THE 4TH ASIAN CONFERENCE ON HIGH PRESSURE RESEARCH

Seoul National University, Seoul, Korea

2008 Oct 14 (Tuesday)-17 (Friday)

Symposia

2008-10-14 (Tuesday)

8:30 Registration

9:30 Opening ceremony
Sung-Ik Lee Welcome address

Plenary Lecture
Chairman *Sung Keun Lee*

9:40 *Ho-kwang Mao* *Invited*
Energy frontier research in extreme environment

10:20 Break

Scattering
Chairman *Haozhe Liu*

10:30 *Katsutoshi Aoki and A. Machida* *Invited*
High pressure for producing dense metal hydride and synchrotron radiation X-rays for proving Hydrogen-metal bonding

11:00 *Hyun Chae Cynn, Jae-hyun Park, Klepeis William J. Evans* *Invited*
Static material strength of Fe estimated using a DAC to ~50 GPa

11:30 *Min Li, Qiliang Cui, Fangfei Li, Ru Jia, Zhi He, Qiang Zhou, Tian Cui*
Brillouin scattering study of liquid Oxygen under high pressure and high temperature conditions

11:45 *Young-Ho Kim, Li Chung Ming, Gil Chan Hwang and Hyun Hwi Lee*
$KNbO_3$: Phase transition sequences and its high pressure structures

12:00 *Luhong Wang, Haozhe Liu, Stas Sinogeikin, Jinfu Shu, Ho-kwang Mao*
Using ZnO and CeO_2 as internal standards under high pressure conditions: Synchrotron X-ray diffraction studies

12:15 Lunch Korean Food

Ab initio

Chairman *Yanming Ma*

1:50 *Tian Cui, Zhi He, Defang Duan, Qifeng Zeng, Xiaojiao San, Yanming Ma, Guangtian Zou Invited*
Understanding solid Iodine under high pressures

2:20 *Yunfeng Liang and John S. Tse*
Electron and hole assisted dissociation of dense ice

2:35 *Jinhui Zhai, Dongxu Li, Huijing Du, Xiaoju Guo, Dongli Yu, Yongjun Tian*
Stability and optical properties of wurtzite GeC compound

2:50 *Yanming Ma, Ying Xu, John S.Tse, Artem R. Oganov, Tian Cui*
High-pressure crystal structures of Cesium iodide

3:05 *Lifang Xu, Dongxu Li, Fang Zhang, Lei Li, Julong He, Yongjun Tian*
Predication of diamond-like BC_x (x=1, 2) compounds

3:20 Break

Transport

Chairman *Yunfeng Liang*

3:50 *Katsuya Shimizu, Masahiro Kaneshige, Hiroshi Hyoudo, Kaoru Kimura Invited*
Electrical resistivity measurements of α-Boron at high pressure and low temperature

4:20 *John S. Tse, Z. Song, Y. Yan and K. Tanaka Invited*
Superconductivity in alloys of light elements under high pressure

4:50 *Mitsuhiko Maesato, Yoshimoto Furushima, Tatsuro Imakubo, Hideki Yamochi, Gunzi Saito*
Anomalous magnetotransport and pressure-temperature phase diagrams of p-d hybrid conductors $(DIETSe)_2FeX_4$ [X=Cl, Br]

5:05 *N. Manivannan, Kee Hoon Kim and Dong Hak Nam*
Development of multipurpose 4.0 GPa nonmagnetic high pressure clamp type cell for dielectric and polarization measurements

5:20 Break

6:00 Dinner Japanese/ Korean Food

2008-10-15 (Wednesday)

Transport/Synthesis

Chairman *Kee Hoon Kim*

8:40 *Keizo Murata, Weng Yufeng, Harukazu Yoshino, Reizo Kato* *Invited*
Pressure effect on charge density wave of the organic conductor, TTF-TCNQ, and the development of the pressure transmitting medium, Daphne 7474

9:20 *X. C. Wang, Q. Q. Liu, L. X. Yang, Y. X. Lv, W. B. Gao, R. C. Yu, F. Y. Li, Changqing Jin* *Invited*
A new iron arsenide superconductor LiFeAs: pressure effects

9:50 *Sung-Ik Lee* *Invited*
High pressure synthesis of electron doped infinite-layer cuprate $Sr_{0.9}La_{0.1}CuO_2$: the this S-wave superconductor?

10:20 Break

Transport/Shock/Synthesis

Chairman *Kee Hoon Kim*

10:45 *Gendo Oomi, Ryohei Saito, Yoshiyuki Fuchizaki* *Invited*
Observation of pressure-induced quantum critical point in $Fe_{70}Ni_{30}$ invar alloy

11:15 *Xianyue Han, Jianjun Zhang, Dongxu Li, Shaocun Liu, Dongli Yu, Yongjun Tian*
Conductance of Calcium tetraboride

11:30 *Y. J. Gu, Q. F. Chen, J. Zheng, Z. Y. Chen, L. C. Cai, Y. Gu and Fuqian Jing*
Equation of state of condensed gaseous Xenon under shock compression

11:45 *Hong Shiming, Liu Xiuru, Su Lei, Huang Daihui, Jia Ru, Shao Chunguang, Lv Shijie, Hu Yun, Lin Shenxiong and Yuan Chaosheng*
Progress in preparing bulk amorphous materials by rapid compression-induced solidification

12:00 Lunch Japanese/ Korean Food

Geoscience

Chairman *Danel Lacks*

1:40 *Sang-Heon Shim and Krystle Catalli*
Effect of Fe^{2+} and Fe^{3+} on perovskite and postperovskite – Constraining the state of Fe in the lowermost mantle

2:10 *Xyanue Xue, Masami Kanzaki* *Invited*
Structures of high-pressure hydrous minerals: Insights from one- and two-dimensional NMR spectroscopy

2:40 *Danel Lacks, Liqun Zhang, James A. Van Orman*
Molecular simulation of the structural, transport and thermodynamic properties of silicate melts

2:55 *Sung Keun Lee, Ho-kwang Mao, Jinfu Shu, Peter Eng*
Probing and modeling of pressure-induced coordination transformation in amorphous and crystalline oxides at high pressure: A view from inelastic X-ray scattering

3:10 Break

Synthesis/Ab initio

Chairman *Dongxu Li*

3:30 D. *Nishio-Hamane, M. Katagiri, K. Niwa, A. Sano-Furukawa, T. Okada, and Takehiko Yagi* *Invited*
High pressure phase transitions in Ti_2O_3

4:00 *Dongxu Li, Dongli Yu, Peng Wang, Yingmei Li, Quan Huang, Julong He, Yongjun Tian*
Synthesis of BC_xN ($x \approx 3.3$) compound at high pressure and high temperature

4:15 *Huijing Du, Jinhui Zhai, Julong He, Dongli Yu, Yongjun Tian*
Ab initio study of the structural phase transition and stability of Si_2CN_4 under high pressure

4:30 Poster session

6:30 Dinner Traditional Korean Food

2008-10-16 (Thursday)

Scattering/Molecules

Chairman *Bingbing Liu*

8:40 *Takamitsu Yamanaka, Takahiro Kuribayashi, Ho-kwang Mao, Russell J. Hemley, Haans-Peter Liermann, Wenge Yang and Przemek Dera* *Invited*
New system of high-pressure single crystal diffraction study up to megabar region at HPCAT APS

9:10 *Yong-Jae Lee, Jong-won Lee, Ji-Ho Yoon, Hyun Hwi Lee, Dong Ryeol Lee, Chi-chang Kao*
High-pressure investigation of a-form and CH_4-loaded b-form of hydroquinone compounds

9:25 *Jinfu Shu, Xiao-Jia Chen, I-Ming Chou, Wenge Yang, Jingzhu Hu, Russell J. Hemley, and Ho-kwang Mao*
Structural stability of methane hydrate at high pressures

9:40 *Bo Zou, Kai Wang, Aolei Lin, Guangtian Zou*
Effect of high-pressure on supramolecular structures

9:55 *Qiliang Cui, Liu Dan, Yanmei Ma, Hao Jian, Guangtian Zou, Qiliang Cui*
Raman scattering study of cyclooctane under high pressure

10:10 Break

Scattering/Others

Chairman *Yong-Jae Lee*

10:30 *Eugene Gregoryanz* *Invited*
Light alkali metals at high densities

11:00 *Bingbing Liu* *Invited*
Structural and optical property studies on carbon nanostructured materials under high pressure

11:30 *Geun Woo Lee, William J. Evans, and Choong-Shik Yoo*
Effect of compression rate on phase transformation of solid nitrogen using dynamic diamond anvil cell

11:45 *Yanmei Ma, Min Li, Zhongdong Wang, Qiliang Cui, Guangtian Zou*
High-pressure Raman spectroscopic study of celestite

12:00	Lunch	Korean	Food
Afternoon	Half-day excursion		
19:00	Banquet	Buffet	

2008-10-17 (Friday)

Transport/Invited

Chairman *Changqing Jin*

9:00 *Hai-Qing Lin, J. L. Wang, Y. L. Li, C. Zhang, R. Q. Zhang, Xiao-Jia Chen, V. V. Struzhkin, Ho-kwang Mao and Russell J. Hemley* *Invited*
Exploring metallic phases in Hydrogen-rich materials

9:30 *Woun Kang, T. Osada, D. Y. Noh, K. –I. Son* *Invited*
Pressure induced change of the Fermi surface of the organic conductor a-(BEDT-TTF)$_2$KHg(SCN)$_4$

10:00 Break

Scattering/Amorphous/Others

Chairman *Wendy Mao*

10:10 *Haozhe Liu, Luhong Wang, Xianghui Xiao, Peter Lee, Francesco De Carlo, Ji Feng,Ho-kwang Mao, and Russell J. Hemley*
Pressure-induced crystallization from amorphous Selenium: In situ high pressure non-crystalline & crystalline structure studies and beyond

10:25 *Sung Keun Lee*
2D high-resolution solid-state NMR Study of structure of covalent oxides melts and glasses at high pressure

10:40 *Choong-Sik Yoo* *Invited*
Pressure-induced electronic phase transitions in f- and d-electron systems

11:10 *Wendy Mao* *Invited*
Hydrogen storage in molecular compounds

11:40 Closing ceremony
Kyung-Ryul Kim
Sung-Ik Lee

12:00 Lunch Chinese Food

Poster Session

2008-10-15 (Wednesday)

Afternoon

P1 *Yoo Soo Yi, Sung Keun Lee*
Effect of composition on the pressure-induced coordination transformation in aluminosilicate glasses and melts: A view from solid-state NMR

P2 *Fang Zhang, Lifang Xu, Lei Li, Julong He, Yongjun Tian*
First-principles calculation of dense phases of BC_3

P3 *Shengwei Xin, Xiaoju Guo, Dongxu Li, Huijing Du, Julong He, Yongjun Tian*
Theoretical study of the Boron-rich nitrides $B_{13}N_2$ and B_6N

P4 *Jianjun Zhang, Fengrong Yu, Xianyue Han, Dongli Yu and Yongjun Tian*
Thermoelectric properties of the bulk $CoSb_3$ prepared under high pressure

P5 *Zhisheng Zhao, Julong He, Dongxu Li, Xianyue Han, Xiaoju Guo, Lifang Xu and Yongjun Tian*
First-principles study of high-pressure phases of Boron suboxide : B_2O

P6 *Lei Li, Xiaoju Guo, Fang Zhang, Lifang Xu, Dongli Yu, Julong He, Yongjun Tian*
Optical properties of potential high-pressure phase BC_3 from first-principles study

P7 *Z. M. Liu, Zhi He, Yanming Ma, Tian Cui, Bingbing Liu, Guangtian Zou*
Isotope impurity effects on the lattice vibration modes of diamond

P8 *Dawei Zhou, Zhi He, Yanming Ma, Tian Cui, Guangtian Zou*
BCC melting curve of sodium under high pressure

P9 *Xing Meng, Tian Cui, Gang Chen, Yanming Ma, Zhi He, Bingbing Liu, Guangtian Zou*
Ab initio investigations of phase transition and optical properties of the high-pressure phases of Li_3N

P10 *Weiwei Lei, Dan Liu, Qiliang Cui and Guangtian Zou*
High-pressure study of low-compressibility TaN

P11 *Dan Liu, Weiwei Lei, G. Bao, Qiliang Cui, and Guangtian Zou*
High-pressure X-ray diffraction spectra study of iodoform

P12 *Haemyeong Jung, Won Mo, Harry W. Green*
Pressure–induced fabric transitions in olivine and implications for seismic anisotropy in the upper mantle

P13 *Geun Woo Lee, William J. Evans, and Choong-Shik Yoo*
Effect of compression rate on phase transformation of solid nitrogen using dynamic diamond anvil cell ☞ moved to oral presentation on Thursday

P14 *Sergey V. Ovsyannikov, Vladimir V. Shchennikov*
High pressure in thermoelectricity

P15 *Fangfei Li, Min Li, Ru Jia, Qiliang Cui, Tian Cui, Zhi He, Qiang Zhou, Guangtian Zou*
Sound velocities in high temperature and high pressure liquid water

P16 *Qiliang Cui, Dan Liu, Weiwei Lei, Hao Jian, and Guangtian Zou*
High-pressure Raman spectra study of molybdenum trioxides

P17 *Ru Jia, Fangfei Li, Min Li, Qiliang Cui, Zhi He, Liancheng Wang, Qiang Zhou, Tian Cui, Guangtian Zou, Shiming Hong and Fuqian Jing*
Brillouin scattering studies of liquid Argon at high temperatures and high pressures

P18 *Jinmei Du, Fuping Zhang, Yusheng Liu, Gaomin Liu, Haiyan Wang, Hongliang He*
Electrical output of ferroelectric power supply with shock activation

P19 *Yuki Nakagawa, Tomoko Kagayama, Katsuya Shimizu, Nobuyuki Terasaki, Shoichi Taniguchi, Hidekazu Mukuda, Mutsuaki Murakami*
AC susceptibility measurement under high pressure by using DAC

P20 *Masafumi Sakata, Katsuya Shimizu, Mitsuhiko Maesato, Gunzi Saito*
Electrical transport measurement in $(BEDT\text{-}TTF)_3CuBr_4$ using DAC

P21 *Shunsuke Nagata, Tomoko Kagayama, Katsuya Shimizu*
Development of thermal expansion measurement technique using DAC

P22 *Yasuyuki Tamari, Takaki Muramatsu, Tomoko Kagayama, Katsuya Shimizu, Ernst Bauer*
Searching for a pressure induced magnetic order of $Yb_2Pd_2In_{1-x}Sn_x$

P23 *Kazuyuki Matsubayashi, Koji Munakata, Yoshiya Uwatoko, Takahiko Matsumoto, Atsushi Yamada, Yukihiro Kagi*
Design of a compact high pressure cell for use in low temperature physical study

P24 *Satoshi Ona, Y. Nakamoto, Tomoko Kagayama, Katsuya Shimizu, Mutsuaki Murakami, K.*