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Cold Fusion Research Laboratory (Japan) Dr. Hideo Kozima, Director
E-mail address; cf-lab.kozima@nifty.com
Websites; http://www.geocities.jp/hjrfq930/
http://web.pdx.edu/~pdx00210/
News のバックナンバーその他は上記ウェブサイトでご覧になれます

常温核融合現象 CFP (The Cold Fusion Phenomenon)は、「開いた（外部から粒子とエネルギーを供給され、背景放射線に曝された）、非平衡状態にある、高密度の水素同位体(Hand/D)を含む固体中で起こる、核反応とそれに付随した事象」を現す言葉で、固体核物理学(Solid State-Nuclear Physics)あるいは凝集体核科学(Condensed Matter Nuclear Science) に属すると考えられています。

CFRL ニュース No.104 をお送りします。この号では、次の記事を掲載しました。

1. JCF18 が 11 月 24－25 日に仙台で開催されました

JCF18 が仙台の東北大学で開催されました。

会議のプログラムと発表論文の Abstracts が、下記 JCF ウェブサイトに掲載されています：

プログラム：　http://jcfrs.org/JCF18/jcf18-program.pdf

アブストラクト：　http://jcfrs.org/JCF18/jcf18-abstracts.pdf

プログラムは以下の通りです。

Program of JCF18 Meeting

Japan CF-Research Society
Date; November 24-25, 2017
Place; Mikamine Hall, Research Center for Electron Photon Science, Tohoku University, Sendai, Japan

Presentation; Oral presentation 25 min. + Discussion 5 min.
Language; English or Japanese

Abstract Book; Only available at JCF home page (http://jcfrs.org/)

November 24 (Fri), 2017
12:00-13:00 Registration
13：00-13:10 Opening Address Y. Iwamura (Tohoku University)

Session 1 Chairman; K. Tsuchiya (NIT, Tokyo)
13:10-13:40 **JCF18_01** K. Tanabe et al. (Kyoto U.)
Direct Joule Heating of D-Loaded Pd Plates in Vacuum
13:40-14:10 **JCF18_02** Y. Sato et al. (Iwate U.)
Deuterium desorption experiments using Pd-Zr and Pd-Ni-Zr multi-layered samples
14:10-14:40 **JCF18_03** H. Numata
Search for characteristic microstructure of Pd rod formed during repeated cathodic and anodic electrolysis

14:40-15:00 Break
Session 2 Chairman; S. Narita (Iwate U.)
15:00-15:30 **JCF18_04** A. Kitamura et al. (Technova Inc.)
Comparison of excess heat evolution from zirconia-supported Pd-Ni nanocomposite samples with different Pd/Ni ratio under exposure to hydrogen isotope gases
15:30-16:00 **JCF18_05** Y. Iwamura et al. (Tohoku U.)
Reproducibility on Anomalous Heat Generation by Metal Nanocomposites and Hydrogen Isotope Gas
16:00-16:30 **JCF18_06** M. Kishida et al. (Kyushu U.)
Measurement of Anomalous Heat Generation in Hydrogen Flow by Differential

Scanning Calorimetry
16:30-17:00 **JCF18_07** T. Hioki et al. (Nagoya U.)
In-situ XRD and XAFS Analyses for Metal Nanocomposites used in Anomalous Heat Generation Experiments

17:00-17:10 Break
17:10-17:30 JCF Annual Meeting
17:30-20:00 Reception
November 25 (Sat), 2017
Session 3 Chairman; Y. Iwamura (Tohoku U.)
9:30-10:00 **JCF18_08** K. Tsuchiya (NIT, Tokyo)
Progress of density functional methods in LENR and their problems II
10:00-10:30 **JCF18_09** K. Tanabe (Kyoto U.)
Theoretical Investigation of Plasmonic Field Enhancement on Planar Metal Surfaces
10:30-11:00 **JCF18_10** K. Ooyama (Ooyama Power Inc.)
Nuclear Fusion Mechanism in Crystal

11:00-11:15 Break
Session 4 Chairman; H. Numata
11:15-11:45 **JCF18_11** K. Tanabe (Kyoto U.) Is the Heat Difference between D and H Really a Sign of Fusion?
11:45-12:15 **JCF18_12** H. Miura
Water Clusters Related to OHMASA-GAS

12:15 Adjourn

The Proceedings of JCF18 will be published and posted at JCF website:
http://jcfrs.org/proc_jcf.html

2. ICCF21 will be held in Fort Collins, Co., USA on June 1 – 4, 2018

ICCF-21 が 6 月 3 – 8 日にコロラド州立大学（The Lory Student Center）, in Fort Collins, Co., in the U.S. で開かれます。

この会議の詳細は ICCF21 website に掲示されています;

https://www.iccf21.com/

会議についての詳細は、ウェブサイトのリンクを参照するなり、下記オーガナイザーに問い合わせるなりしてほしいとのことです。

Steve Katinsky; katinsky@lenria.org

David Nagel; nagel@lenria.org

3. ICANP-2018 will be held in Osaka, Japan on July 23 – 25

The Scientific Federation が international conference "**International Conference on Atomic & Nuclear Physics – *Cutting edge Advancements in Atomic & Nuclear Physics*** –" を 7 月 23 – 25 日に大阪で開催すると発表しました。詳細は the Scientific Federation website に記されています;

http://scientificfederation.com/atomic-nuclear-physics-2018/

会議の事務局から、この会議の初日(23 日)に開かれる全体会議での講演の要請があったので、次の題目で 45 分講演を行うことにしました。

"Development of the Solid State-Nuclear Physics,"

この講演の Abstract を下記項目5に掲載しました。

常温核融合現象の存在が一般に認知されていない現状では、どんな機会でも捉えてこの分野で得られている成果を宣伝する必要があります。この国際会議の性格についてはいろいろな評価があるようですが、 真実は知ってもらうことで広まるものですから、あえて火中の栗を拾うことも辞さないつもりで、講演の要請を受けたものです。

The **Scientific Federation** is established and working with following purpose and ambition declared as follows at its website http://scientificfederation.com/ ;

The Scientific Federation is expert-driven and is initiated to organize and facilitate proficient and international scientific conferences worldwide with associating the world class researchers. The Scientific Federation is establishing outstanding, direct communication between the researchers whether they are working in the similar field or in interdisciplinary research activities. The Scientific Federation provides an international forum for the appearance and discussion of cutting edge research in the science, medical, clinical, technology, engineering, life sciences and their related researches. In this regard, meet Inspiring Speakers and Experts at our universal meetings inclusive all scientific conferences, workshops and symposiums annually on Science, Technology, Medical, Pharma, Clinical, Engineering and Business. Scientific Federation is provider of information, solutions to enhance the performance and progress of science, medical, health, clinical, engineering and technology professionals,

and is empowering them to make better decisions, deliver better care, and sometimes make groundbreaking discoveries, that advance the boundaries of knowledge and human progress.

4. JCF19 が盛岡で開催されることになったようですが、日程は未定とのことです

JCF19 が今年の 10 月（あるいは 11 月）に岩手大学（盛岡市）で開催されることが内定しているとのことです。詳細は決まり次第、下記 JCF ウェブサイトに掲示されることと思います；
http://jcfrs.org/NEW.HTML

5. Abstract of "Development of the Solid State-Nuclear Physics" by H. Kozima to be presented at ICANP-2018

"Development of the Solid State-Nuclear Physics"

Hideo Kozima
Cold Fusion Research Laboratory

Abstract

Investigation of the cold fusion phenomenon（CFP）for about 30 years since its discovery in PdD_x by M. Fleischmann et al. in 1989 has revealed existence of nuclear reactions in specific solids at near room-temperature without any mechanism of acceleration for particles in the system. The diverse and complex experimental data obtained in materials including hydrogen isotopes piled up in these years have been riddles for almost all scientists. The facts observed in this field, however, suggest existence of new mechanisms for nuclear reactions in such solids (CF materials) as transition-metal hydrides and deuterides, hydrogen graphite, XLPE and microbial cultures. The new mechanisms should be a fundamental element of a new physics in between solid state physics and nuclear physics, which we may call solid state-nuclear physics.

We have developed a phenomenological approach with a model to the CFP to understand the complex data sets as a whole obtained in this field. The approach has been successful and suggests an outline of the solid state-nuclear physics where

neutrons in the CF materials play a key role for the realization of the nuclear reactions. The fundamental premises assumed in the model are investigated using properties of protons (*p*) and deuterons (*d*) in CF materials and novel features of the nuclear structure of host elements in them. The extended wavefunctions of *p* and *d* and the structure of exotic nuclei seem essential to the CFP.

6. Proceedings of ICCF20 が発行されました

Proceedings of ICCF20 (the 20th International Conference on Condensed Matter Nuclear Science, Sendai, Japan, October 02–07, 2016)が発行され、下記ウェブサイトに掲示されています:
http://lenr-canr.org/acrobat/BiberianJPjcondensedw.pdf