3rd International New Energy Technology Symposium

at the

237th American Chemical Society National Meeting

Salt Lake City, Utah, USA – March 22-24, 2009

• Low-Energy Nuclear Reaction Research • Other New Energy Technologies
• Acoustic Inertial Confinement Fusion

Sponsored by:

The American Chemical Society Division of Environmental Chemistry
New Energy Institute
The New York Community Trust

Jan Marwan - Symposium Chair - info@marwan-chemie.fta-berlin.de

Dr. Marwan Chemie
Forschung & Entwicklung

Introducing Low Energy Nuclear Reactions

"When a new truth enters the world,
the first stage of reaction to it is ridicule,
the second stage is violent opposition,
and in the third stage
that truth comes to be regarded as
self – evident."
The German philosopher Arthur Schopenhaurer
(1788 – 1860)

“Some say, [cold] fusion may be man’s greatest discovery since fire.
Other say, as I do, that it may also be the innovation
to protect and perpetuate the earth’s dying life support system,
more important than the possible salvation of the dying industrial superiority of America.
Man cannot stand another century like the last.
In those 100 years we have consumed
more of the non - renewable richness of the earth
than was used during all of man’s previous history.
We polluted and poisoned our environment
with its use, and it literally threatens our continued existence.
The revolutionary discovery, [cold] fusion,
arrives simultaneously with our entry
into the age of true environmental alarm.”
Congressman Wayne Owens, Utah, 1989, congressional hearings on cold fusion

The Rebirth of Cold Fusion
Steven B. Krivit and Nadine Winocur, Psy. D.
Pacific Oaks Press 2004

Present situation

• environmental viewpoint

greenhouse emission

millions of tons toxic gases released every day

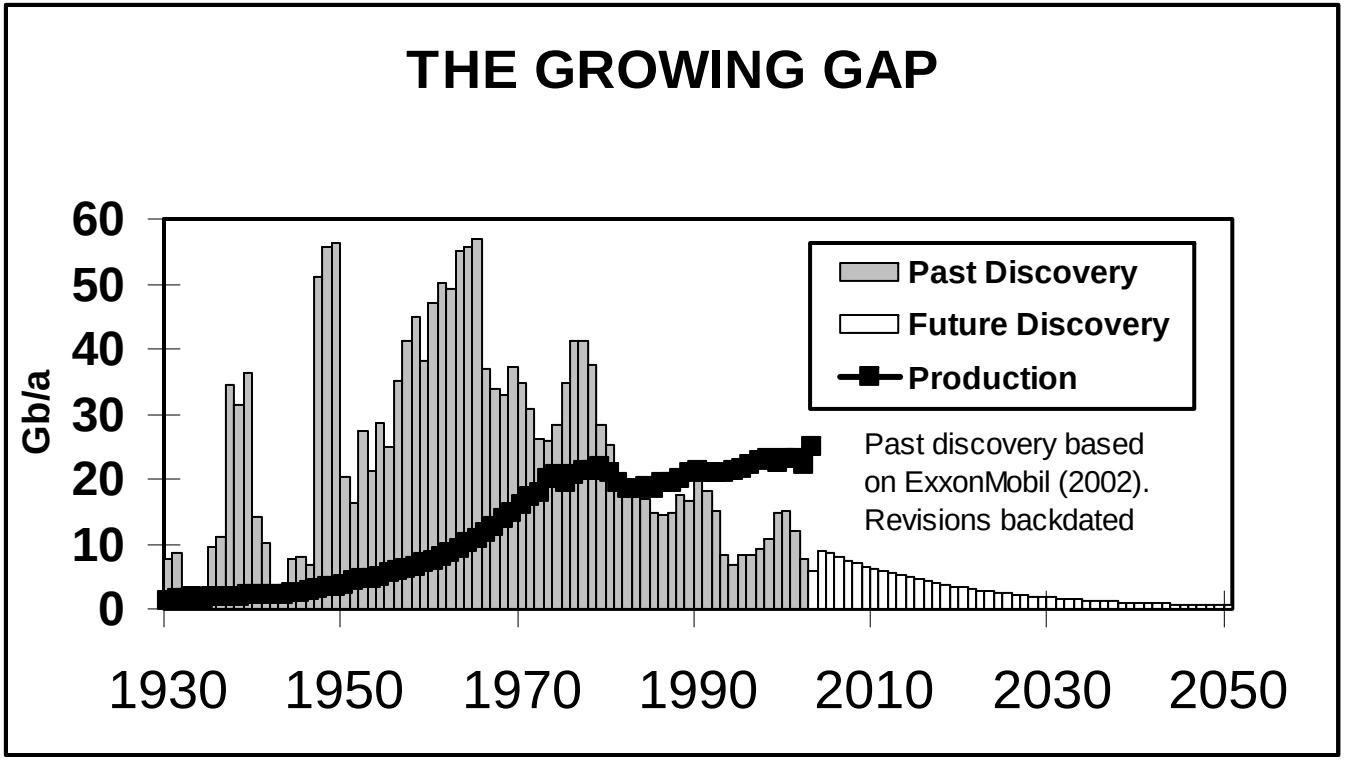
global warming

• economical viewpoint

strongly dependent on fossil fuels

Our options

• solar energy
• wind power
• batteries and fuel cells
• nuclear power (fission and fusion)



The Growing Gap between Oil Production and New Discovery (Courtesy of the Association for the Study of Peak Oil)

“You cannot solve a problem based on a way of thinking that from its characteristic features initially created this problem.”
Albert Einstein

Dr. Marwan Chemie
Forschung & Entwicklung

Electrochemical Cell

Fig 3: Scheme of the electrolysis cell (1) Teflon caps; (2) glass rod; (3) Pd rod; (4) glass beaker; (5) Pt Coil. (Pg 191, Chun-Ching Chien, Dalibor Hodko, Zoran Minevski, and John O'M. Bockris, J. Electroanal. Chem. 338 (1992) 189-212)

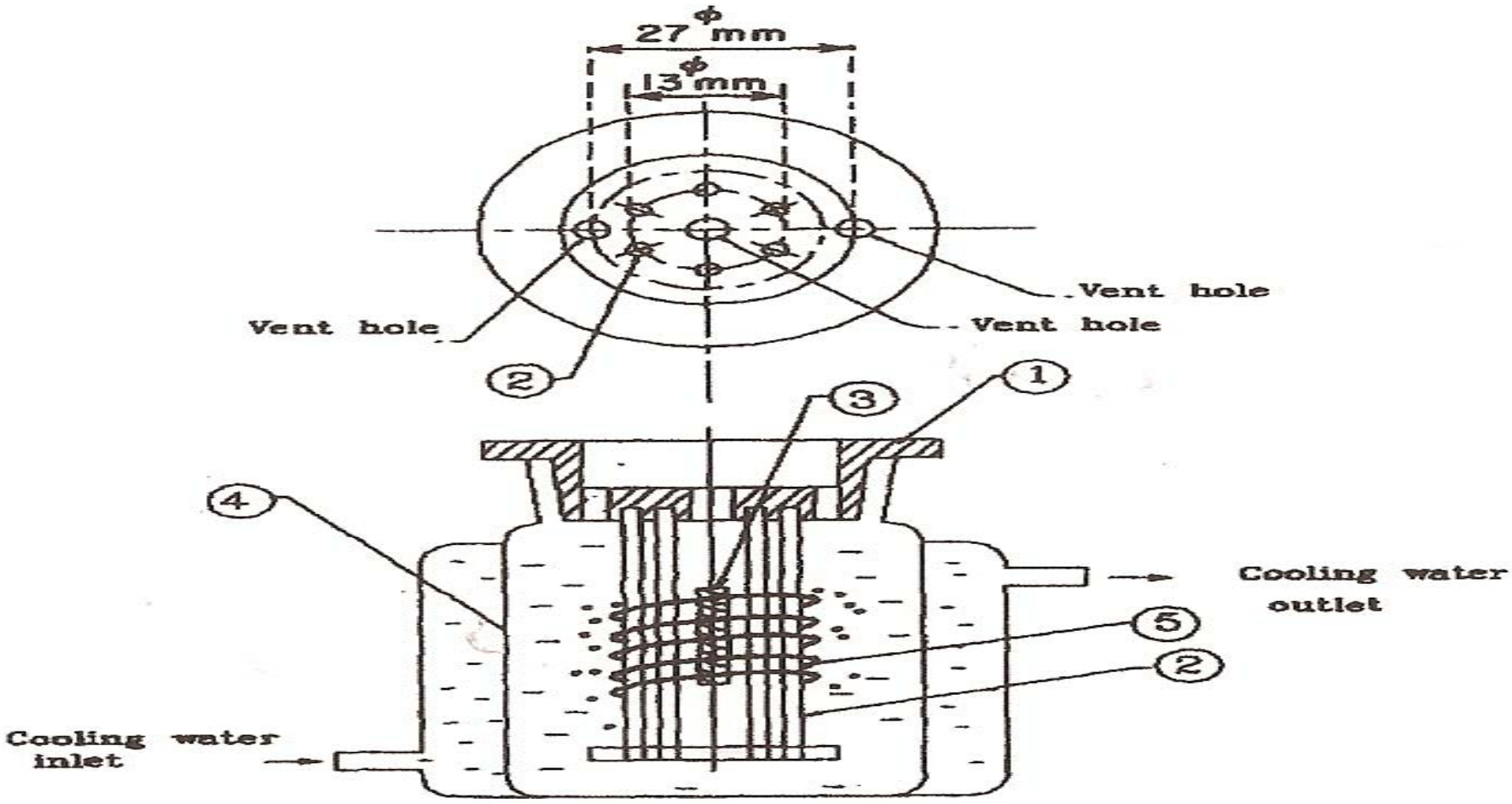


Fig 4: Pd electrode which produced tritium: cutting diagram and annotation of samples used in subsequent analysis (Pg 192, Chun-Ching Chien, Dalibor Hodko, Zoran Minevski, and John O'M. Bockris, J. Electroanal. Chem. 338 (1992) 189-212)

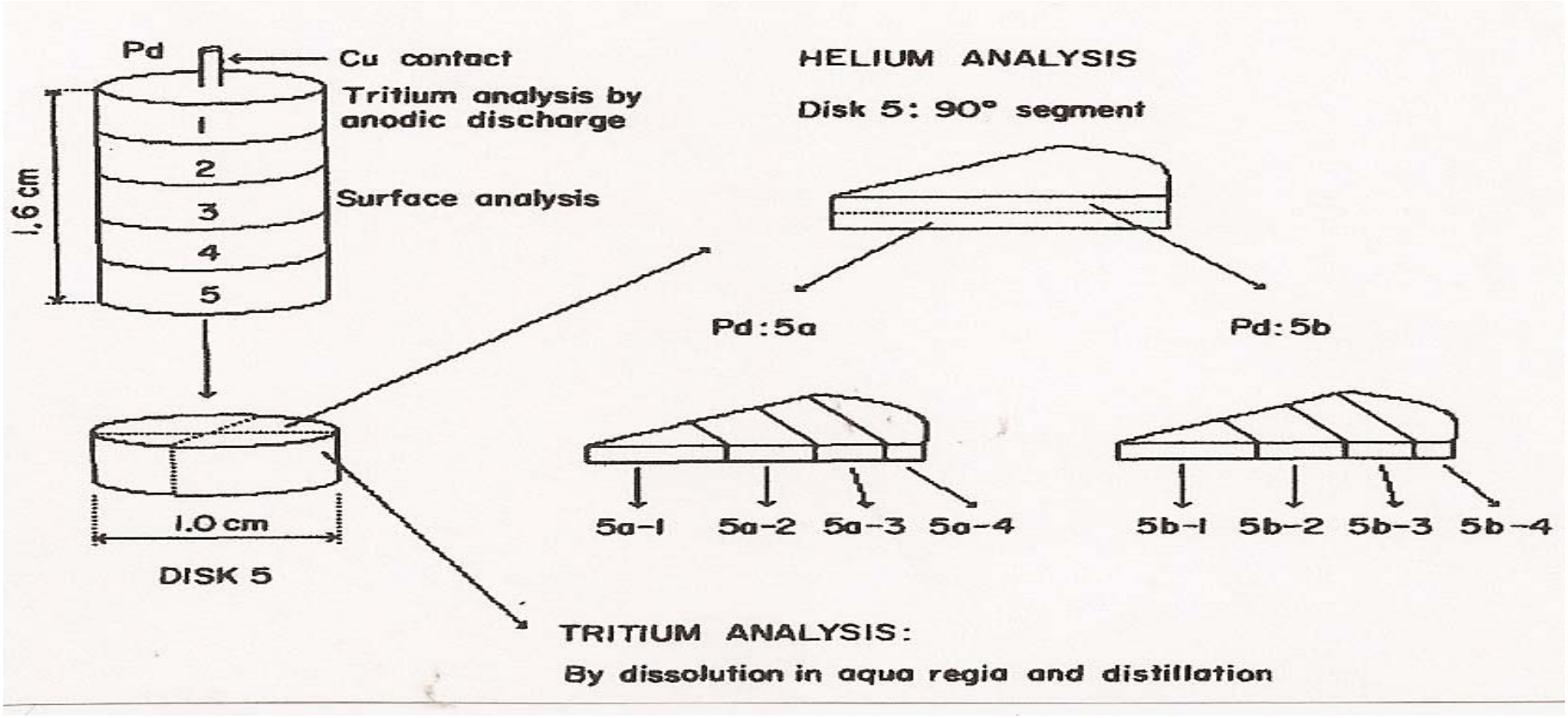


Fig 5: Tritium activity measurements vs. time at the initial stage of electrolysis: (+) cell A, which showed no tritium in excess; (◑) cell B, which showed high levels of tritium production. Numbers indicate cathode potentials vs. RHE. (Pg 198, Chun-Ching Chien, Dalibor Hodko, Zoran Minevski, and John O'M. Bockris, J. Electroanal. Chem. 338 (1992) 189-212)

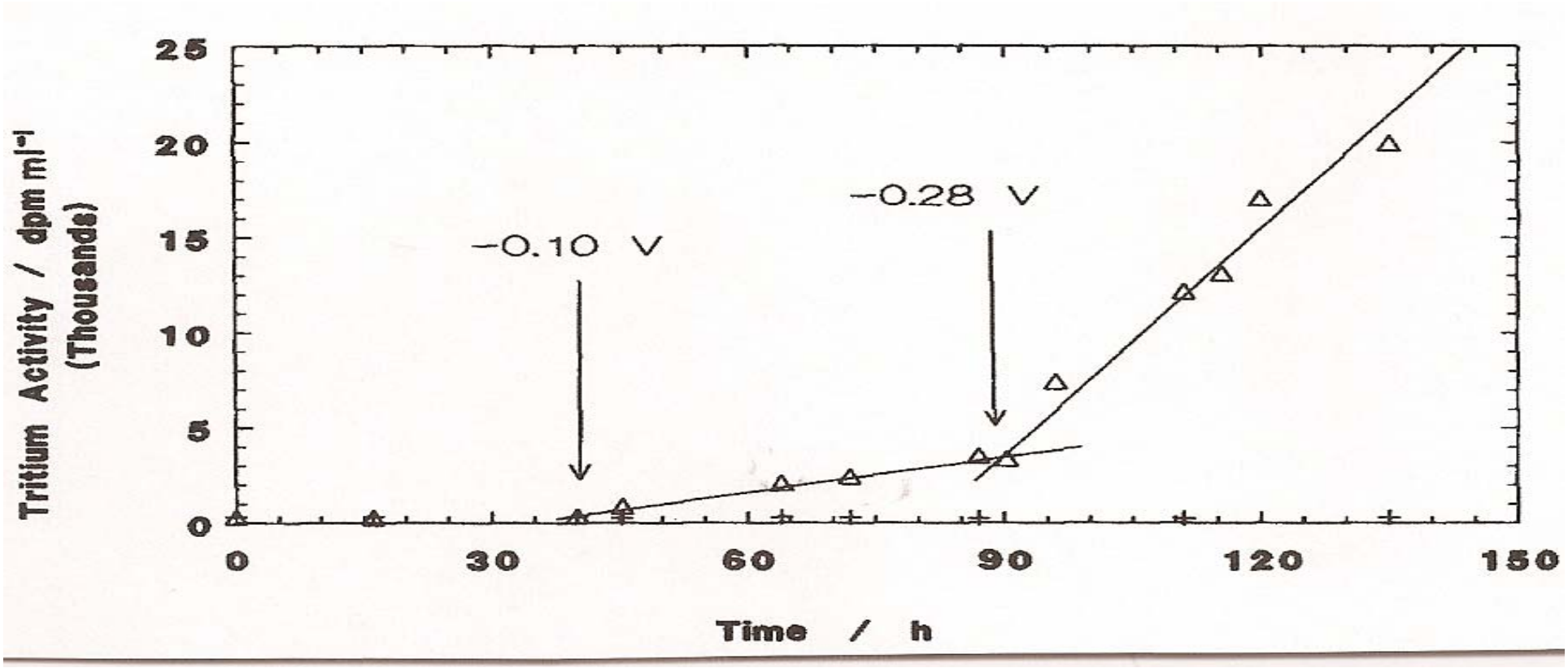
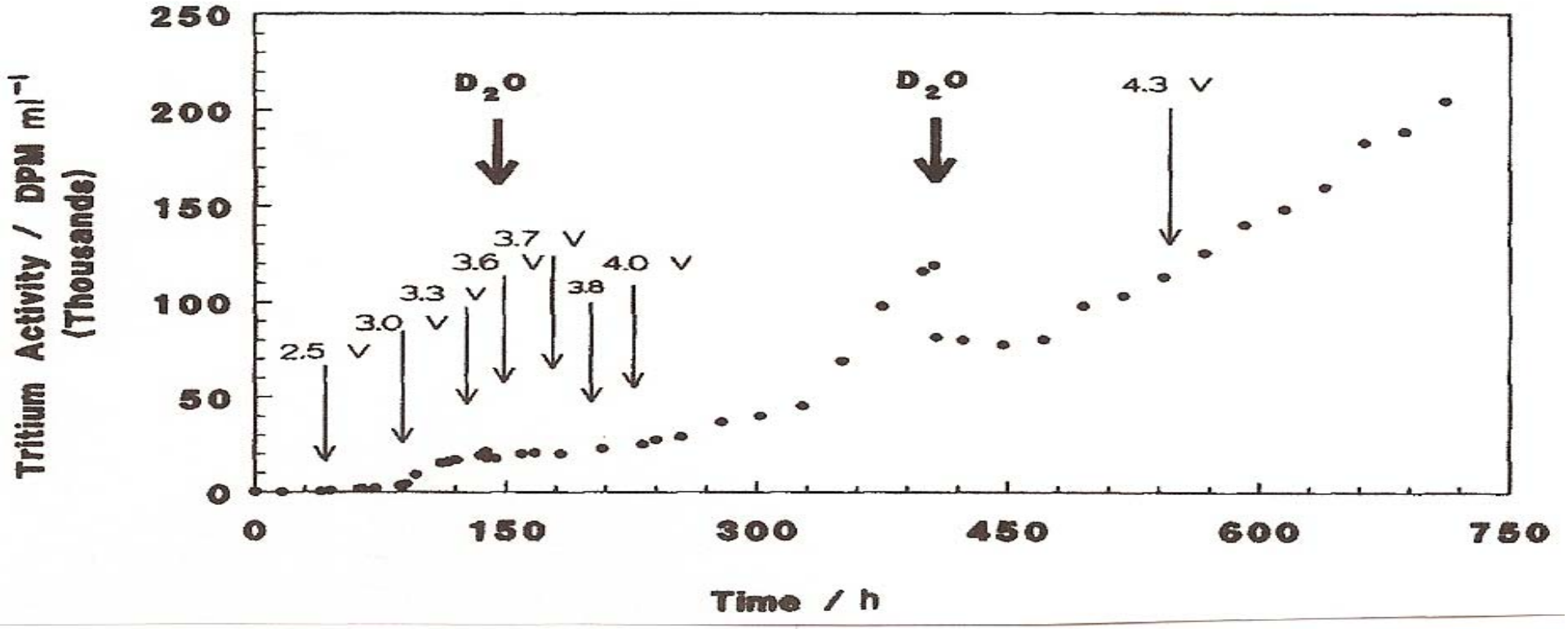


Fig 6: Recording of the tritium events during one month of continuous tritium production in cell B. Arrows indicate voltage adjustments. Numbers indicate cathode potentials vs RHE. (Pg 198, Chun-Ching Chien, Dalibor Hodko, Zoran Minevski, and John O'M. Bockris, J. Electroanal. Chem. 338 (1992) 189-212)

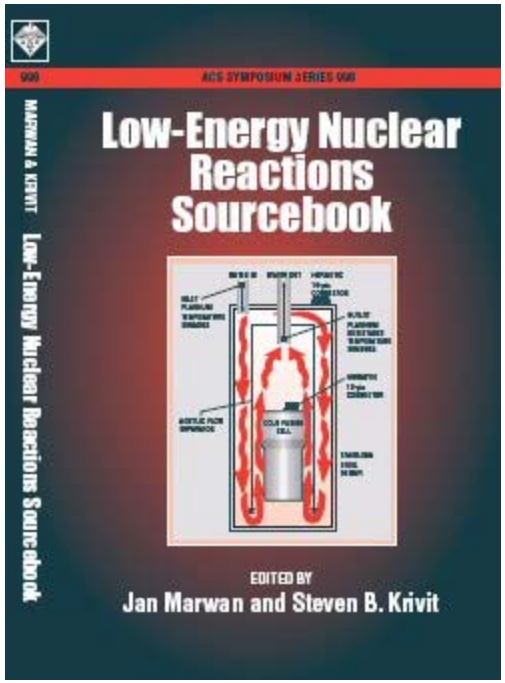


Low Energy Nuclear Reactions Sourcebook

Symposium Series Book American Chemical Society

Oxford University Press

- thermodynamic calculations
- experimental evidence
- theoretical models



American Chemical Society – New Energy Technology

Spring Meeting – Salt Lake City, Utah

ENVR **Sunday, March 22, 2009**

8:30 AM-11:25 AM Hilton -- Alpine Ballroom West, Oral
New Energy Technology
Low Energy Nuclear Reactions: Introduction and Overview
Sponsored by: ENVR
Organizer, Presiding: Jan Marwan

8:30 AM	1	Introducing low energy nuclear reactions **Jan Marwan**
8:55 AM	2	Low-energy nuclear reaction research: 2009 ACS update **Steven B. Krivit**
9:20 AM	3	Condensed matter nuclear science discoveries **Scott R Chubb Sr.**, Talbot A. Chubb
9:45 AM	4	From cold fusion to condensed matter nuclear science: 20 years of research **Michael Charles Harold McKubre**
10:10 AM	5	Twenty year history of LENR research using Pd/D codeposition **Frank E. Gordon**, Stanislaw Szpak, P. A. Mosier-Boss, Melvin H. Miles, Lawrence Forsley
10:35 AM	6	From the proof of principle to a working prototype **Antonella De Ninno**
11:00 AM	7	Practical use of nuclear quadrupole and internal magnetic field augmented LENR **Dennis Cravens**, Rod Gimpel, Vince Golubic

1:30 PM-5:15 PM Hilton -- Alpine Ballroom West, Oral
New Energy Technology
Low Energy Nuclear Transmutation
Sponsored by: ENVR
Organizer, Presiding: Jan Marwan

1:30 PM	15	Composition of particles in heavy water electrolyte after electrolysis **John Dash**, Qiongshu Wang
1:55 PM	16	Transmutation with glow discharge **Irina B. Savvatimova**, John Dash
2:20 PM	17	Reproducible generation of nuclear particles during electrolysis **Richard A. Oriani**
2:45 PM	18	Nuclear transmutation of isotopes in biological systems: History, models, experiments and perspectives **Vladimir Vysotskii**, Alla Kornilova
3:10 PM	19	Nanonuclear reactions in condensed matter **Lawrence Forsley**, Frank E. Gordon, Pamela A. Mosier-Boss
3:35 PM	20	Isotopic changes of elements caused by various conditions of electrolysis **Tadahiko Mizuno**
4:00 PM	21	Characterization of distinctive materials with which to generate nuclear transmutation **Hideo Kozima**
4:25 PM	22	Effect of hydrogen stoichiometry (x) on the lattice expansion in metal-Hx systems **Nicolas Amanet**
4:50 PM	23	Understanding the palladium–hydrogen (deuterium) electrochemistry as crucial step to approach low energy nuclear reactions **Jan Marwan**

8:30 AM-11:50 AM Hilton -- Alpine Ballroom West, Oral
New Energy Technology
Tritium, Neutron Production and Bubble Fusion
Sponsored by: ENVR
Organizer, Presiding: Jan Marwan

8:30 AM	30	Characterization of neutrons emitted during Pd/D co-deposition **P. A. Mosier-Boss**, Stanislaw Szpak, Frank E. Gordon, Lawrence Forsley
8:55 AM	31	Field–assisted electroplating **Julie A. Yurkovic**, Stefanie J. Zakskorn, Neil D. Robertson, Hiroaki Saito
9:20 AM	32	Anomalous tritium production in CMNS **Xing Z. Li**
9:45 AM	33	Advances in acoustic inertial confinement bubble nuclear fusion Robert C Block, Richard T Lahey, Robert I Nigmatulin, **Rusi P Taleyarkhan**
10:10 AM	34	When bubble cavitation becomes sonofusion **Roger S. Stringham**
10:35 AM	35	Observation of high multiplicity neutron emission events from deuterated Pd and Ti samples at BARC: A review **Mahadeva Srinivasan**
11:00 AM	36	Observation of neutrons and tritium in a wide variety of LENR configurations: BARC results revisited **Mahadeva Srinivasan**
11:25 AM	37	Discovery of Erzion nuclear reaction tracks in the space **Yuri N. Bazhutov**

1:30 PM-4:50 PM Hilton -- Alpine Ballroom West, Oral
New Energy Technology
Excess Heat Production
Sponsored by: ENVR
Organizer, Presiding: Jan Marwan

1:30 PM	44	Reports of anomalous self-heating events **Steven B. Krivit**
1:55 PM	45	Twenty year review of isoperibolic calorimetric measurements of the Fleischmann-Pons effect **Melvin H. Miles**, Martin Fleischmann
2:20 PM	46	"Hot" deuteron generation and charged particle emission during excitation of the deuterium subsystem in metal deuterides **Andrei G. Lipson**, Ivan P. Chernov, Alexei S. Roussetski, Aslan Yu. Tsivadze, Boris F. Lyakhov, Yuri P. Cherdantsev, Michael E. Melich, Eugeny I. Saunin
2:45 PM	47	Gas-loading experiments for self-sustaining heat in CMNS **Xing Z. Li**
3:10 PM	48	Excess heat and electrical characteristics of type "B" anode-plate at low energy nuclear reactions **Mitchell Swartz**
3:35 PM	49	Anomalous heat generation during hydrogenation of carbon hydride **Tadahiko Mizuno**
4:00 PM	50	Dual laser stimulation of optical phonons in palladium deuteride Dennis Letts, **Dennis Cravens**, Peter L. Hagelstein
4:25 PM	51	Deuterium gas charging experiments with Pd powders for excess heat evolution Akira Kitamura, Takayoshi Nohmi, Yu Sasaki, Tatsuya Yamaguchi, Akira Taniike, **Akito Takahashi**, Reiko Seto, Yushi Fujita

8:30 AM-11:25 AM Hilton -- Alpine Ballroom West, Oral
New Energy Technology
Low Energy Nuclear Reactions: Theoretical Approach
Sponsored by: ENVR
Organizer, Presiding: Jan Marwan

8:30 AM	60	Energetics of condensed matter cluster reactions in nanostructured palladium **George H. Miley**, Xiaoling Yang, Nie Luo, Heinz Hora
	61	Texas A&M University: Early days in cold fusion J. M. Bockris presented by J. Marwan
9:20 AM	62	Overcoming the Coulomb barrier and related effects through resonant electromagnetic dynamics and quantum mechanics in the Fleischmann-Pons effect **Scott R Chubb Sr.**
9:45 AM	63	Simulating anomalies in metal deuterides **Peter L. Hagelstein**, Irfan U. Chaudhary
10:10 AM	64	Understanding low energy nuclear reactions **Antonella De Ninno**
10:35 AM	65	Basics of deuteron-cluster dynamics by Langevin equation **Akito Takahashi**
11:00 AM	66	Cold nuclear fusion mechanism at crack tip spearhead located deep under the ground **Anatoly V. Shestopalov**

1:00 PM-2:40 PM Hilton -- Alpine Ballroom West, Oral
New Energy Technology
General
Sponsored by: ENVR
Organizer, Presiding: Jan Marwan

1:00 PM	80	Physical model and direct experimental observation of water memory and biophysical activity of magnetic-activated water **Vladimir Vysotskii**, Alla Kornilova
1:25 PM	81	Kinetics in a unique sodium borohydride regenerative fuel cell **George H. Miley**, Nie Luo, Xiaoling Yang, Kyu-Jung Kim, Grant Kopec
1:50 PM	82	Catching CO_2 in a bowl **John A. Tossell**
2:15 PM	83	Photoelectrochemical characterization of semiconductor materials for solar water splitting **Todd G. Deutsch**, John A. Turner

Science !!
Where are we going?

Hot Fusion or "Cold Fusion"

MAIN GOAL

To prevent the environmental breakdown
To keep the economy running
To provide good living conditions for everyone

Energy Sustainability Concepts

“In regard to cold fusion
it would be advisable for the scientific community
to brace itself for the fallout
that will be coming soon
when the public starts to become aware
that the scientific community was engaging
in an act of gross self deception back in 1989”

Brian Josephson, Nobel prize for physics, 1973

The Rebirth of Cold Fusion
Steven B. Krivit and Nadine Winocur, Psy. D.
Pacific Oaks Press 2004

First Announcement

4th International New Energy Technology Symposium

at the

239th American Chemical Society National Meeting

San Francisco, California, USA – March 2010

Symposium Scope:

- Low-Energy Nuclear Reaction Research
- Other new energy technologies
- Energy Sustainability Concepts

The 4th International New Energy Technology Symposium is Sponsored by:
The American Chemical Society Division of Environmental Chemistry
New Energy Institute
The New York Community Trust

More information will be posted to New Energy Times as it becomes available.

Jan Marwan - Symposium Chair - info@marwan-chemie.fta-berlin.de