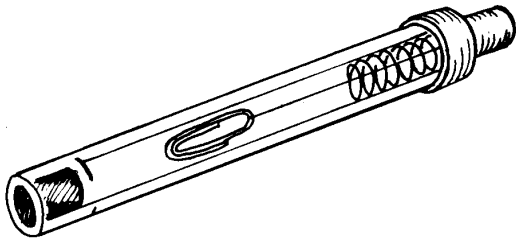
Eindhoven, The Netherlands

Hosted by the Eindhoven University of
Technology

Scientific Program, Papers will be presented on all aspects of: Fundamentals of Discharges and Breakdown in Vacuum; Vacuum Discharge Devices and Applications; and Vacuum Insulation Technology and Applications.

Mini-Courses held parallel with conference: Diagnostics for Vacuum Devices, and Production Technology for Vacuum Insulated Devices

A **technical exhibition** will be held featuring components and systems in the area of vacuum discharge devices and vacuum insulated devices (e.g. vacuum switchgear, vacuum deposition and coating, X-ray and microwave tubes and other beam-devices, high-power devices, and equipment for analysis, monitoring and test purposes).



MYSTERIOUS MAGNETIC SPINNER

You may have seen a video of John Searl demonstrating with a string and a paper clip that magnetic fields spin. Do you believe that ?

Here is a device invented by Lee Trippett to demonstrate "**The Mysterious Magnetic Spin**". This product is an excellent stocking stuffer and an excellent executive toy. Please don't tell the young folks that this device might just get them thinking about how magnetism really works.

The key point of this device is that **the college professors cannot tell us how it works**. They will tell you that it is simple magnetic motor action - a force is produced on a coil that is moved through a magnetic field. Now try it with a coil of copper. No spin!

Just being produced by Trenergy, Inc., with the royalties going to support the Institute of New Energy. Thank you, Lee Trippett.

Price: \$12.00 shipped postage prepaid, anywhere in the U.S. Available to Wholesalers.

Order immediately for the Holidays by phone, fax, e-mail, or letter. SPINNER c/o NEN, P.O. Box 58639, Salt Lake City, UT 84158-0639
Phone: 801-583-6232
E-mail: <halfax@slkc.uswest.net>

Hotel accommodation in downtown Eindhoven, a short distance from the University Conference Centre, is available through the EUT Conference office at reduced rates.

Information for Authors

Authors should submit a 250 word abstract by November 1, 1997. Authors of accepted abstracts will be notified in Dec. 1997. Deadline for camera-ready manuscripts is April 1, 1998. Accepted papers will be published in conference proceedings, available at the registration. A limited number of accepted papers will be selected for publication, in a modified and extended version, in

Special Issues of *IEEE Transactions on Plasma Science* and *IEEE Transactions on Dielectrics and Electrical Insulation*. The working language of the symposium is English. All printed matter will appear in English.

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CALL FOR ABSTRACTS

"Meeting Global Energy and
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Abstract Deadline: Postmarked by Monday, 15 Dec. 1997

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Commercial Column

The following companies (listed alphabetically) are
 commercializing cold fusion or other enhanced
 energy devices: [Listings with your additional copy,
 or boxed, for small annual service fee.]

COMPANY: PRODUCT

American Pure Fusion Engineering and Supply:
 Warren Cooley, 1-800-789-7109 or 503-585-6746.
 Email to: Coolwar@aol.com

Clustron Sciences Corp.: Contact: Ron
 Brightsen, 703-476-8731.

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 6245. Email: jaeger@ENECO-USA.com

E-Quest Sciences: Contact Russ George,
 FAX 415-851-8489.

Fusion Information Center (FIC): Research and
 development of new energy systems. The world's
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 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 *New Energy News*, and
the Journal of New Energy. Voice 801-583-6232,
 Fax 801-583-2963. Contact Hal Fox.

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.: Rome, Georgia. Contact
 James Griggs, Voice 706-234-4111 Fax 706-234-
 0702.

JET Energy Technology, Inc.: Weston, MA.
 Contact Dr. Mitchell Swartz, Voice 617-237-3625.
 Fax 617-237-3625.

**Labofex, Experimental and Applied Plasma
 Physics:** Ontario, Canada. Contact Dr. Paulo N.
 Correa.
 Tel 905-660-1040, Fax 905-738-8427

Magnetic Power Inc.: Sebastopol, CA. Contact
 Mark Goldes, voice 707-829-9391, Fax 707-829-
 1002.

Nova Resources Group, Inc.: Denver, CO. Call
 Chip Ransford, Phone 303-433-5582.

Trenergy, Inc., has acquired rights to develop and produce a new-type of thermal power based on the controlled production of clean nuclear reactions from plasma injected transmutation. Contact through P.O. Box 58639, Salt Lake City, UT 84158-0639, Voice 801-583-6232, Fax 801-583-2963.

UV Enhanced Ultrasound: Hong Kong.
FAX 852-2338-3057.

"YUSMAR"- Scientific-Commercial Company:
President: Dr. Yuri S. Potapov, 277012 Kishinev, Moldova. Phone and Fax 011-3732-233318.

Zenergy Corp.: 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) 216 Commerce Drive, Ste. 4, Fort Collins, CO 80524. Tel. 970-482-3731

ANE Newsletter has been combined with *Infinite Energy* magazine.

Advanced Energy Network Newsletter, quarterly. Advanced Energy Network, P.O. Box 691, Rondebosch 7700 Capetown, Rep. South Africa.

Antigravity News and Space Drive Technology, bimonthly newsletter, pub. J.E.Cox Enterprise, P.O. Box 655, Marietta, GA 30061-655 (Phone 770-218-9693). Per year \$36. U.S., \$48 foreign.

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

Elemental Energy, monthly newsletter, edited by Wayne Green, 70 Route 202N, Petersborough, NH 03458.

Fusion Facts has become a section in the *Journal of New Energy*.

Fusion Technology, Journal of the American Nuclear Society, edited by Dr. George Miley, 555 N. Kensington Ave., La Grange Park, IL 60525.

Future Technology Intelligence Report, monthly newsletter, making available technological information now omitted from establishment media. Back issues available at substantially lower cost on the InterNet at <www.tarapublishing.com> FTIR, P.O. Box 423652, San Francisco, CA 94142-3652.

Infinite Energy, bi-monthly magazine. 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.

Visit our **Home Page**: www.padrak.com/ine/ which contains many important scientific papers and current reports on all areas of research.

E-mail: halffox@slkc.uswest.net
or 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.

KeelyNet BBS - 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>

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

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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. Editor: Hal Fox. Address & phone above.

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.

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	1 Month	2 Months	6 Months	12 issues
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