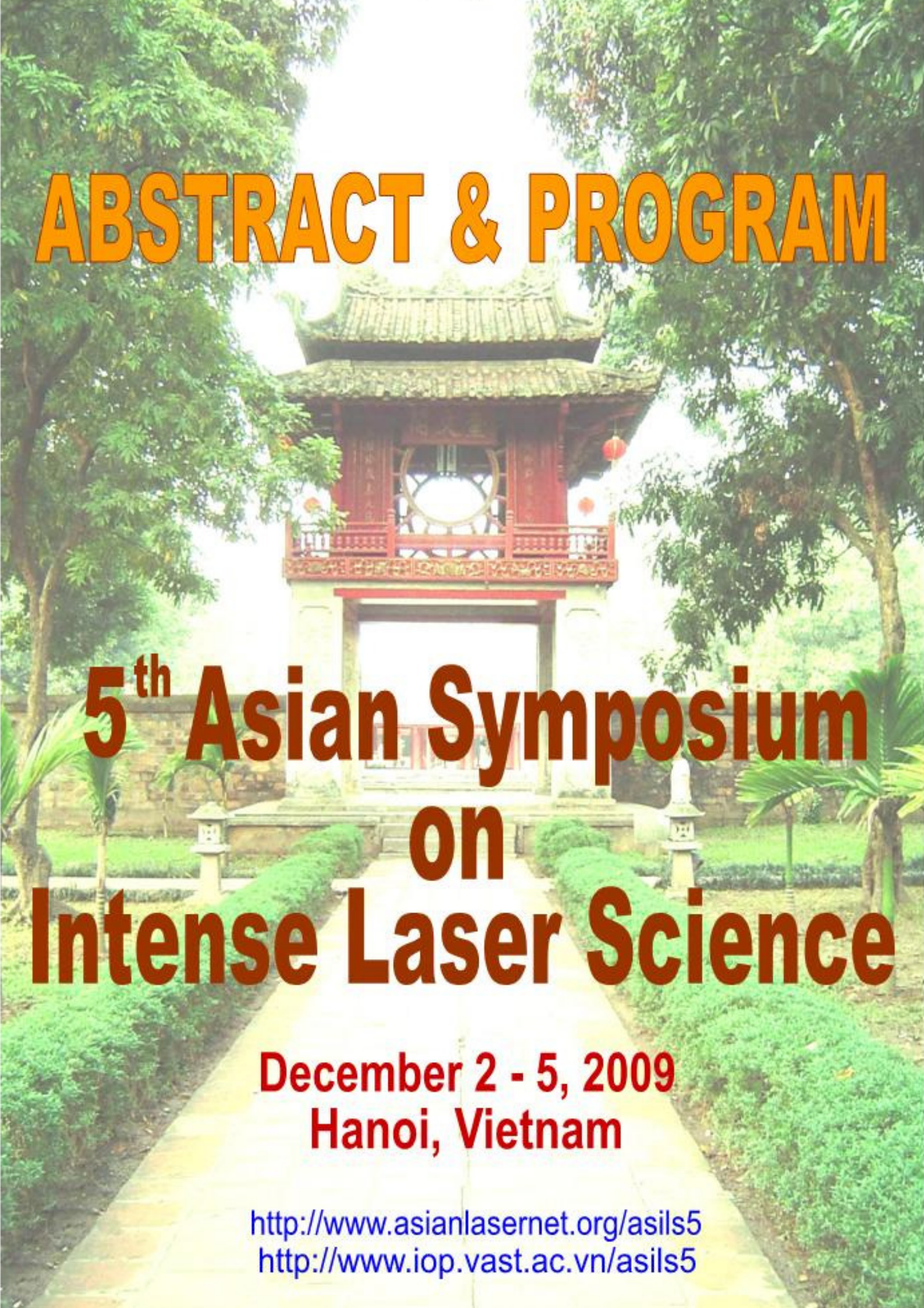

ABSTRACT & PROGRAM

5th Asian Symposium on Intense Laser Science

December 2 - 5, 2009
Hanoi, Vietnam

http://www.asianlasernet.org/asils5
http://www.iop.vast.ac.vn/asils5

5th ASIAN SYMPOSIUM

ON

INTENSE LASER SCIENCE

Hanoi, Vietnam. 2 – 5 December 2009

ABSTRACT & PROGRAM

HANOI - 2009

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HANOI – 2009

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Optical & Spectroscopic Society of Vietnam

Institute of Physics, VAST

TOPICS

High intensity laser technology

Intense laser matter interaction

Ultrafast dynamics of matter

Femto-chemistry and femto-biology

Laser-driven particle acceleration

Nonlinear optics and parametric processes

Harmonic generation and atto-science

X-ray laser and short wavelength sources

Pulse propagation, self-compression, and filamentation

Laser-induced breakdown spectroscopy

Optics, Photonics and Spectroscopy

Optoelectronics and Integrated Optics

Applications of Optics and Photonics

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Orlovich Valentin A., Belarus

See Leang Chin, Laval Uni.

INVITED SPEAKERS

Kaoru Yamanouchi. Uni.of Tokyo, Japan
Chang Hee Nam, KAIST, Korea.
Tetsuya Ishikawa. Center & RIKEN-JASRI Joint XFEL. Japan
Hidetoshi Nakano. NTT Basic Research Lab., Nippon Corporation, Japan
Jongmin Lee, APRI, GIST, Korea
Yoshiaki Kato. Japan Atomic Energy Agency (JAEA), Japan
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Ken-ichi Ueda. Uni. Electro-Communications, Tokyo, Japan
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Fabrice Vallee. Lyon Uni., France
Peter Viktor Nickles. Marx-Born Institut. Berlin, Germany
Dao Van Lap. Swinburne University, Australia
Totaro Imasaka. Kyushu Uni. Japan
Xianrong Liu, Beijing Uni., China
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Midorikawa K. RIKEN

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BRIEF PROGRAMME

Date / Time	Monday…Wednesday *30 Nov. – 2 Dec. 2009*	Thursday *3 December 2009*	Friday *4 December 2009*	Saturday *5 December 2009*	Sunday *6 December 2009*
8:30 ÷ 12:00	**INTERNATIONAL COLLEGE ON LASER, PHOTONICS AND APPLICATIONS (ICLPA)**	**- Registration (8:00-9:00 AM)** **- Official Opening** **- PLENARY SESSION**	**- PLENARY SESSION**	**- PLENARY SESSION**	**One-day tours to HALONG BAY**
		Buffet Lunch	***Buffet Lunch***	***Buffet Lunch***	***Buffet Lunch***
13:30 ÷ 17:00		**- PLENARY SESSION**	**- PLENARY SESSION** **- POSTER**	**- PLENARY SESSION** **- CLOSING**	**One-day tours to HALONG BAY**
	Reception offered by Institute of Physics, VAST at MOD Palace Hotel, 33A Pham Ngu Lao str.		*** Party offered by the IOP, VAST**	**Conference Party offered by the Organizing Committee**	**Return to HANOI**

Note:

(*) To all members of the Advisory Committee and Local Organizing Committee.

PROGRAM

Thusday - December 3, 2009

08: 00 - 09: 00 **Registration**

09: 00 - 09: 30 **Official Opening**

- *Opening Speech by Prof. Acad. Nguyen Van Hieu*
  (Former President Vietnam Academy of Science and Technology, Honour President of the Vietnam Physical Society)
- *Speech by Prof. Dr. Ken-ichi Ueda*
  (JSPS Asian CORE Program)
- *Speech by Prof. Dr. Jongmin Lee*
  (APRI, GIST and AILN)
- *Speech by Prof. Dr. Kaoru Yamanouchi*
  (CORA, School of Science, the University of Tokyo)
- **Conference Photograph**

December 3, 2009 (Thusday)

Chairman: Prof. Dr. Kaoru Yamanouchi (Tokyo University, Japan)

(T-01)

09: 55 - 10: 30 **FOSTERING ENTREPRENEURSHIP IN PHOTONICS**

Yoshiaki Kato

Graduate School for the Creation of New Photonics Industries, Japan

10: 30 - 10: 45 **Coffee Break**

(T-02)

10: 45 - 11: 20 **COHERENT CONTROL OF HIGH-ORDER HARMONIC EMISSION IN A SHAPED LASER FIELD**

Ruxin Li

State Key Laboratory of High Field Laser Physics, SIOM, R.P.China

(T-03)

11: 20 - 11: 55 **FEMTOSECOND LASER TECHNOLOGY FOR CEP-STABILIZED HIGH-POWER FEW-CYCLE LASERS**

Chang Hee Nam

KAIST, Daejeon 305-701, Kore.

(T-04)

11: 55 - 12: 30 **GENERATION OF COHERENT EXTREME ULTRAVIOLET RADIATION AND ITS APPLICATION**

Lap Van Dao

Swinburne University of Technology, Melbourne, Australia.

Buffet Lunch

<u>Chairman: Prof. Dr. Chang Hee Nam (KAIST, S. Korea)</u>

(T-05)

13:30 - 14:00 **TWO-COLOR STIMULATED RAMAN EFFECT FOR THE GENERATION OF ULTRASHORT OPTICAL PULSES**

Totaro IMASAKA

Kyushu University, Japan

(T-06)

14:00 - 14:30 **CARRIER ENVELOPE PHASE AND CHIRP EFFECTS OF ATTOSECOND PULSES IN ATOMIC IONIZATION**

Liang-You Peng, Fang Tan, Evgeny A. Pronin et al.

Peking University, Beijing, China

(T-07)

14:30 - 15:00 **CONTROLLING MOLECULAR ROTATIONAL POPULATION AND ALIGNMENT BY WAVE-PACKET INTERFERENCE**

Chengyin Wu and Qihuang Gong

Department of Physics, Peking University, Beijing ,China

(T-08)

15:00 - 15:15 **TRACKING MOLECULAR ISOMERIZATION PROCESS WITH HIGH HARMONIC GENERATION BY ULTRASHORT LASER PULSES**

Ngoc-Ty Nguyen, Bich-Van Tang, Van-Hoang Le

Department of Physics, HCMC University of Pedagogy, VN

15: 15 – 15: 30 **Coffee break**

Chairperson: Prof. Dr. Ruxin Li (SIOM, Shanghai, China)

(T-09)

15:30 – 16:05 **HIGH-ORDER HARMONIC GENERATION IN NEUTRAL GASES DRIVEN BY MID-INFRARED FIELD**

Han Xu

SIOM, Shanghai, China

(T-10)

16:05 – 16:40 **LASER ACCELERATED IONS: A TRANSITION FROM TNSA TO RADIATION PRESSURE REGIME**

Peter-Viktor Nickles

APRI, GIST,Gwangju, Korea, Max-Born-Institute Berlin, Germany

(T-11)

16:40 – 16:55 **ROLE OF HELIUM METASTABLE EXCITED STATE IN INTENSITY ENHANCEMENT OF H EMISSION FROM LASER INDUCED …**

K. Hendrik KURNIAWAN, S. N. ABDULMADJID et al.

Research Center of Maju Makmur Mandiri Foundation, Jakarta, Indonesia

(T-12)

16:55 – 17:10 **SIMULATION OF THERMAL STRESS IN A CW END-PUMPED A-CUT ND:YVO_4 CRYSTAL**

Safari, Ebrahi ; Khodavirdizadeh, Mehdi ; Salmani, Somaieh

Faculty of Physics, University of Tabriz, Tabriz, IRAN

(T-13)

17:10 – 17:25 **GREEN LASER BASED ON UP-CONVERSION EMISSION OF Er3+ ION DOPED IN SILICA GLASSES**

Pham Van Hoi

Institute of Materials Science, VAST

December 4, 2009 (Friday)

Chairperson: Prof. Dr. Yoshiaki Kato (JAEA, Japan)

(F-01)

08:30 – 09:05 **ULTRAFAST HYDROGEN ATOM MIGRATION: NEW FRONTIERS IN ATTOSECOND CHEMISTRY**

Kaoru Yamanouchi

Department of Chemistry, School of Science. The University of Tokyo

(F-02)

09:05 – 09:35 **RECENT DEVELOPMENT AND APPLICATION OF FEMTOSECOND PETAWATT TI:SAPPHIRE LASER IN SIOM**

Xiaoyan Liang , Yuxin Leng, Jiansheng Liu, Ruxin Li and Zhizhan Xu

SIOM, Shanghai, China

(F-03)

09:35 – 09:55 **DOUBLE IONIZATION OF CARBON MONOXIDE**

Xianrong Liu, Chengyin Wu, Zhifeng Wu, Yongkai Deng, Qihuang Gong

Peking University, Beijing, China

(F-04)

09:55 – 10:15 **SUPERINTENSE FIELD FROM MULTIPLE LASER PULSES**

C. H. Raymond Ooi and Tou Teck Yong

Monash University, Jalan Lagoon Selatan, Malaysia

Multimedia University, Jalan Multimedia,Malaysia.

10: 15 – 10: 30 **Coffee break**

Chairperson: Prof. Dr. Peter V. Nickles (Max-Born Institute Berlin, Germany)

(F-05)

10:30 – 11:05 **RECENT PROGRESS ON 0.1-HZ 2-PW TI:SAPPHIRE LASER FACILITY IN APRI**

Seong Ku Lee, Jae Hee Sung, Tae Jun Yu, Tae Moon Jeong, Il Woo Choi, Jongmin Lee

Advanced Photonics Research Institute (APRI), GIST, Republic of Korea

(F-06)

11:05 – 11:40 **RAMAN CONVERSION OF FEMTOSECOND LASER PULSES IN CRYSTALS**

V.A. Orlovich, D.N. Busko, M. Danailov, A.A. Demidovich

B.I. Stepanov Institute of Physics, Belarus

(F-07)

11:40 -12:10 **TIME-RESOLVED SPECTROSCOPY OF METAL NANOPARTICLES**

F. Vallée

LASIM, Université Lyon 1 – CNRS, France.

(F-08)

12:10 -12:30 **PULSED LASER ABLATION AND DEPOSITION OF SILICON**

A. Viktorovna Salomatova, Seong Shan Yap and T. Worren Reenaas

Norwegian University of Science and Technology, Norway

Cécile Ladam and Øystein Dahl

SINTEF Materials and Chemistry, Norway.

Buffet Lunch

Chairperson: Prof. Jongmin Lee (APRI, GIST, Korea)

(F-09)

13:30 – 14:05 **ULTRAHIGH CONTRAST INTENSE LASER PULSE DRIVEN BY DOUBLE PLASMA MIRRIR AND ITS APPLICATION TO HIGH ENERGY PROTON ACCELERATION**

I Jong Kim, Il Woo Choi, Seong Ku Lee, Jae Hee Sung, Tae Jun Yu, Hyeok Yun, Karol Adam Janulewic and Jongmin Lee

APRI, GIST, Gwangju,Korea

(F-10)

14:05 – 14:40 **LASER-DRIVEN PLASMA X-RAY LASERS AND ITS APPLICATIONS**

Tetsuya Kawachi

Japan Atomic Energy Agency (JAEA), JAPAN

(F-11)

14:40 – 15:15 **QUANTUM INTERFERENCE IN HIGH-ORDER HARMONIC GENERATION FROM TWO-CENTER MOLECULES**

Weifeng Yang, Xiaohong Song, Zhinan Zeng, Ruxin Li, and Zhizhan Xu

SIOM, P.R.China

15:15 – 15:30 **Coffee break**

Chairperson: Prof. Dr. Dao Van Lap (Swinburne Uni. Australia)

(F-12)

15:30 – 16:00 **QUANTUM CONTROL OF MOLECULAR VIBRATION AND ROTATION TOWARD THE ISOTOPE SEPARATION**

Keiichi Yokoyama, Leo Matsuoka, Tatsuya Kasajima et al.

Quantum Beam Science Directorate, Japan Atomic Energy Agency, Japan.

(F-13)

16:00 – 16:30 **THE CARRIER-ENVELOPE PHASE DEPENDENT SPECTRAL EFFECTS OF FEW-CYCLE ULTRASHORT LASER PULSE DURING THE COURSE OF PULSE PROPAGATION IN MEDIA**

Xiaohong Song, Weifeng Yang, Chaojin Zhang, Zhizhan Xu

SIOM, Chinese Academy of Sciences, P.R.China

(F-14)

16:30 – 16:45 **EMISSION SPECTROCHEMICAL ANALYSIS OF HYDROGEN IN TITANIUM USING LASER INDUCED LOW-PRESSURE HELIUM PLASMA**

Syahrun Nur ABDULMADJID, Koo Hendrik KURNIAWAN

Syiah Kuala University, Darussalam, Banda Aceh, Indonesia

Kiichiro KAGAWA, *University of Fukui, Japan.*

16:45 – 18:00 **POSTER**

Chairperson: Prof. Dr. Tran Ba Chu, Pham Van Hoi, N. T. Thuc Hien, Ta Van Tuan, Pham Long, N. The Binh, Vu Doan Mien, Ho Quag Quy (OSSV)

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V. V. Barun, A. P. Ivanov, Nguyen Cong Thanh, Tran Hong Nhung

Institute of Physics, Belarus National Academy of Sciences, Minsk 220072, 68 Nezavisimosti

Institute of Physics and Electronics, Vietnamese Academy of Science and Technology.

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Yunquan Liu, Difa Ye, Jie Liu, A. Rudenko, S. Tschuch, M. Dürr, M .Segel, U. Morgner, Qihuang Gong, R. Moshammer and J. Ullrich1

Max-Planck-Institut für Kernphysik, Germany

Beijing University, Beijing, China

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P.V. Shpak, A.A. Demidovich [b], M.B. Danailov [b], A.S. Grabtchikov, S.M. Vatnik, N. Dai Hung, S.N. Bagaev, V.A. Orlovich

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Laser Lab Sincrotrone-Trieste, SS14, km.163.5 34012 Trieste, Italy
Institute of Laser Physics SB RAS, Lavrent'eva Ave. 13/3, Novosibirsk, Russia.

Center of Quantum Electronics, Institute of Physics, VAST.

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O. Buganov, A. Grabtchikov, S. Tikhomirov and V. Orlovich

B. I. Stepanov Institute of Physics, Nezalezhnasti ave,Minsk, Belarus

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Saint-Petersburg State University of Information Technology, Mechanics, and Optics 14 Sablinskaya st., 197101, Saint-Petersburg, Russia

B.I.Stepanov Institute of Physics, National Academy of Sciences of Belarus

68 Nezalezhnasti ave., 220072 Minsk, Belarus

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B.I.Stepanov Institute of Physics, National Academy of Sciences of Belarus

68 Nezalezhnasti ave., 220072 Minsk, Belarus

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[1] *SATIE / D'Alembert Institute / ENS Cachan, France.*

[2] *Institute for Material Sciences, VAST, Vietnam.*

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Hamamatsu Photonics Corporation, Higashi-ku, Hamamatsu City, 431-3196, Japan

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Faculty of Engineering, Multimedia University, Cyberjaya 63100, Selangor, Malaysia

Department of Physics, Faculty of Science, Universiti Malaya, 50603 Kuala Lumpur

Institute of Physics, Norwegian University of Science and Technology,Norway

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Institute of Laser Physics SB RAS, Novosibirsk, 630090, Russia

Institute of Physics, NAS of Belarus, Belarus

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Department of Physics, Faculty of Science, Prince of Songkla University, Thailand

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Center for Quantum Electronics, Institute of Physics, VAST, Hanoi, Vietnam

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Center for Quantum Electronics, Institute of Physics, VAST, Hanoi, Vietanm

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Center for Quantum Electronics, Institute of Physics, VAST, Hanoi, Vietnam

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Nguyen Trong Nghia, Do Quoc Khanh, N. Dai Hung, A.S. Grabchikov, V. A. Orlovich

Center for Quantum Electronics, Institute of Physics, VAST, Hanoi, Vietnam

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Center for Quantum Electronics, Institute of Physics, VAST, Hanoi, Vietnam

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Stanislav D. Zakharov and Nguyen Cong Thanh

P. N. Lebedev Physical Institute, Russian Academy of Sciences, Moscow, Russia

Institute of Physics, VAST, Hanoi, Vietnam

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Center for Quantum Electronics, Institute of Physics, VAST, Hanoi, Vietnam

hai Nguyen University of Science, Quyet Thang, Thai Nguyen city, Vietnam

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Institute of Materials Science, VAST, Vietnam

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Hue University,3 Le Loi street,Hue City,Vietnam

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National Center for Technology Progress, NACENTECH, Hanoi, Vietnam

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National Centre for Laser Technology (NACENLAS), National Centre for Technological Progress (NACENTECH), C6 Thanh Xuan Bac, Hanoi, Vietnam

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Ho Quang Quy, Nguyen Thi Thanh Tam

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Pham Tran Tuan Anh, Ho Anh Tam, Le Dinh Nguyen

National Centre for Laser Technology (NACENLAS),NACENTECH, Vietnam

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Institute of Materials Science, Vietnamese Academy of Science and Technology

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HCMC University of Pedagogy, Ho Chi Minh City.VN

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Tran Hung Dao Hospital, 1- Tran Hung Dao, Hanoi, Vietnam

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Military Central Hospital, Hanoi

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Institute of Physics, VAST, Hanoi

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Center for Quantum Electronics, Institute of Physics, VAST.

P-33. **APPLICATION OF QUENCHING CAVITY IN THE DISTRIBUTED FEEDBACK LASER TO GENERATE TUNABLE PICOSECOND PULSES**

Doan Hoai Son [(a)], Do Quang Hoa[(b)]

[(a)] Faculty of physics, Vinh University, Vietnam

[(b)] Center for Quantum-Electronics, Institute of Physics, Vietnam.

P-34. **IONIZATION AND DISSOCIATION PROCESSES OF PYRROLIDINE IN INTENSE FEMTOSECOND LASER FIELD**

Hirobumi Mineo[1], Yuri A. Dyakov[2], Yoshiaki Teranishi[3], Sheng Der Chao[1], A.M. Mebel[4], and Sheng Hsien Lin[3],lQiaoqiao Wang[5], et al. [5 1]

National Taiwan UniVersity, Taiwan.

December 5, 2009 (Saturday)

Chairperson: Prof. Dr. Hiroyuki Daido (JAEA, Japan)

(S-01)

08:30 – 09:05 **HIGH HARMONIC GENERATION BY A TWO-COLOR SYNTHESIZED FIELD OF A TERAWATT SUB-10-FS CPA SYSTEM OF TI:SAPPHIRE LASER**

A. Amani Eilanlou, Y. Nabekawa, K. L. Ishikawa, H. Takahashi, E. J. Takahashi, and K. Midorikawa

RIKEN, 2-1 Hirosawa, Wako-shi, Saitama 351-0198, Japan

(S-02)

09:05 – 09:35 **THEORETICAL AND EXPERIMENTAL INVESTIGATION ON FREQUENCY TUNING OF FEW-CYCLE FEMTOSECOND PULSES BY ALIGNED MOLECULE**

Qihuang Gong, Fengjiao Zhong, Yongkai Deng, Hongbing Jiang

Peking University, Beijing, P. R. China

(S-03)

09:35 – 09:55 **PHOTONIC PACKAGING AT INSTITUTE OF MATERIALS SCIENCE IN HANOI, VIETNAM**

Vu Doan Mien, Vu Van Luc, Pham Van Truong, Vu Thi Nghiem and Tong Quang Cong

Institute of Materials Science, VAST

(S-04)

09:55 – 10:15 **THE ROAD MAP OF ADVANCE LASER SCIENCE IN UTM**

Noriah Bidin

Universiti Teknologi Malaysia UTM, Johor, Malaysia

10: 15 – 10: 30 **Coffee break**

Chairperson: Prof. Dr. Ken-ichi Ueda, (Uni. EC, Tokyo,Japan)

(S-05)

10:30 – 11:05 **REVIEW ON HIGH INTENSITY LASER DRIVEN PARTICLE ACCELERATION AND RELATED TOPICS AT JAEA**

Hiroyuki Daido

Advanced Photon Research Center, JAEA, Kizugawa, Kyoto, Japan.

(S-06)

11:05 – 11:35 **HIGH-ORDER HARMONICS OF CARRIER-ENVELOPE PHASE CONTROLLED FEW-CYCLE LASER PULSE FOR TIME-RESOLVED SPECTROSCOPY**

Hidetoshi Nakano, Katsuya Oguri, and Atsushi Ishizawa

NTT Basic Research Laboratories, NTTC, Japan

(S-07)

11:35 -12:05 **ELECTRON CORRELATION IN DOUBLE ABOVE THRESHOLD IONIZATION OF HELIUM**

Zheng Zhang, Liang-You Peng, Toru Morishita, and Qihuang Gong

Peking University, Beijing, China

University of Electro-Communications, Tokyo, Japan

(S-08)

12:05 -12:35 **NEW LASER-OPTICAL TECHNOLOGY OF TISSUE OXYGENATION AND ITS APPLICATION IN INCREASING THE EFFICIENCY OF PHOTODYNAMIC THERAPY FOR ONCOLOGY**

Asimov M.M, Nguyen Cong Thanh,

Institute of Physics National Academy of Science of Belarus, Minsk,

**Institute of Physics and Electronics, VAST.*

Buffet Lunch

Chairperson: Prof. Dao Van Lap (Swinburn University, Australia)

(S-09)

13:30 – 14:05 **GENERATION OF BEAMS WITH NEAR-DIFFRACTION FREE PROPAGATION CHARACTERISTICS IN Yb: YAG LASER USING AN INTRA-CAVITY LENS WITH SPHERICAL ABERRATION**

Manasadevi P Thirugnanasambandam, Yuri Senatsky, Akira Shirakawa, Ken-ichi Ueda

University of Electro-communications, Chofu, Tokyo, Japan

(S-10)

14:05 – 14:35 **EFFICIENT, HIGH-PULSE-ENERGY, REPEATABLE, CRYOGENIC YB:YAG MOPA SYSTEM**

Junji Kawanaka, Yasuki Takeuchi, Takuya Nakanishi, Ryo Yasuhara, Toshiyuki Kawashima and Hirofumi Kan

Osaka University, Japan. Hamamatsu Photonics K. K., Japan.

(S-11)

14:35 – 14: 55 **DIODE-PUMPED PASSIVELY MODE-LOCKED Nd:YVO_4 LASERS OF LOW PULSE REPETITION RATE**

Do Quoc Khanh, N. Trong Nghia, N. Viet Tiep, Pham Long, V.A. Orlovich and N Dai Hung

Center for Quantum Electronics, Institute of Physics, VAST, Vietnam

B.I. Stepanov Institute of Physics NAS Belarus,

(S-12)

14:55 – 15:15 **OPTICAL TRAP USING TWO COUNTER-PROPAGATING PULSED GAUSSIAN BEAMS**

Ho Quang Quy, Hoang Dinh Hai

Journal of Military Sciences and Technology

Pedagogical College of Nghean, Nghe An Province

15:15 – 15:30 **Coffee break**

Chairperson: Prof. Dr. V. A. Orlovich (IOP, Belarus)

(S-13)

15:30 – 16:00 **PROSPECTS OF LASER USE FOR SENSITIZER-FREE CANCER THERAPY**

Stanyslav D. Zakharov

P.N. Lebedev Physical Institute, Moscow, Russia

(S-14)

16:00 – 16:30 **FOTODITAZIN® FROM RUSSIA – PHOTOSENSITIZER OF THE NEW GENERATION**

Andrey V. Ivanov

N.N.Blokhin Russian Cancer Research Center of the Russian Academy of Medical Science, Russia,

(S-15)

16:30 – 17:00 **MODERN X-RAY LASERS**

Karol Adam Janulewicz, Chul Min Kim.

APRI, GIST, Korea

17: 00 – 17:30 **CLOSING MEETING**

18: 00 -20:00 **CONFERENCE PARTY at MOD Place Hotel**