

Recent Developments in Cold Fusion / Condensed Matter Nuclear Science

Steven B. Krivit, Editor

New Energy Times



American Physical Society, Baltimore, MD

March. 16, 2006

This project was made possible by the generous support
of Anonymous and James Newburn

Purdue-Taleyarkhan Story

- *Nature*: (Eugenie Samuel Reich, March 8, 2006)

“Bubble fusion: Silencing the Hype”

- *New Energy Times*: (Steven B. Krivit, March 10, 2006)

“On Science, Journalism, and Nature”

About you ...

- *Have you read any cold fusion paper within 5 years?*
- *Have you been to any cold fusion session or conference within 5 years (excluding this one)?*
- *Have you ever seen a cold fusion cell?*

Recent Papers Published

- *The European Physical Journal C (3/9/2006)*
- *Naturwissenschaften*
- *Journal of Electroanalytical Chemistry*
- *Journal of Fusion Energy*
- *Journal of Radiological and Nuclear Chemistry*
- *The National Academy Science Letters, India*

“Cold Fusion” Theories

- X. Z. Li

“The Puzzle of Excess Heat with No Strong Nuclear Radiation”

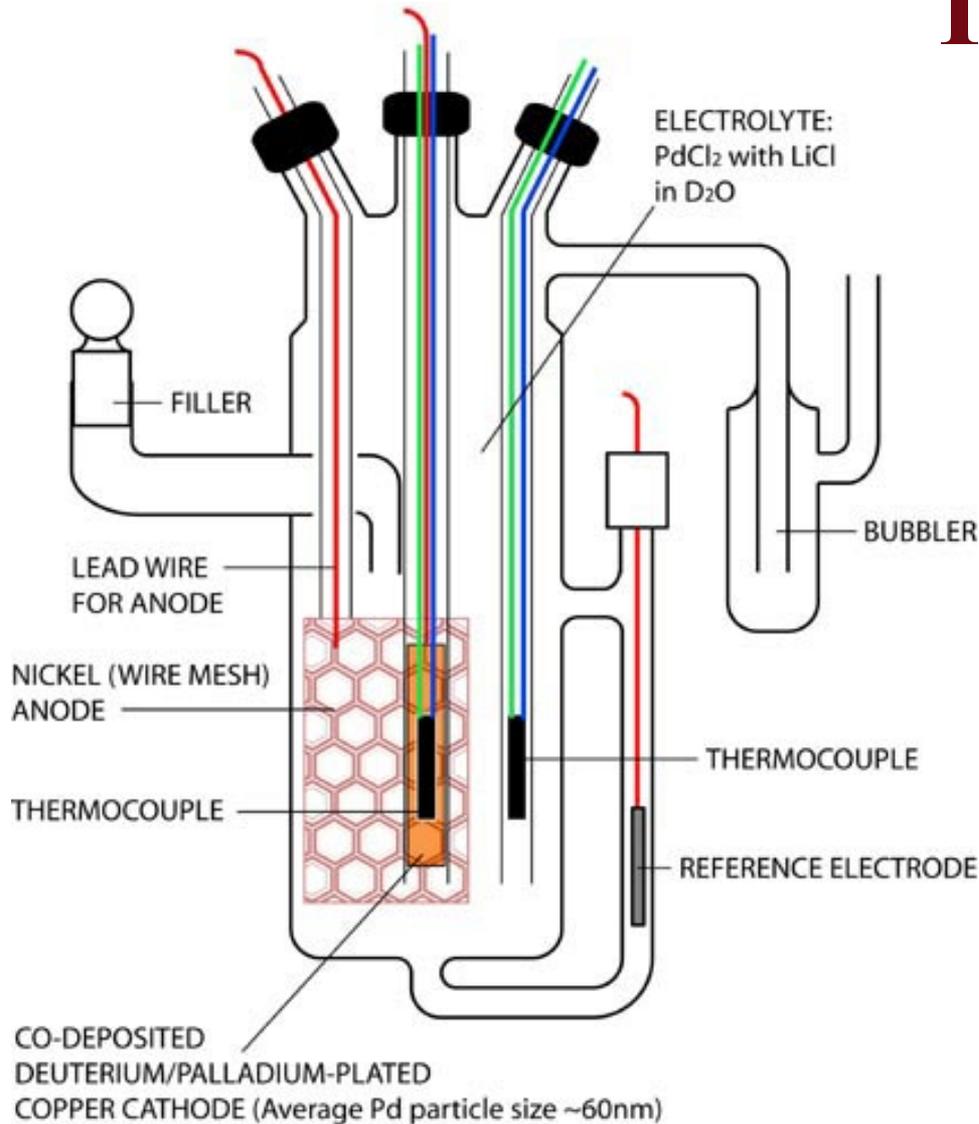
– Answers to Prof. J. Huizenga’s Three Miracles –

- A. Takahashi
- P. Hagelstein
- Y. Kim
- R. Bass
- T.&S. Chubb
- Widom - Larsen

Commercial Interests

- *Private Companies*
- *Public Companies*

1990 COLD FUSION CELL
(U.S. Navy SPAWAR - San Diego)



It's a Materials Science Problem

11/03/94

INFRAMETRICS

19:46:13

< Cathode: 2.5cm >

+29.8°C

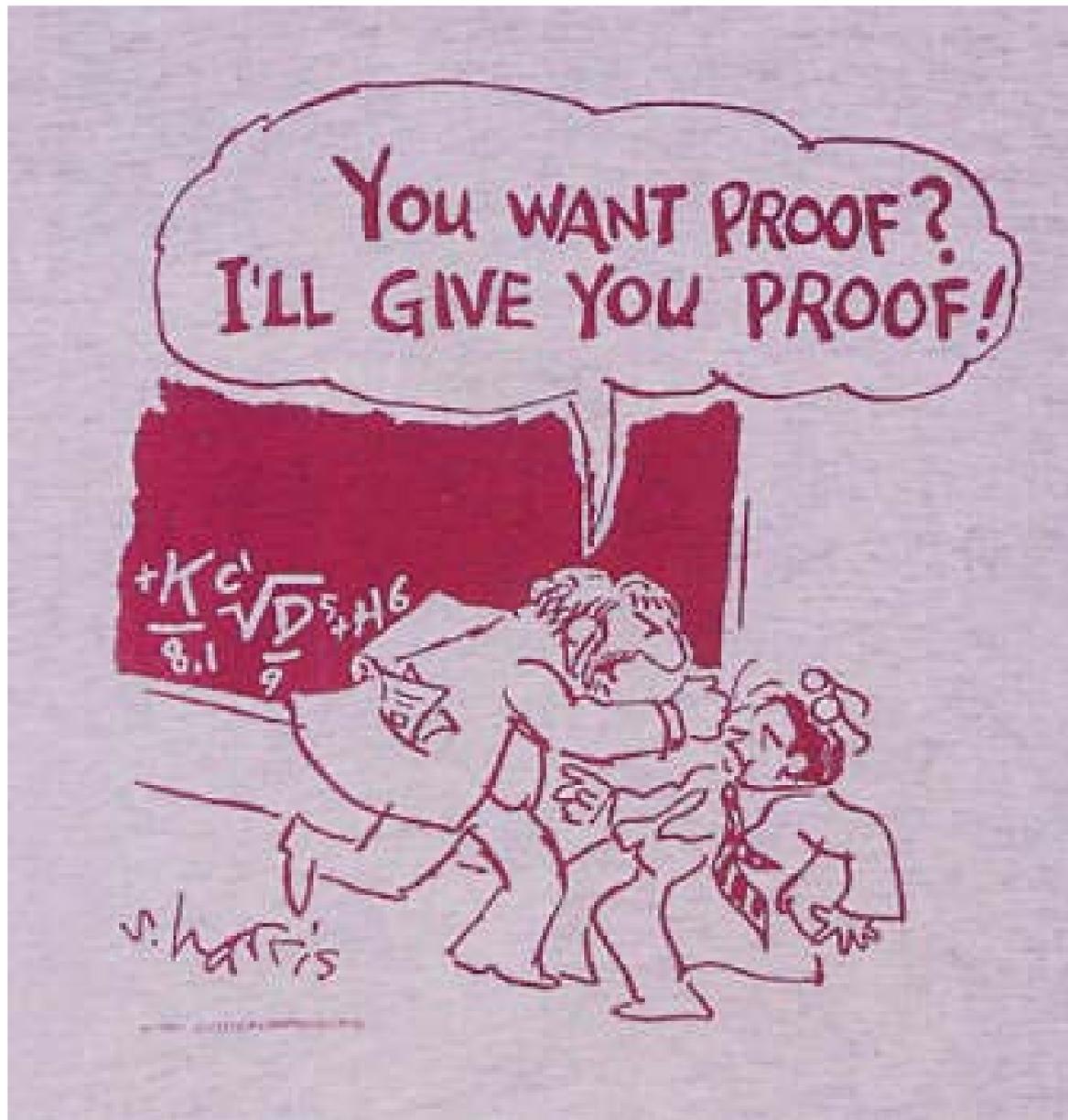
IMAGE MODE

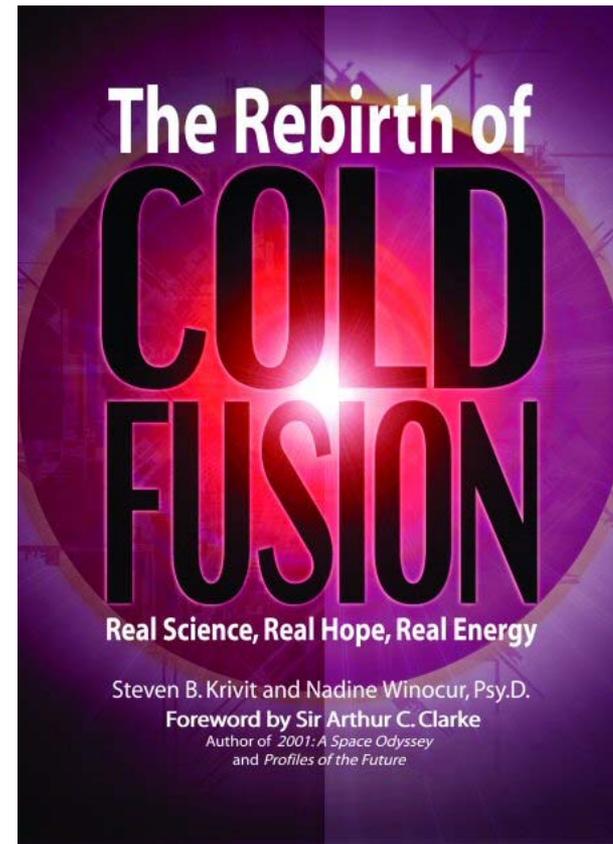
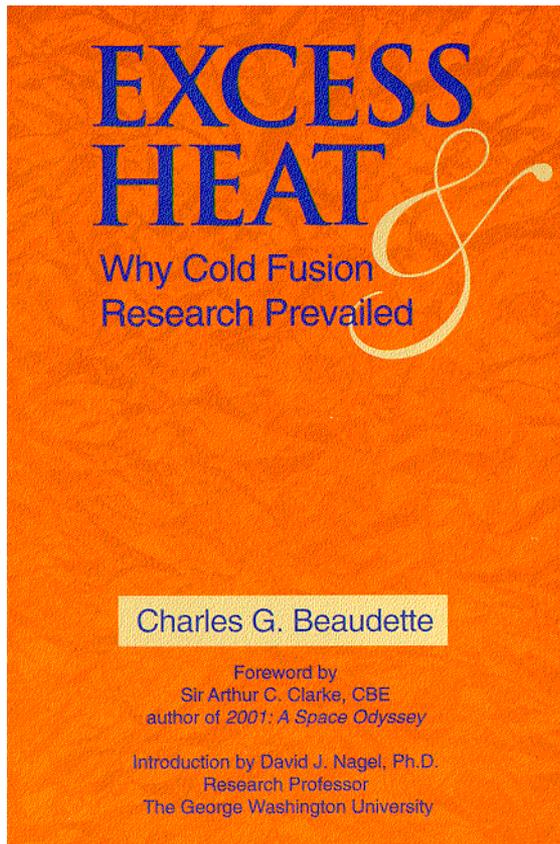
OPEN

NORM

+49.8°C







"How Can Cold Fusion Be Real ..."

Int'l Conference on Emerging Nuclear Energy Systems
Bruxelles, Belgium, 2005

www.LENR.org

Extra Slides

Pre-APS Fusion Frenzy

Science (3/10/6)

“Fusion Power: Will It Ever Come?”

New Scientist (3/9/6)

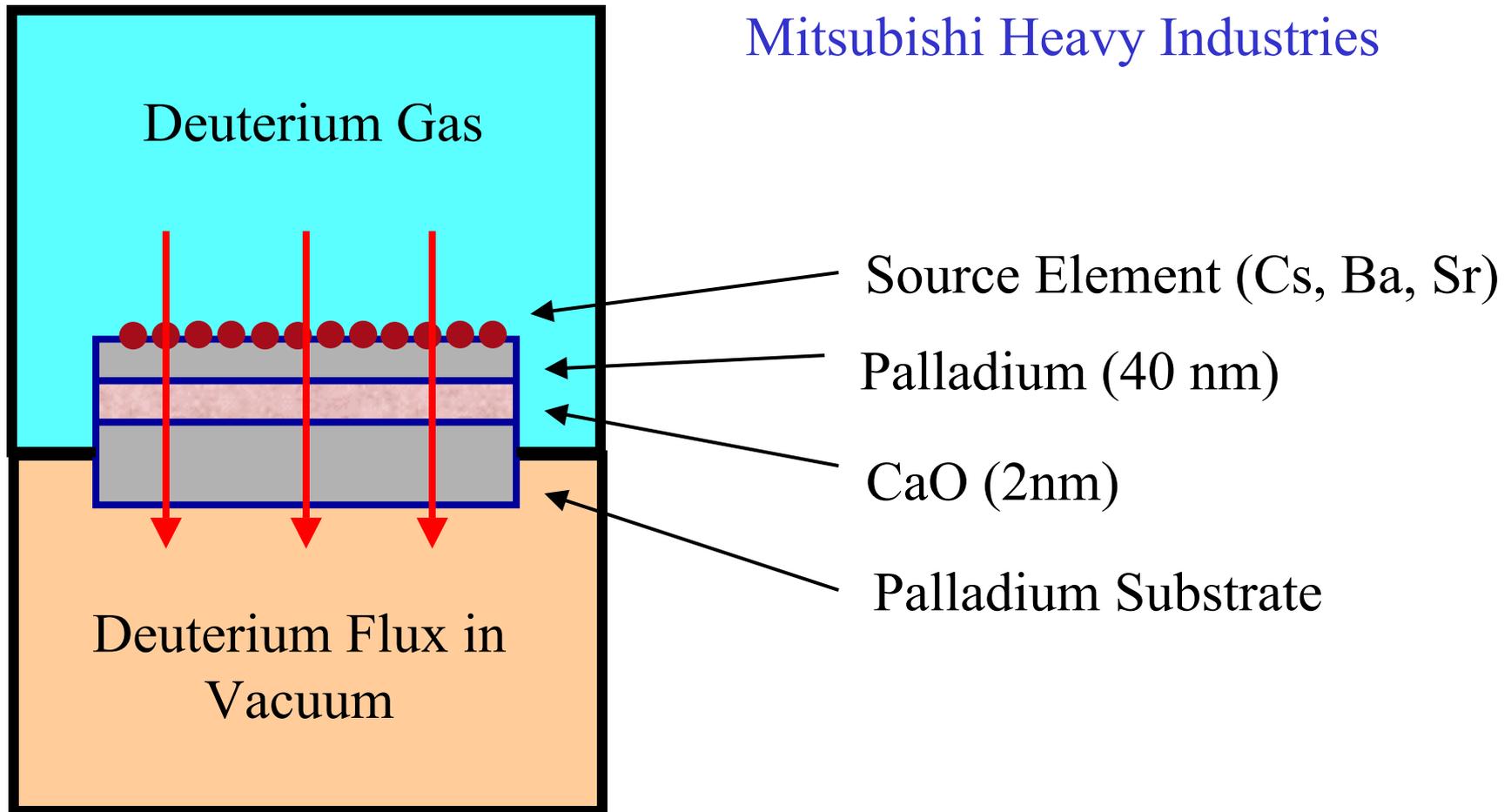
“No future for [hot] fusion power, says top scientist”

LA Times/AP (3/11/6)

“Physicists Jazzed by Fusion Experiment”

Nuclear Transmutation at Low Energies Using Gas Permeation

Iwamura et al.,
Mitsubishi Heavy Industries



Nuclear Transmutation at Low Energies Using Gas Permeation

Observation: Evidence of decreasing Cesium and generation of Praseodymium, a rare-earth element.

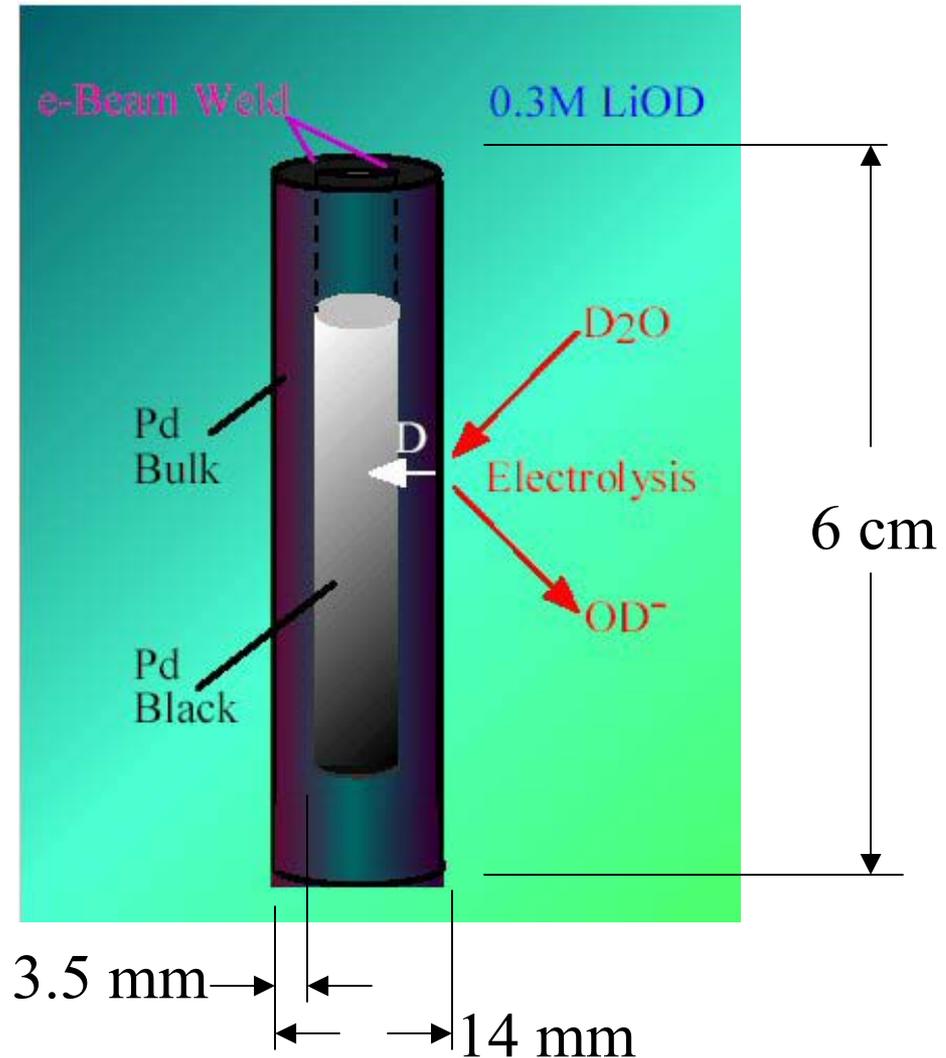
Significance: New, low-energy method for creating nuclear reactions and initiating nuclear transmutations.

Excess Energy and Helium from Double-Structure Cathode

Arata/Zhang, Osaka University

McKubre et al.
SRI International

“Pd-Black,” fine nano-powders of about 20nm diameter, are placed into void inside Pd bulk.



Excess Energy and Helium from Double-Structure Cathode

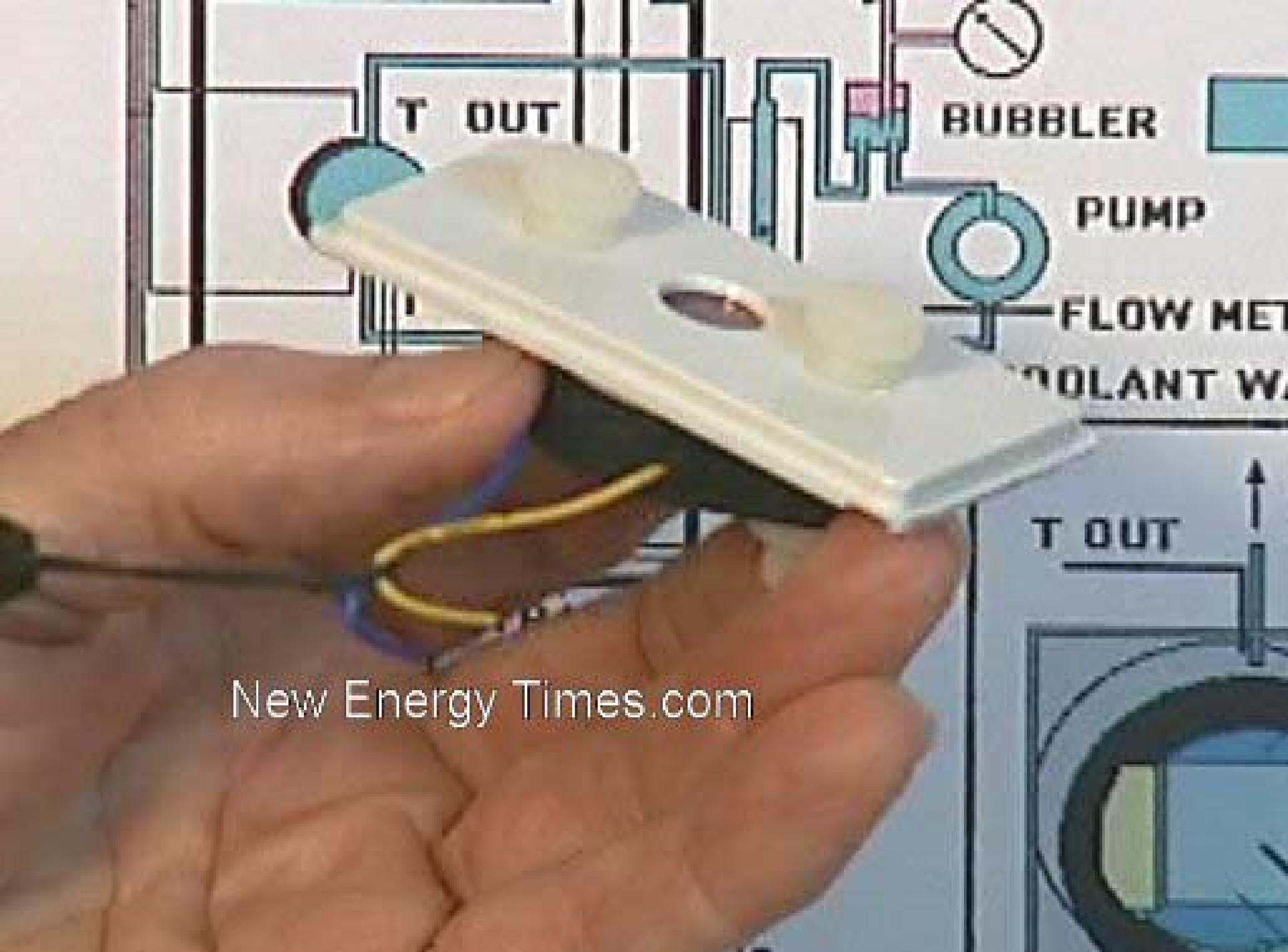
Observation:

Maximum excess power generated: 10%.

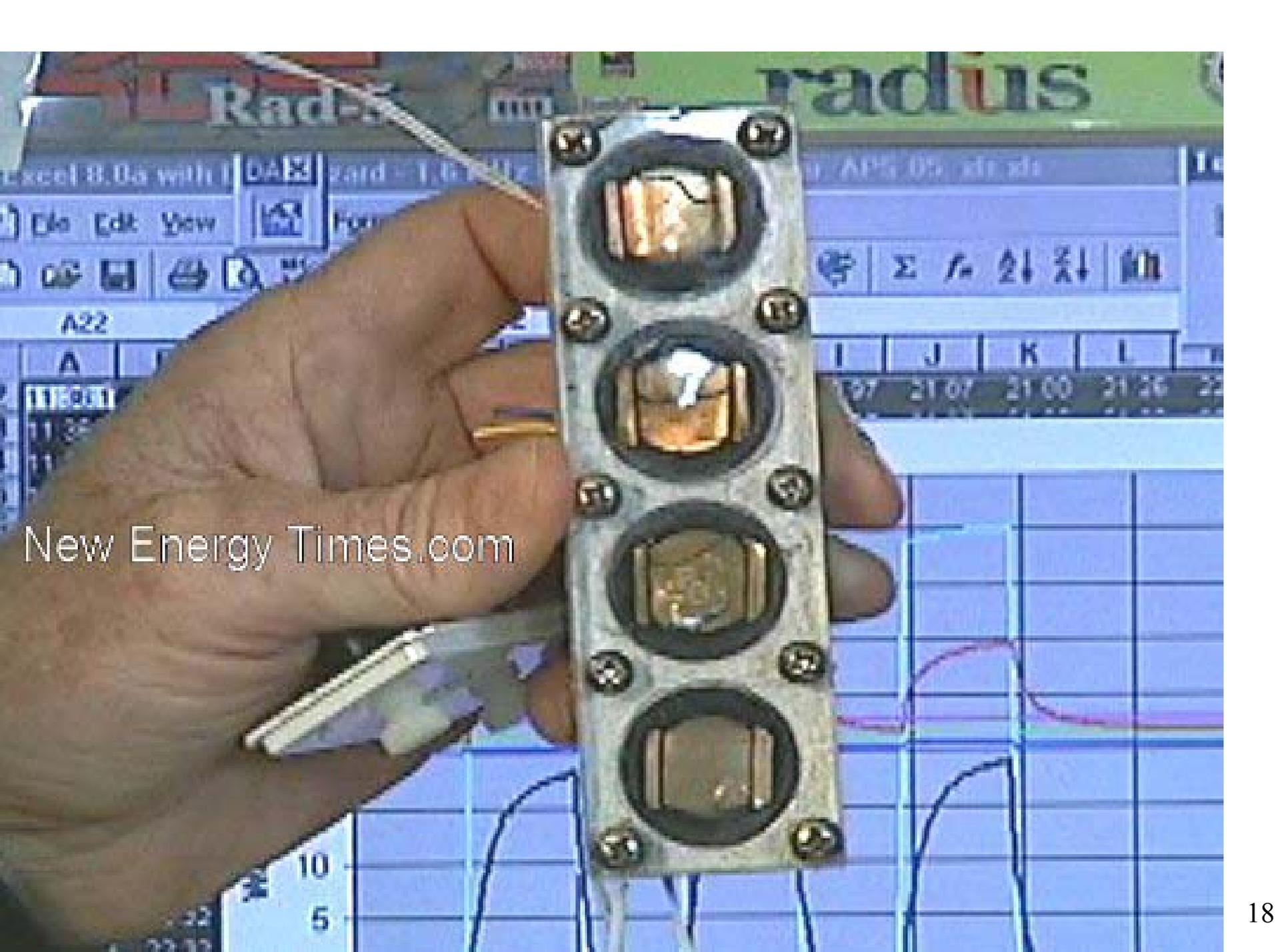
Excess energy: 64 Mj

Significance:

New source of clean nuclear energy.

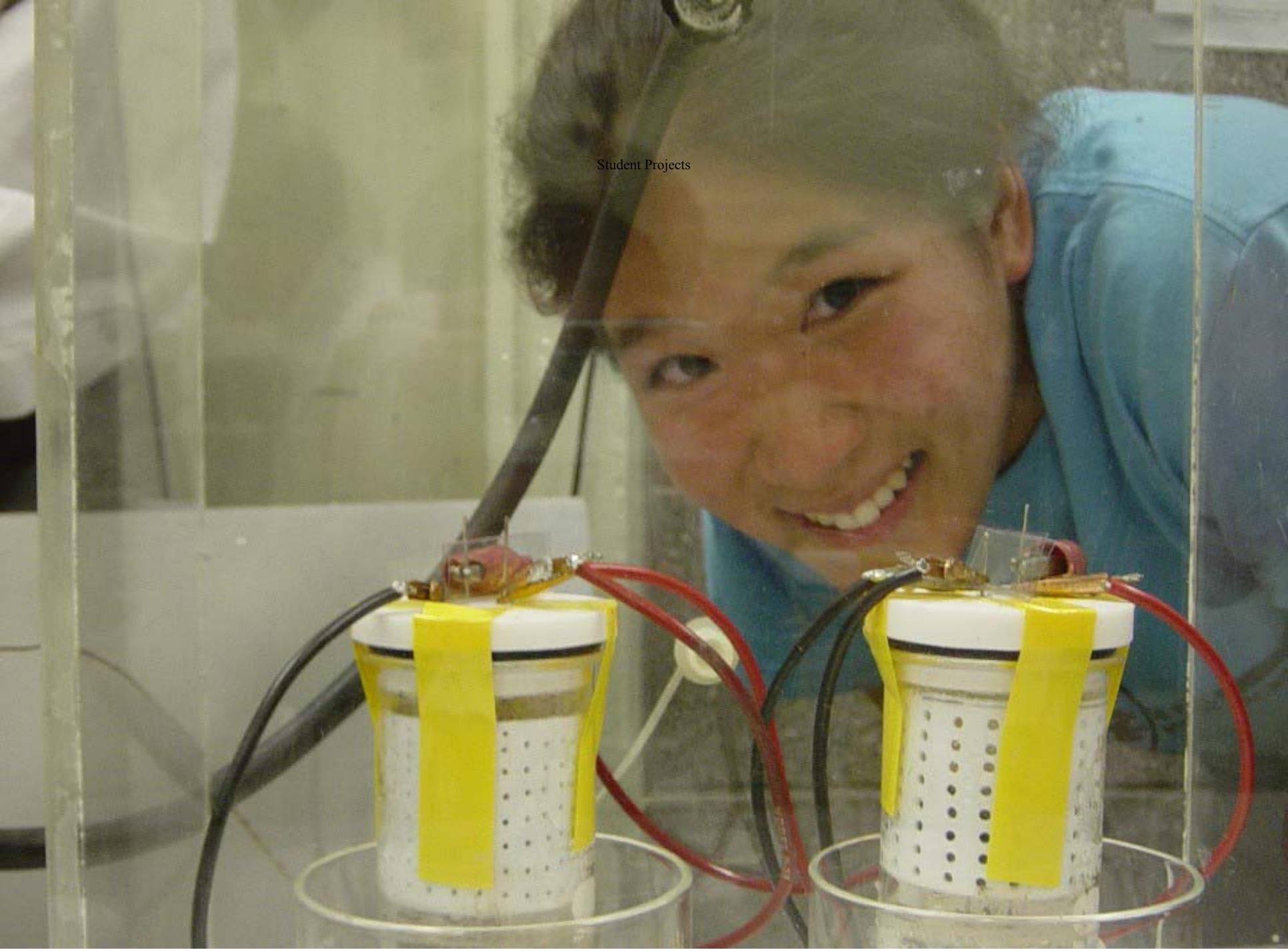


New Energy Times.com

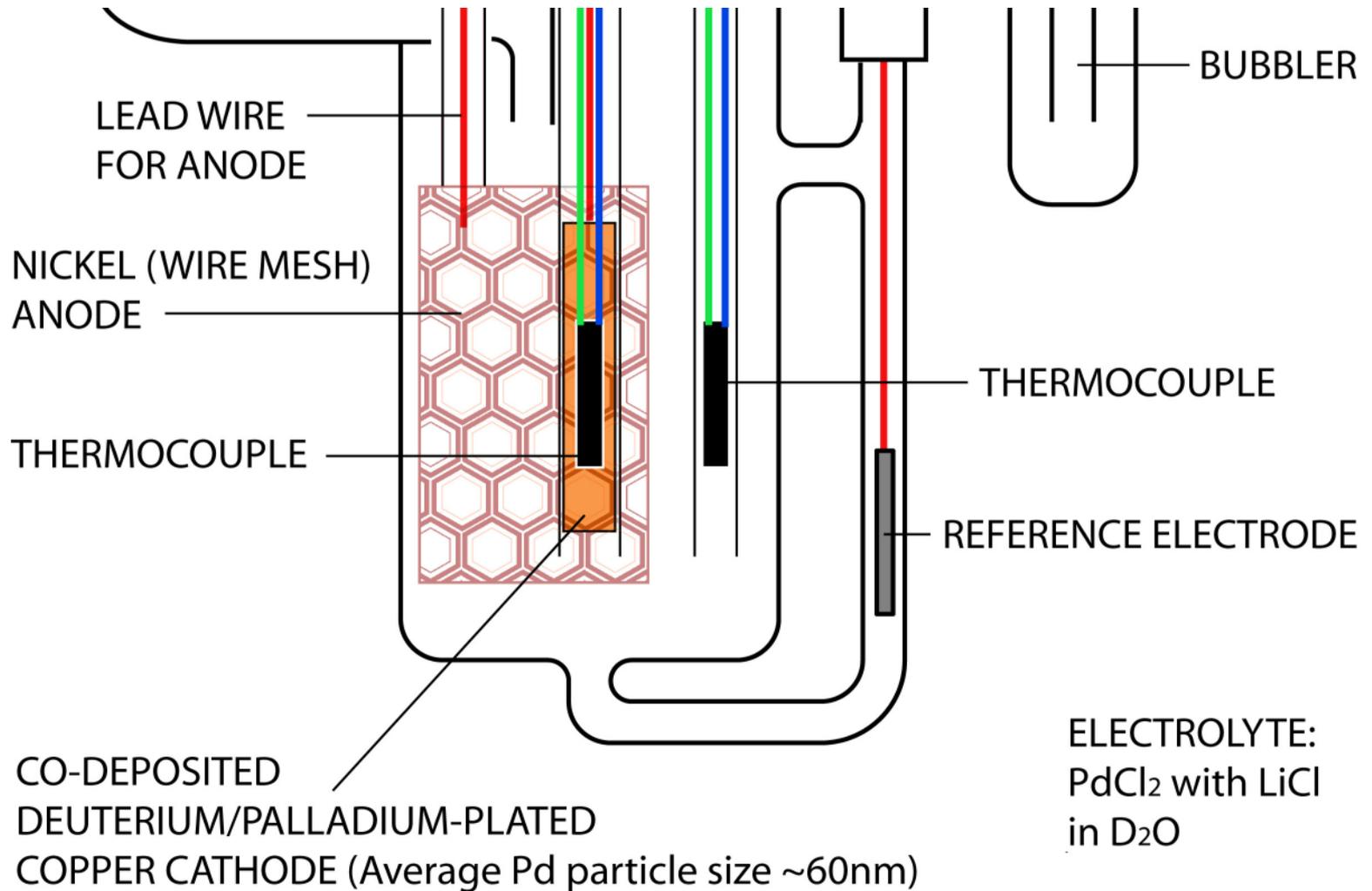


New Energy Times.com

Student Projects



Co-Deposition Method



Condensed Matter Nuclear Science

LOW ENERGY NUCLEAR REACTIONS (LENR)

COLD FUSION

**FUSION OF
LIGHT ELEMENTS**

TRANSMUTATIONS

**REACTIONS INVOLVING
HEAVY ELEMENTS**