PFC finds no fusion evidence

(Continued from page 1)
ray spectrum could not have resulted from the reaction they described. "It does not work," Petrasso said. "The claim that they saw gamma rays from fusion is specious."

Furthermore, Petrasso said that Pons and Fleischmann had overestimated the number of emitted neutrons by a factor of 40. Calculations based on Petrasso's "absolutely calibrated" neutron source revealed a rate of gamma ray emission 40 times higher than a rate that can be calculated from the Fleischmann/Pons results, Petrasso said.

The PFC research gave no indication as to the reason for the Fleischmann/Pons error except to suggest that an instrumental artifact might bear the blame. The experimental results have been submitted to the refereed British Journal Nature for publication.

Petrasso's refutation of the Fleischmann/Pons neutron-gamma ray interaction does not completely rule out the possibility that cold fusion might be occurring. The Utah experimenters also reported observing an energy increase of four times over that supplied to the experimental apparatus, a result obtained by complicated heat measurements. The PFC results offer no insight regarding the possibility or impossibility of these calorimetry claims.

Similarly, these experiments do not significantly affect the viability of the theoretical model of cold fusion offered by MIT Associate Professor Peter L. Hagelstein '76, who has proposed that a very rare reaction dominates the fusion process. In Hagelstein's theory, two deuterium atoms fuse to create a helium-4 atom and excess energy, which is absorbed by the palladium lattice structure as heat instead of radiating away as a gamma ray. Hagelstein said he'd been advised not to speak to the press, but did say he has not withdrawn any of the four papers outlining his theories he has submitted to Physical Review Letters.

Petrasso said Hagelstein's theory could still prove to be true, although he said he remains skeptical. For one thing, the rare reaction Hagelstein describes happens in free space only about once ten-millionths as often as the more common reaction Pons and Fleischmann used. For another, the absorption of excess energy by the palladium lattice is unconfirmed by much physical evidence.

"It's two incredibilities," Petrasso said. "Most people think that's unlikely, but I've talked to the Fleischmann/Pons calorimeter they used to prove it correct, although it is now being "heavily questioned."

Another research team at the PFC, led by research scientist Stanley C. Luckhardt, has been attempting to duplicate the actual Fleischmann/Pons experiment, so far without success.

Your foreign language ability is valuable!

Translations into your native language are needed for industrial literature. You will be well paid to prepare these translations on an occasional basis. Assignments are made according to your area of technical knowledge. We are currently seeking translators for:

- Arabic
- Chinese
- Danish
- Dutch
- Spanish
- French
- German
- Greek
- Italian
- Japanese
- Korean
- Norwegian
- Polish
- Portuguese
- Romanian
- Swedish
- Finnish

Into English translations from German and French. Many other languages also available.

Foreign language typists also needed. All this work can be done in your home!

Linguistic Systems, Inc. is New England's largest translation agency, located a block north of the Central Sq. subway station.

For application and test translation call Ms. DePhillips 864-3900

Your foreign language ability is valuable!

Translations into your native language are needed for industrial literature. You will be well paid to prepare these translations on an occasional basis. Assignments are made according to your area of technical knowledge. We are currently seeking translators for:

- Arabic
- Chinese
- Danish
- Dutch
- Spanish
- French
- German
- Greek
- Italian
- Japanese
- Korean
- Norwegian
- Polish
- Portuguese
- Romanian
- Swedish
- Finnish

Into English translations from German and French. Many other languages also available.

Foreign language typists also needed. All this work can be done in your home!

Linguistic Systems, Inc. is New England's largest translation agency, located a block north of the Central Sq. subway station.

For application and test translation call Ms. DePhillips 864-3900

Solutions to Cryptic Crossword #6

ACROSS
1. GRAIN OF TRUTH Double meaning
2. APT Abbreviation
3. STIGMATA Reverse/Construction: ST + GM + AT = A
4. SIMULATE Subtraction: STIMULATE - T
5. DEWELT Construction: "Retired" well-watered...
6. LANCE Anagram/Insertion: LANCE + B
7. NUTMATCH "Absolutely calibrated" neutron-gamma ray interaction does not completely rule out the possibility that cold fusion might be occurring. The Utah experimenters also reported observing an energy increase of four times over that supplied to the experimental apparatus, a result obtained by complicated heat measurements. The PFC results offer no insight regarding the possibility or impossibility of these calorimetry claims.

Similarly, these experiments do not significantly affect the viability of the theoretical model of cold fusion offered by MIT Associate Professor Peter L. Hagelstein '76, who has proposed that a very rare reaction dominates the fusion process. In Hagelstein's theory, two deuterium atoms fuse to create a helium-4 atom and excess energy, which is absorbed by the palladium lattice structure as heat instead of radiating away as a gamma ray. Hagelstein said he'd been advised not to speak to the press, but did say he has not withdrawn any of the four papers outlining his theories he has submitted to Physical Review Letters.

Petrasso said Hagelstein's theory could still prove to be true, although he said he remains skeptical. For one thing, the rare reaction Hagelstein describes happens in free space only about once ten-millionths as often as the more common reaction Pons and Fleischmann used. For another, the absorption of excess energy by the palladium lattice is unconfirmed by much physical evidence.

"It's two incredibilities," Petrasso said. "Most people think that's unlikely, but I've talked to the Fleischmann/Pons calorimeter they used to prove it correct, although it is now being "heavily questioned."

Another research team at the PFC, led by research scientist Stanley C. Luckhardt, has been attempting to duplicate the actual Fleischmann/Pons experiment, so far without success.