

## COLD FUSION CONFERENCE

The following notes were from a video of the LENREW (low energy nuclear reactions workshop), held in Wash., D.C., in Nov., 2000. Many of the presentations addressed the major objection that conventional scientists have to fusion reactions occurring at low temperatures - that there is not enough energy in these reactions to overcome the coulomb barrier between like charges. If this barrier is not overcome, protons and neutrons cannot undergo fusion.

1. From a recent conference in Russia, photographic evidence of tracks of a new particle that is associated with cold fusion reactions. Similar tracks have been discovered when cosmic rays (protons) from outer space hit photo plates. The tracks were called the "mishugenon," which means crazy particle, by physicist Ed Teller.

Comments: The discovery of an unknown particle in conjunction with cold fusion, one that also appears in cosmic rays, is of great importance. This may be the first evidence that there are particles that only appear in the formative stages of matter. Currently, most data on subatomic particles is derived after colliding them together at high velocities in particle accelerators. The fact that the new particle does not appear in these experiments indicates that the assembly of matter may occur with different particles than its dis-assembly. It may also be the first evidence of the vector boson.

2. Sinha, a scientist from India, has a theory of how deuterons are able to overcome the coulomb barrier between protons. He postulates that a new phenomenon he calls "electron screening" allows electrons to move into orbits between the deuterium nuclei, and that their negative charges screen the positive charges of the protons. The phenomenon only occurs in large lattice structures where the effects of phonons are great enough to change the quantum calculations of an electron's position so that they move in regular phases through the lattice rather than randomly, as would be expected under thermodynamic conditions. Once photon resonance is established inside the material, his calculations show that lattice electrons tend to concentrate at locations in between nuclei. If this occurs, then it is possible that their charges would cancel those of the nuclei, thus avoiding the problem of overcoming the coulomb barrier.

Comments: The question arises, that even if the theory is correct, what are the chances of developing phonon resonance in a deuterium gas plasma? There are no special quantum calculations for crystal lattices. Sinha assumed an ideal lattice with no defects, this because it would not have been possible to calculate the effects of defects and other anomalies in the lattice structure.

3. Miley, from the U.S., reported on his findings on possible cold fusion reactions in thin layers of metals grown in deposition equipment. Many combinations of materials were used, including plastics, along with the metals that are usually used in the electrodes of cold fusion devices (Pt, Pd, Ni, Cu, etc.). Materials with large coulomb differences in their outer electron shells were chosen, this because they would supposedly react more vigorously.

Miley reported the expected signs of cold fusion - neutrons, helium, and excess heat

- but he also said that the layers were severely degraded when electricity was put through them.

Comments: The degradation of the films would be expected because of the current as well as the choice of materials in the adjacent layers. It may have been a mistake to juxtapose metals with large coulomb differences, as large amounts of heat radiation would be produced as electrons were accelerated and decelerated between adjacent layers. It is, however, interesting to think that cold fusion may be related to the coulomb potential between atoms.

4. Xing Li, a physicist from China, also took on the problem of the coulomb barrier. He derived, from classical quantum mechanics, an expression for “long lifetime” energy resonance in anisotropic solutions. The work was similar to Sinha’s in that it requires the use of wave propagation and resonance through large scale materials. Apparently, when quantum calculations are summed over large numbers of waves and particles, the random wave function develops coherence, and concentrates at peaks. While Sinha proposed that phonons could be used to concentrate electrons at wave nodes, Li said that peaks would develop naturally, and concentrate energy into quantum wells. He also said that the theory correlated well with experimental results, as most cold fusion experiments continue for some time after the power has been turned off.

Comments: Li’s work looked similar to that of the Italian physicist, Del Giudice, who derived similar equations for “low energy quantum resonance” in bulk water. His work has been used by Smith and Tiller to explain how water is able to hold information well after any outside stimulus (such as an electromagnetic field) has been removed.

5. Talbut Chubb, of the U. S., derived his own version of a wave theory to overcome coulomb repulsion. It involved the idea that adjacent electron waves, 180 degrees out of phase could (somehow) be generated in deuterium gas.

He out forth the idea that the energy and charge of quantum waves is concentrated at nodes. The energy/charge node is then followed by a zero-energy, zero-charge anti-node, 180 degrees out of phase to the first node. If adjacent waves propagate through a gas 180 degrees out of phase, a charge node will occur next to a zero-charge anti-node, and the waves will not interact because the coulomb charges are not in contact.

Comments: This theory received the greatest criticism from the audience, which made me think that there might be something to it. It seems as if the chances of generating side by side waves exactly 180 out of phase are remote. However, if this idea is combined with Sinha’s, there is the possibility of generating phonon wave trains 180 degrees out of phase through a material, in which case the quantum energy and charges of each “wave pair” will add up to zero. This is similar to the idea that subtle energy effects are produced when electromagnetic fields cancel to zero.

I have proposed a system of 2 x 2 dimensions with one plane defining the E and B (electric and magnetic) vectors, and the other “ct” and “ $E = FdL$ ” (energy divided by force) the substance of the ether. These define 2 dimensions of space: R(relativistic space) = ct; “L (logic space) =  $E/F$ ”. I am working on equations that define 2 additional dimensions that are imbedded inside “L” for a total of 3 dimensions. These 3 plus the “E, B, and R”

dimensions add up to 6 D's. If there are another 4, they must be those of superspace: (x, y, z, vST). The quantity "vT" combines absolute time (T) and space (S) to produce a variable speed of light (v). The quantity "vST" is related to "ct" through imaginary space "ict."

The enclosed material shows the fusion generator depicted in an old alchemical textbook. A large horseshoe magnetic is drawn in the bottom right diagram, thus indicating the importance of permanent magnetism in the operation of the device. Larry Johnson's interpretation of it is on a single page signed by him. You can see that the ceramic material is doped with rare earths and magnetic elements, and filled with helium.

Larry mentions the ohnon several times on his page. This part photon, part phonon wave propagates only inside matter. It has been photographed many times by materials scientists, and is always identified as a sound wave. Generally its wavelength is 50 - 500 Angstroms. The formula for the ohnon wavelength (L)

is:  $L = \frac{v}{c} \lambda$  , the ratio of the velocity of sound (v) to that of light (c), quantity times the wavelength of light ( $\lambda$ ) .

The equation reduces the wavelengths (increases the frequencies) of photons into lower energy bands. The idea is to give the velocity ratio an octave harmonic value. 20 octaves, for instance, equals about 1 million, which means that the velocity must be decreased from "c" to the velocity of sound in the atmosphere (300 m/s). This ratio reduces the gamma photon frequency down to the frequency of visible light, and if you begin with light it is reduced down to the level of microwave radiation. A ratio of 100,000 defines the nature of sound through metallic materials at 3,000 m/s. This is the x-ray ohnon that couples an x-ray frequency to a lattice band vibration, a form of sound moving through a solid material. This tunes an x-ray beam to a crystal vibration. The UV ohnon is a lower harmonic of the gamma ray ohnon.

The technologies of this science involve vaporizing the material and bombarding it with either gamma or x-rays. This delays its solidification for a period of time while its bonding structure is changed. These materials become much more strongly bonded, and have their melting points increased to much higher temps. Under the influence of ohnon waves, electron orbits are reprogrammed from circular into elliptical. In this state, electrons can move into the nucleus at their point of closest approach. Once the electron is inside the nucleus, transmutation of protons into neutrons occurs with the added factor of the neutrino, which is a magnetic particle.

In addition to vaporization and the use of particle beams, the growth material is subjected to a direct magnetic field with a planar rf field at right angles. This sets up a magnetic resonance field that holds the electron in spin mode while it is being reprogrammed. The same can be done for the proton.