ICCF9

Conference Plan (May 19-24, 2002)

MAY 19 (SUNDAY)	RECEPTION AT INTERNATIONAL CONVENTION CENTER OF TSINGHUA UNIVERSITY
May 20 (Monday)	Compelling evidence as a nuclear process in nature
May 21 (Tuesday)	Multiple-Layer Thin-film effect: Progress in reproducibility
May 22 (Wednesday)	Tour to Great Wall, and a visit to Great Wall Ti-Gold Technology Co. Ltd.
May 23 (Thursday)	Theoretical Model
May 24 (Friday)	Summary and Review
May 25	6 Routes for Tour in China (XiAn, Tibet, GuiLin, HongKong, ShangHai, Three Gorges)

The following contributors are gratefully acknowledged

Tsinghua University Press Tsinghua Tongfang Optical Dick Co. Ltd. Great Wall Ti-Gold Technology Co. Ltd. MicroRoad Corporation Nanometer International Company

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With the sponsorship of:

Fundamental Research Division, Ministry of Science and Technology

Physics Division II, Natural Science Foundation of China

Chinese Nuclear Physics Society

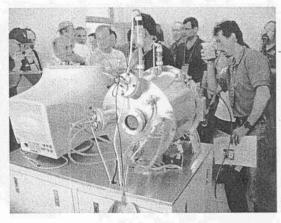
Department of Physics, Tsinghua University



Vice President of Tsinghua University, YanKang Zheng, delivered an opening address (from left: QingQuan Gou, YanKang Zheng , XingZhong Li, NengKuan Chen)



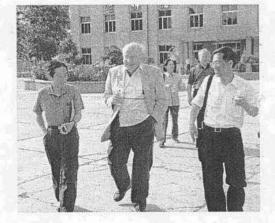
Infrared Thermal Imaging System for Demonstration



3 groups of visitors took pictures with excitement



T. J. Dolan, IAEA officer (1995-2001) for fusion



M. Fleischmann walked out the main building of the Great reschigitat iscampyoNew EnergyncTaimesthe demonstration device

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MAILING LIST

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Condensed Matter Nuclear Science

"Condensed Matter Nuclear Science" was suggested for the title of a new journal during an extended meeting held by ICCF-9 International Advisory Committee on May 21, 2002. It symbolized the new starting point of this research field after 13 year world-wide continuous study.

3 coherences were announced in Lerici, ITALY as the theme of ICCF-9, i.e. the coherence between CONDENSED MATTER PHYSICS and NUCLEAR PHYSICS; the coherence between "hot fusion" and "cold fusion"; and the coherence between application and fundamental research. This conference is organized according to the theme.

The first is the *coherence between CONDENSED MATTER PHYSICS and NUCLEAR PHYSICS*. Indeed Professor Martin Fleischmann has traced back to 1960's for the historical motivation of this research^[1]. Dr. Iwamura of Mitsubishi presented most convincible experimental results to show such a coherence: when a deuterium flux is induced by the multiple–layer thin-film structure on the surface of palladium, nuclear transmutation would happen reproducibly^[2]. Professor Takahashi of Osaka University showed also that the 3-body nuclear reaction might be greatly enhanced if the highly deuterided titanium target is cooled during the beam-target experiments ^[3]. Both of these experiments clearly showed that the nuclear interactions might be affected by the condensed matter physics.

Secondly, the *coherence between "hot fusion" and "cold fusion"* should be emphasized, because both are working for a clean and inexhaustible energy source. Most of the "hot fusion" scientists do not realize that both of "hot fusion" and "cold fusion" need the resonant tunneling to enhance the fusion cross-section. They always believe that the kinetic energy of hot fusion plasma is necessary to overcome the Coulomb barrier between positively charged deuteron and triton. This has been a great mistake for 50 year fusion research ^[4]. Indeed the kinetic energy is effective only when there is a resonance energy level for deuteron-triton fusion. Only if they understand the importance of this resonance; then, they are able to understand why the "excess heat" in the low energy nuclear reaction are never accompanied by the strong neutron or gamma radiation. Fortunately, the open mind fusion scientist, Dr. Thomas J. Dolan, started to assist fusion community for a better understanding between "hot fusion" and "cold fusion" physics ^[5].

Thirdly, the *coherence between application and fundamental research* is necessary to promote this research. This is almost the only way to break through the barrier between the main stream science and this research. If we look at the difficulties for the SCIENCE magazine to publish the "Bubble Fusion" paper, we will understand the necessity of a demonstration device which will show the application of "Condensed Matter Nuclear Science". Fortunately, the Great-Wall Ti-Gold Company made a big stride forwards in this direction.

We emphasized 3 key factors for these 3 coherences as well, i.e. the deuterium(hydrogen) flux, the multiple-layer thin-film technique, and the infrared thermal imaging technology.

Flux is more important than deuterium (hydrogen) loading ratio in metals. This has been recognized by more and more experimentalists. This should be important to solve the problem of reproducibility.

Multiple-layer thin-film is an effective technique to enhance the flux. Dr. Wolf-Dieter MÜNZ, Materials Research Institute at Sheffield Hallam University, UK, showed his great interests in solving the flake-off problem in multiple-layer thin-film. This is important to establish a self-sustaining "excess heat" device.

Infrared thermal imaging technology has been proved to be a good diagnostic tool, which has enough time and space resolution and has no interference to the D(H)/Pd system, in order to search for the best set of the parameters.

The Italian scientists at Frascati have shown that the power density of a D/Pd system might be as high as $600 \text{ kW/c.c}^{[6]}$. This is very close to the theoretical limit (MW/c.c.). What we have to do is to search the best set of the parameters, and scaling-up the device. Our mission is to put interesting, potentially important science into public view.

Editorial Notes:

Since we are going to publish a selected work based on the proceedings, we decided to publish all the manuscripts received although some of these manuscripts do not meet the requirement set by ICCF-9 in advance.

We gratefully acknowledge the contribution from Tsinghua University Press. They provided not only the Abstract Book in time, but also the heavy editorial work for the proceedings. This successful ICCF-9 has justified the judicious decision made by the president of Tsinghua University Press, JiaQiang Li. Particularly, Professor ZhaoQi Zhang, the formal editor-in-chief of Tsinghua University Press, has most generously devoted herself in publishing the Abstract Book and the proceedings with fully understanding the difficulties in this research.

A personal contribution from Professor ZhongQun Tian of XianMen University is specially acknowledged here for his generous support to this important research and a successful ICCF-9.

[1] M. Fleischmann, Proceedings of ICCF9 p.III. [2] Y. Iwamura, et al., Proceedings of ICCF9 p.141. [3] K. Ochiai, A. Takahashi, et al., Fusion Technology, 36, 315(1999). [4]X. Z. Li, et al., Physical Rev. C, 61, 024610 (2000). [5]T. J. Dolan, Proceedings of ICCF9 p.XXIV. [6] E. Del Giudice, et al., Proceedings of ICCF9 p.82.

Xing Zhong Li, 2002/12/25