

**2001 PARTICLE ACCELERATOR  
CONFERENCE**

CHICAGO, ILLINOIS USA

JUNE 18-22, 2001

HYATT REGENCY CHICAGO HOTEL

**INTRODUCTION**

The 2001 Particle Accelerator Conference, the 19th biennial conference of this series, is hosted by Argonne National Laboratory, Fermi National Accelerator Laboratory, and Oak Ridge National Laboratory, and organized by the PAC2001 Organizing Committee. The conference will cover new developments in all aspects of the science, technology, and use of accelerators. The program will include invited talks and both oral and poster contributed papers. Over 1600 abstracts have been received.

This conference is held under the joint auspices of the Institute of Electrical and Electronics Engineers through its Nuclear and Plasma Sciences Society and the American Physical Society through its Division of Physics of Beams, and is supported in part by the U.S. Department of Energy, the National Science Foundation, and the Office of Naval Research.

The PAC2001 Conference Chair is Yanglai Cho, ANL and ORNL, and the Program Committee Chair is Gerald Jackson, FNAL. The Conference Coordinator is Catherine Eyberger, ANL.

**CONFERENCE VENUE**

The address and telephone numbers of the conference hotel are:

Hyatt Regency Chicago  
151 East Wacker Drive  
Chicago, Illinois 60601 U.S.A.

Telephone: 1 312.565.1234  
Fax: 1 312.565.2966

**REGISTRATION/INFORMATION DESK  
(BALLROOM LEVEL, EAST TOWER)**

The Registration/Information Desk is located on the Ballroom Level of the hotel. Registration materials (i.e., Conference badge, Conference program booklet, banquet and lab tour tickets) will be available at the Registration Desk. Representatives from **On the Scene** and the **Chicago Office of Tourism** will also be there to help you enjoy your Chicago experience. The hours are:

Sunday, June 17	15:00 - 19:00
Monday-Friday, June 18-22	08:00 - 17:00

The fee for late registration (after May 18) is \$450.00. For participants whose registration fees were not received in full by the conference organization, the difference will be requested of them upon registration at the conference. Payment at the Registration Desk must be by credit card (VISA, MasterCard), check (US\$), or in cash (US\$).

The conference fee includes the Sunday Welcome Reception and Tuesday evening's Award Reception and Ceremony. Tickets for the conference Banquet on Thursday and the ANL/FNAL Tour on Saturday may be purchased, if available, through Monday, June 18.

A message board will be located near the Registration Desk.

*If you need assistance*, please ask anyone wearing a **YELLOW** conference badge (LOC staff member).

**SECURITY AND INSURANCE**

Participants are asked not to leave their belongings unattended and to wear their conference badges at all times. The conference organizers cannot accept liability for personal injuries sustained, or for loss of, or damage to, property belonging to conference participants (or accompanying persons), either during or as a result of the conference. Please check the validity of your own insurance.

**SOCIAL PROGRAM**

**Welcome Reception, Sunday, June 17, 2001**  
All conference attendees and companions are invited to a Welcome Reception in the Grand Ballroom from 18:30 to 21:30.

**Awards Reception and Ceremony, Tuesday, June 19, 2001** All attendees are invited to the Awards Reception (18:00-19:00) and Ceremony (19:00-21:00), which will be held in the Foyer and the Grand Ballroom.

**Banquet, Thursday, June 21, 2001** A cash bar beginning at 19:00 will precede the banquet in the Grand Ballroom; the banquet will begin at 19:45. The after dinner speaker will be:

Dr. Hermann A. Grunder of  
Argonne National Laboratory  
speaking on  
"Building on the Successes of Accelerator  
Physicists and Engineers."

The cost is \$70.00 per person and is not included in the registration fee. A limited number of tickets may be available for purchase at the Registration Desk on Monday, June 18.

### **COMPANIONS' PROGRAM**

**Companion Get Acquainted Reception, Monday, June 19, 2001** A reception for companions will be held in the Companions' Hospitality Room (Columbus Hall A-B, Ballroom Level) from 08:30 to 10:30 in order for conference companions to meet and socialize. A continental breakfast will be served.

Daily advanced-registration tours are offered through a private company, **On the Scene**. In addition, representatives from **On the Scene** and the **Chicago Office of Tourism** will be available at the Registration Desk to help with other sightseeing arrangements.

### **GROUND TRANSPORTATION**

#### **AROUND CHICAGO AND TO AIRPORTS:**

Taxicab service: Taxicabs are available outside the main hotel entrance. Rates are \$1.90 for one person to enter the cab, \$.50 for each additional person. At flag drop, rates are \$1.60 for every mile and \$2.00 for every 45 seconds the taxi is at a standstill.

Public transportation: See Chicago CTA web site for elevated train and bus route information

and schedules.

<http://www.transitchicago.com/>

**To AIRPORTS:**

Airport Express Bus Service: To O'Hare: the Continental Bus leaves the Hyatt every 30 minutes; no reservations are required. To Midway: call 1.312.454.7600 or 1.800.654.7871 for reservations one day prior to flight time.

Limousine service: Reservations for limousine rides to Midway or O'Hare Airports can be made at the Hyatt Concierge's Desk.

**ACCELERATOR PRIZES**

**2001 APS Robert R. Wilson Prize**

*To recognize and encourage outstanding achievement in the physics of particle accelerators—a prize of the American Physical Society sponsored by the APS Division of Particles and Fields and the friends of R. R. Wilson.*

Awarded to: **Claudio Pellegrini,**  
University of California in Los Angeles

"For his pioneering work in the analysis of instabilities in electron storage rings, and his seminal and comprehensive development of the theory of free electron lasers."

**2001 IEEE NPSS Particle Accelerator Science and Technology Awards**

*An award of the Particle Accelerator Conference given on behalf of the Nuclear and Plasma Sciences Society of the IEEE and sponsored by the NPSS. Two awards to recognize outstanding contributions to the development of Particle Accelerator Technology.*

Awarded to: **John T. Seeman,**  
Stanford Linear Accelerator Center

"For his outstanding leadership of the accelerator physics of the design, construction, and commissioning of the highly successful PEP II positron-electron asymmetric collider."

Awarded to: **Lloyd M. Young,**  
Los Alamos National Laboratory

"For his invention, development, and beam line operation of the resonantly-coupled RFQ structure and the methods used to tune it and other RFQ structures."

**2001 APS Award for Outstanding Doctoral Thesis Research in Beam Physics**

*An award of the American Physical Society sponsored by the Division of Beam Physics and Universities Research Association (URA).*

Awarded to: **Shyam Prabhakar,**  
Stanford University

"For his pioneering development of beam instability formalisms and diagnostics based on transient-domain beam measurements."

**2001 U.S. Particle Accelerator School Prize for Achievement in Accelerator Physics and Technology**

*A prize of the Board of Governors of the U.S. Particle Accelerator School sponsored by URA, SURA, Varian-Vacuum Products, Westinghouse Electric Corporation, and John Wiley & Sons, publishers.*

Awarded to: **Tor Raubenheimer,**  
Stanford Linear Accelerator  
Center

"For the development of emittance control techniques for high performance electron-positron linear collider and storage rings, and for his leadership role in the development of a second generation linear collider."

Awarded to: **Dieter Möhl,**  
CERN

"For outstanding contributions to stochastic and electron cooling and to counteracting intensity limitations in accelerators, and for his impact on the conception, design and operation of low-energy storage rings for ions and antiprotons."

**APS/IEEE Student Travel Awards**

This year, for the first time, PAC awarded travel grants to worthy graduate students to defray some of their travel expenses. The funds for these grants were given to the conference by the Executive Committee of the Division of Physics of

Beams of the American Physical Society in honor of Dr. Melvin Month, past Secretary/Treasurer of the APS/DPB, and by the Administrative Committee of the Nuclear and Plasma Science Society (NPSS) of the Institute of Electrical & Electronics Engineers, Inc.

Awarded to:

**Nikolai Bondarenko**, Kharkov National  
University, Kharkov, Ukraine

**Kirk Flippo**, University of Michigan, Ann Arbor,  
Michigan

**Jiankui Hao**, Peking University, Beijing, P.R.  
China

**Jinhyung Lee**, University of Colorado, Boulder,  
Colorado

**Andrea Mostacci**, Universita di Roma/CERN,  
Geneva, Switzerland

**Sergey Perezhgin**, Kharkov State University/  
NSC/KIPT, Kharkov, Ukraine

**Stefano Redaelli**, University of Milan/CERN,  
Geneva, Switzerland

**Sergey Shchelkunov**, Columbia University,  
New York, New York

**Mikhail Smolyakov**, Moscow State University,  
Moscow, Russia

**Kiran Sonnad**, University of Colorado, Boulder,  
Colorado

**Florian Sonnemann**, Rheinisch-Westfälische  
Technische Hochschule/CERN, Geneva,  
Switzerland

**Carsten Welsch**, University of Frankfurt, Maintal,  
Germany

**Robert Zwaska**, University of Texas, Austin,  
Texas

### **Newly Elected Fellows of the American Physical Society**

**Yanglai Cho**, Argonne National Laboratory

"For continuing excellent contributions to high energy physics experiments and technology, and to the design and commissioning of large accelerator facilities."

**Efim Gluskin**, Argonne National Laboratory

"For his contributions to the development, construction and characterization of insertion devices for 3<sup>rd</sup> generation synchrotron radiation sources and free-electron lasers."

**Shin-ichi Kurokawa**, High Energy Accelerator Research Organization (KEK)

"For major contributions to accelerator development, including synchrotrons and colliders; for his leadership of the Japanese B-Factory; for fostering accelerator education; and for promotion of international collaboration in accelerator science."

**Patrick G. O'Shea**, University of Maryland

"For pioneering experiments in the development of the physics, technology, and applications of high-brightness ion and electron beams, and free-electron lasers."

**Tor O. Raubenheimer**, Stanford Linear Accelerator Center

"For significant contributions to understanding the physics of electron storage rings and linear accelerators and leadership in the design and development of electron-positron linear colliders."

**Michael S. Zisman**, Lawrence Berkeley National Laboratory

"For his key role in storage ring designs of synchrotron radiation sources and electron-positron factories, authoring the ZAP design code and in the design, construction and commissioning of the PEP-II/LER."

## **SCIENTIFIC PROGRAM**

The scientific program outline and abstracts are found later in this book. The main components of the scientific program are described below.

### **ORAL PRESENTATIONS (GRAND BALLROOM, BALLROOM LEVEL)**

Oral presentations take place in the Grand Ballroom every morning and afternoon. Plenary sessions on Monday morning and Friday afternoon will be held in half of the Grand Ballroom. For all other sessions, the Grand Ballroom will be split into two or three smaller rooms as described in the conference program on the back cover of this book and indicated on the hotel maps in this book.

Every oral presentation is assigned a code with a 4-letter prefix followed by a 3-digit sequence number. The first letter indicates the day

[M,T,W,R,F]; the second letter, O, indicates Oral presentation; the third letter indicates morning or afternoon session [A,P]; and the fourth letter indicates location [L=plenary, A=Session A, B=Session B, C=Session C].

**POSTER SESSIONS  
(RIVERSIDE CENTER EAST, EXHIBITION HALL  
LEVEL)**

Poster sessions will be held in the Riverside Center on the Exhibition Hall Level, which is directly below the Columbus Rooms.

Posters are split into eight sessions and will take place each morning (08:30-12:20) and afternoon (13:30-17:20) except during the opening and closing plenary sessions on Monday morning and Friday afternoon. Every poster is assigned a code with a 4-letter prefix followed by a 3-digit sequence number. The first letter indicates the day [M,T,W,R,F]; the second letter, P, indicates Poster presentation; the third letter indicates morning or afternoon session [A,P]; and the fourth letter indicates location [H=Exhibition Hall]. Note: Poster numbers above 300 are assigned to authors who requested a network connection for their presentation. These posters are located in a special section near the front of the poster hall.

Each poster is presented on a 4-ft-high by 8-ft-wide cork board mounted on 3-ft-long legs. Poster session managers are available in the poster room to assist presenters with mounting their posters. Posters are mounted during the half hour preceding the designated session:

	Morning	Afternoon
Setup:	08:00-08:30	13:00-13:30
Presentation:	08:30-12:00	13:30-17:00
Take Down:	12:00-12:20	17:00-17:20

To ensure publication, presenter attendance is required during the following time periods:

	Morning	Afternoon
Odd-numbered posters:	08:30-10:00	13:30-15:00
Even-numbered posters:	9:30-11:00	14:30-16:00

*Please remove posters immediately at the end of the session.*

**PROCEEDINGS OFFICE  
(COLUMBUS HALL C-F, BALLROOM LEVEL)**

The conference proceedings will be published in hard-copy volumes, on CD-ROM, and on the web. Authors are required to submit their papers via web upload. The final deadline for contributions is at the conference. Authors who arrive at the conference with a disk will be asked to go to the E-mail Room to submit their files via the web. Assistance will be available.

Authors are still required to submit a hard copy of the paper, with the session ID listed at the top, to the Proceedings Office. The Proceedings Office is located in Columbus Hall C-F. The hours are:

Sunday	15:00-19:00
Monday	07:30-08:30 and 12:30-19:00 *
Tuesday	08:00-19:00
Wednesday	08:00-19:00
Thursday	08:00-18:00
Friday	08:00-13:00 *

\*Please note that the Proceedings Office will not accept paper submissions during the opening and closing plenary sessions.

The editorial staff will process papers before and during the conference. Files will be processed quickly, and authors will be informed of their acceptance or any problems via a paper status board located outside the Proceedings Office.

**E-MAIL ROOM  
(COLUMBUS HALL I-L, BALLROOM LEVEL)**

An e-mail room, located in Columbus Hall I-L, is available for you to check your e-mail, submit papers, or correct problems with your paper that the Proceedings staff has found. It contains PCs, Macs, and laptop ports. The hours are:

Sunday	15:00-19:00
Monday	07:30-08:30 and 12:30-19:00 *
Tuesday	08:00-19:00
Wednesday	08:00-19:00
Thursday	08:00-18:00
Friday	08:00-13:00 *

\*Please note that the e-mail room will be closed during the opening and closing plenary sessions.

**ANL/FNAL TOUR (SATURDAY, JUNE 23)**

On Saturday, June 23, 2001 a tour of both Argonne National Laboratory and Fermi National Accelerator Laboratory will begin at the Hyatt Regency Chicago Hotel. Buses will begin to load on the Plaza Level, East Tower, at the main lobby exit at 08:00 and depart at 08:30. They will return to the hotel by 17:00. The cost of the tour is \$25.00, which includes lunch and transportation. Reservations are required, and space is limited. Any tickets still available may be purchased at the Registration Desk on Monday, June 18.

**Please note:** All foreign nationals (non-U.S. citizens) are required to provide citizenship information in order to be admitted to the Argonne National Laboratory site. **All non-U.S. citizens going on this tour must complete the citizenship information form (available on the PAC2001 web page) before the start of the conference.**

**INDUSTRIAL EXHIBITS  
(RIVERSIDE CENTER EAST, EXHIBITION HALL  
LEVEL)**

The industrial exhibits will be open Monday and Tuesday from 09:00 to 17:00 and Wednesday from 09:00 to 15:00 in the Riverside Center East on the Exhibition Hall Level. The list of exhibitors registered at the time this book went to press is given below.

Accel Instruments GmbH  
AccelSoft Inc.  
Advanced Energy Systems, Inc.  
Advanced Ferrite Technology, Inc.  
Advanced Research Systems, Inc.  
Advent Associates  
Alpha Scientific Electronics Inc.  
Alstom, MSA  
American Magnetics  
Amuneal Manufacturing Corp.  
Atlantic Microwave  
Atlas Technologies  
Bergoz  
Bruker Analytik GmbH  
Ceramic Magnetics, Inc.  
CML Engineering Sales, Inc.  
Copley Controls Corp.  
CPI Inc.  
Danfysik

Diversified Technologies  
GMW Associates  
Goodfellow Corporation  
Hitec/Vonk/Incaa  
Janis Research Company, Inc.  
Kimball Physics Inc.  
Lambda EMI  
Leybold Vacuum USA  
Marconi Applied Technologies  
Mega Industries, LLC  
Meyer Tool & Mfg., Inc.  
National Nuclear Corporation Limited  
PHPK Technologies  
Pulse Power & Measurement Ltd.  
SAES Getters/USA, Inc.  
SDMS (France)  
SIGMAPHI  
Simulation Technology & Applied Research, Inc.  
Struck Innovative Systems  
Synergy Vacuum, Inc.  
Tesla Engineering Ltd.  
Thermo Vacuum Generators, Inc.  
Thomson Components and Tubes Corp.  
Varian Vacuum Technologies  
Vector Fields Inc.

*The 2001 Particle Accelerator Conference gratefully acknowledges Tesla Engineering Ltd. (Water Lane, Storrington, Sussex RH20 3EA, United Kingdom) for sponsorship of the conference bags.*

**SATELLITE MEETINGS \***

**Saturday, June 16:**

18:00-23:59

APS Division of Physics of Beams Nomination  
Committee

Contact: Ilan Ben-Zvi, ilan@bnl.gov

18:00-23:59

APS Division of Physics of Beams Fellowship  
Committee

Contact: Ilan Ben-Zvi, ilan@bnl.gov

**Sunday, June 17:**

08:30-11:30

USPAS Program Committee Meeting

Contact: S. Y. Lee, shylee@indiana.edu

**PAC 2001  
Chicago, IL**

**GENERAL CONFERENCE  
INFORMATION**

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12:00-16:00

International Accelerator School Meeting  
Contact: S. Y. Lee, shylee@indiana.edu

18:00-23:59

APS Division of Physics of Beams Executive  
Committee  
Contact: Ilan Ben-Zvi, ilan@bnl.gov

18:30-23:00

USPAS Board of Governors Meeting  
Contact: S. Y. Lee, shylee@indiana.edu

**Monday, June 18:**

17:30-18:30pm

APS Division of Physics of Beams Business  
Meeting  
Contact: Ilan Ben-Zvi, ilan@bnl.gov

17:30-19:30

Accelerator Power Technology Meeting  
Contact: J. Carwardine,  
carwar@aps.anl.gov

**Tuesday, June 19:**

12:00-14:30

PRST-AB Editorial Board Meeting  
Contact: Barbara Maddaloni;  
barb@aps.org

12:30-15:00

LINAC2002 IOC Committee  
Contact: Moo-Hyun Cho,  
mhcho@postech.ac.kr

15:30-17:30

APS "Meet the Editors"  
Contact: Barbara Maddaloni,  
barb@aps.org

**Wednesday, June 20:**

12:00-14:00

PACCC OC Chairs Meeting  
Contact: Yanglai Cho, choy@sns.gov

17:30-19:30

Superconducting RF Workshop OC Meeting  
(SRF2001)

Contact: Shuichi Noguchi,  
shuichi.noguchi@kek.jp

18:00-21:00

PAC2001 Organizing Committee Dinner  
Meeting

Contact: Yanglai Cho, choy@sns.gov

18:00-21:00pm

ICFA Working Group on High Intensity  
Hadron Beams

Contact: Weiren Chou, chou@fnal.gov

**Thursday, June 21:**

12:00-15:00

JACoW Meeting

Contact: Christine Petit-Jean-Genaz,  
Christine.Petit-Jean-Genaz@cern.ch

13:00-15:00

ICFA Beam Dynamics Panel

Contact: John Jowett,  
John.Jowett@cern.ch

\*More Satellite Meetings may have been scheduled after this book went to the printer. A complete listing with room locations is included in the conference bag.



**Session MOAL: Opening Plenary**

**Grand Ballroom at 8:30**

**Session Chairs: R. Davidson and G. Jackson**

**MOAL001 RHIC Commissioning and First Results (Invited)**

*Satoshi Ozaki (Brookhaven National Laboratory)*

**MOAL002 B-Factory Commissioning and First Results (Invited)**

*Shin-ichi Kurokawa (High Energy Accelerator Research Organization)*

**MOAL003 New Developments on Free Electron Lasers Based on Self-Amplified Spontaneous Emission (Invited)**

*Jörg Rossbach (Deutsches Elektron Synchrotron)*

**MOAL004 The Spallation Neutron Source: A Powerful Tool for Materials Research (Invited)**

*T.E. Mason (Spallation Neutron Source)*

**Session MOPA: High Energy Hadron Accelerators  
and Colliders (1 of 2)**

Grand Ballroom (Session A) at 13:30  
Session Chairs: S. Ozaki and F. Willeke

**MOPA001 Luminosity Upgrades for the Tevatron  
Collider (Invited)**

*Shekhar Mishra (Fermi National Accelerator Laboratory)*

**MOPA002 Status and Challenges of the LHC  
Construction (Invited)**

*Ranko Ostojic (CERN)*

**MOPA003 Beam Lifetime and Emittance Growth  
Measurements of Gold Beams in RHIC at Storage**

*Wolfram Fischer, Mike Brennan, Roger Connolly, Angelika Drees, Ray Fyller, Steve Tepikian, Johannes van Zeijts (Brookhaven National Laboratory)*

**MOPA004 Commissioning and Future Plans for  
Polarized Protons in RHIC**

*William MacKay, Leif Ahrens, Mei Bai, Gerry Bunce, Ernest Courant, Abhay Deshpande, Angelika Drees, Wolfram Fischer, Haixin Huang, Kazu Kurita, Andreas Lehrach, Alfredo Luccio, Yousef Makdisi, Fulvia Pilat, Vadim Ptitsin, Thomas Roser, Naohito Saito, Todd Satogata, Steven Tepikian, Dejan Trbojevic, N. Tsoupas, Johannes van Zeijts (Brookhaven National Laboratory), H. Spinka, D. Underwood (Argonne National Laboratory), Igor Alekseev V. Kanavets, D. Svirida, (ITEP), B. Lozowski, Vahid Ranjbar (Indiana University), J. Tojo (Kyoto University), K. Imai (Kyoto University, Japan), D. Fields (Univ. of New Mexico, NM, USA)*

**MOPA005 Status of the Fermilab Main Injector**

*Kiyomi Koba (Fermi National Accelerator Laboratory)*

**MOPA006 The Fermilab Recycler Ring**

*Martin Hu, et al. (Fermi National Accelerator Laboratory)*

**Session MOPA: High Energy Hadron Accelerators  
and Colliders (2 of 2)**

Grand Ballroom (Session A) at 15:40  
Session Chairs: S. Ozaki and F. Willeke

**MOPA007 VLHC: The Farthest Energy Frontier  
(Invited)**

*William A. Barletta (Lawrence Berkeley National Laboratory)*

**MOPA008 Accelerator Physics Issues for Future Electron-Ion Colliders (Invited)**

*Steve Peggs, Ilan Ben-Zvi, Jorg Kewisch, James Murphy (Brookhaven National Laboratory)*

**MOPA009 Intra-Beam Scattering Scaling for Very Large Hadron Colliders**

*Jie Wei (Brookhaven National Laboratory)*

**MOPA010 Skew-Quadrupole Focusing Lattices and Their Applications**

*Brett Parker (Brookhaven National Laboratory)*

**MOPA011 Electron Cooling for RHIC**

*Ilan Ben-Zvi, Leif Ahrens, Michael Brennan, Michael Harrison, Joerg Kewisch, William MacKay, Stephen Peggs, Thomas Roser, Todd Satogata, Dejan Trbojevic, Vitaly Yakimenko (Brookhaven National Laboratory), Ivan Koop, Vasily Parkhomchuk, Vladimir Reva, Yuri Shatunov, Alexander Skrinsky (Budker Institute of Nuclear Physics)*

**MOPA012 Recent Beam Study Results of POP FFAG Proton Synchrotron**

*Masahiro Yoshimoto, Toshikazu Adachi, Masamitsu Aiba, Kiyomi Koba, Shinji Machida, Yoshiharu Mori, Ryouzaku Muramatsu, Chihiro Ohmori, Izumi Sakai, Yasuo Sato, Masahiro Sugaya, Akira Takagi, Ryouichi Ueno, Takeichiro Yokoi, Masato Yoshii, Yoshimasa Yuasa (High Energy Accelerator Research Organization)*

**Session MOPB: Sources and Injectors (1 of 2)**

**Grand Ballroom (Session B) at 13:30**

**Session Chairs: G. Alton and P. O'Shea**

**MOPB001 Review of Polarized H<sup>+/-</sup> and D<sup>+/-</sup> Ion Source Technology (Invited)**

*Thomas Clegg (University of North Carolina-Chapel Hill and Triangle Universities Nuclear Laboratory)*

**MOPB002 Efficient Ion Sources for Radioactive Ion Beam Generation (Invited)**

*Gerald Alton (Oak Ridge National Laboratory)*

**MOPB003 Progress in the Operation of a High Intensity EBIS at BNL**

*James Alessi, Edward Beebe, Omar Gould, Ahovi Kponou, Alexander Pikin, Krsto Prelec, John Ritter (Brookhaven National Laboratory)*

**MOPB004 Design of the Extraction System and Beamline of the Superconducting ECR Ion Source VENUS**

*Matthaeus Leitner, S.R. Abbott, C.M. Lyneis, R.A. MacGill, C.E. Taylor, D.C. Wutte (Lawrence Berkeley National Laboratory)*

**MOPB005 Progress with the SNS Front-End Systems**

*Roderich Keller (Lawrence Berkeley National Laboratory)*

**MOPB006 Progress in Flat Electron Beam Production**

*Don Edwards, Helen Edwards, Sergei Nagaitsev (Fermi National Accelerator Laboratory), Reinhard Brinkmann, Kai Desler, Klaus Floettmann (Deutsches Elektron Synchrotron), Massimo Ferrario (Istituto Nazionale di Fisica Nucleare)*

**Session MOPB: Sources and Injectors (2 of 2)**

**Grand Ballroom (Session B) at 15:40**

**Session Chairs: G. Alton and P. O'Shea**

**MOPB007 Ion Sources for High Resolution Nanofabrication and Lithography (Invited)**

*John Melngailis (University of Maryland)*

**MOPB008 Progress and Future Direction in Brightness Electron Sources (Invited)**

*X.J. Wang (Brookhaven National Laboratory)*

**MOPB009 Emittance Measurements at the TTF Photoinjector**

*Siegfried Schreiber, Katja Honkavaara, Philippe Piot, Daniele Sertore (Deutsches Elektron Synchrotron), Alessandro Cianchi (Istituto Nazionale di Fisica Nucleare)*

**MOPB010 Commissioning of the Neptune Photoinjector**

*Scott Anderson, Ron Agustsson, Salime Boucher, Alex Burke, Chris Clayton, Joel England, Mike Loh, Pietro Musumeci, James Rosenzweig, Hyyong Suk, Mathew Thompson (University of California, Los Angeles)*

**MOPB011 Superconducting RF Injector for High-Power Free-Electron Lasers (FEL)**

*Hans Bluem, Alan Todd (Advanced Energy Systems), George Neil (Thomas Jefferson National Accelerator Facility)*

**MOPB012 A High Power and High Repetition Rate Modelocked Ti-Sapphire Drive Laser for Photoinjectors**

*Bernard Poelker, John Hansknecht (Thomas Jefferson National Accelerator Facility)*

**Session MOPC: Advanced Concepts (1 of 2)**

**Grand Ballroom (Session C) at 13:30**

**Session Chairs: D. Edwards and J. Power**

**MOPC001 Monitoring and Manipulation of Sub-Picosecond Beams (Invited)**

*James Rosenzweig (University of California, Los Angeles)*

**MOPC002 First Demonstration of Staged Laser Acceleration (Invited)**

*Wayne Kimura (STI Optronics, Inc.)*

**MOPC003 Progress of the Laser Driven Electron Accelerator Project at Stanford University**

*Tomas Plettner (Stanford University)*

**MOPC004 Parameter Optimizations for Vacuum Laser Acceleration at ATF/BNL**

*Vitaly Yakimenko, Marcus Babzien, Ilan Ben-Zvi, Karl Kusche, Igor Pogorelsky, Xijie Wang (Brookhaven National Laboratory), David Cline, Feng Zhou (University of California, Los Angeles)*

**MOPC005 Transformer Ratio Enhancement Using a Ramped Bunch Train in a Collinear Wakefield Accelerator**

*Wei Gai, Xiang Sun (Argonne National Laboratory), A. Kanareykin (St. Petersburg Electrical Engineering University)*

**MOPC006 Particle-in-Cell Simulations of Gas Ionization by Short Intense Laser Pulses**

*David Bruhwiler, D. Dimitrov (Tech-X Corporation), P.E. Catravas, E. Esarey, W.P. Leemans, B.A. Shadwick (Lawrence Berkeley National Laboratory), P. Mardahl, J.P. Verboncoeur (University of California Berkeley), J.R. Cary, R. Giacone (University of Colorado)*

**Session MOPC: Advanced Concepts (2 of 2)**

**Grand Ballroom (Session C) at 15:40**

**Session Chairs: D. Edwards and J. Power**

**MOPC007 New Developments in Laser Acceleration of Beams (Invited)**

*Donald Umstadter, Sudeep Banerjee, Kirk Flippo, Anatoly Maksimchuk, Ned Saleh, Xiaofang Wang (Center for Ultrafast Optical Science, University of Michigan, Ann Arbor), Kochichi Nemoto (Central Research Institute of Electric Power Industry), Valery Bychenkov (P. N. Lebedev Physics Institute, Moscow)*

**MOPC008 Status of the Plasma Wakefield Acceleration Experiment at the Stanford Linear Accelerator Center (Invited)**

*Patrick Muggli, Thomas C. Katsouleas, Seung Lee (University of Southern California), Ralph Assmann (CERN), Franz-Joseph Decker, Mark J. Hogan, Richard H. Iverson, Pantaleo Raimondi, Robert H. Siemann, Dieter Walz (Stanford Linear Accelerator Center), Brent E. Blue, Christopher E. Clayton, Evan S. Dodd, Chan Joshi, Kenneth A. Marsh, Warren B. Mori, Shuoqin Wang (University of California, Los Angeles)*

**MOPC009 Experimental Investigation of the Positron Plasma Wakefield Accelerator**

*Tom Katsouleas, Franz-Josef Decker, Rick Iverson, Robert Seimann (Stanford Linear Accelerator Center), Ralph Assmann (CERN), Brent Blue, Chris Clayton, Evan Dodd, Chan Joshi, Ken Marsh, Warren Mori, Shoquin Wang (University of California, Los Angeles), Seung Lee, Patrick Muggli (University of Southern California)*

**MOPC010 Ultra High-Gradient Energy Loss by a Pulsed Electron Beam in a Plasma**

*Nikolai Barov, J.-P. Carneiro, H. Edwards, W. Hartung (Fermi National Accelerator Laboratory), M.J. Fitch (Univ. of Rochester), K. Bishofberger, J.B. Rosenzweig (University of California, Los Angeles)*

**MOPC011 Gamma-Neutron Activation Experiments Using Laser Wakefield Accelerators**

*Wim Leemans, Palma Catravas, Rick Donahue, Eric Esarey, Gwenael Fubiani, Cameron Geddes, David Rodgers, Brad Shadwick, Alan Smith, Csaba Toth (Lawrence Berkeley National Laboratory)*

**MOPC012 Optical Guiding of Short Intense Laser Pulses in Plasmas for GeV Electron Acceleration**

*Phillip Sprangle, Richard Hubbard, Christopher Moore, Antonio Ting (Naval Research Laboratory), Bahman Hafizi (Icarus Research, Inc.), Joe Penano (Leading Edge Technologies), Philip Serafim (Northeastern University), Szymon Suckewer (Princeton University)*

**Session MPPH: RF and Accelerator Controls**  
Poster Hall at 13:30

**MPPH001 New APS Storage Ring BPM Timing System Design**

*Frank Lenkszus, Glenn Decker, Robert Laird, Robert Lill, Om Singh (Argonne National Laboratory)*

**MPPH002 Progress in the New APS BPM Memory Scanner**

*Frank Lenkszus, Glenn Decker, Robert Laird, Om Singh (Argonne National Laboratory)*

**MPPH003 Epics Upgrade of IPNS Accelerator Data Acquisition and Control System**

*Garrett Rinehart, Gerald McMichael (Argonne National Laboratory)*

**MPPH004 Switched Reference Phase Lock Loop (SRPLL)**

*Thomas Kerner (Brookhaven National Laboratory)*

**MPPH005 BNL Accelerator Test Facility Control System Upgrade: Strategy, Progress and Future Plans**

*Robert Malone, Ilan Ben-Zvi, Xijie Wang, Vitaly Yakimenko (Brookhaven National Laboratory)*

**MPPH006 Design and Development of the SNS Ring Vacuum Instrumentation and Control Systems**

*Johnny Tang, Hsiao-Chaun Hseuh, Loralie Smart (Brookhaven National Laboratory)*

**MPPH007 An On-line Fuzzy Logic Expert System for Accelerator Subsystem Optimization**

*Johnny Tang, Joanne Beebe-Wang, John Smith (Brookhaven National Laboratory), Kay-Uwe Kasemir (Los Alamos National Laboratory)*

**MPPH008 The RHIC Sequencer**

*Johannes van Zeijts, Ted D'Ottavio, Bartosz Frak (Brookhaven National Laboratory)*

**MPPH009 Control System Design and Upgrade Considerations for the Duke Free-Electron Laser Laboratory**

*Steven Hartman, Vladimir Litvinenko, Igor Pinayev, Gary Swift (Duke University), Ying Wu (Lawrence Berkeley National Laboratory)*

**MPPH010 LLRF Requirements for APT**

*Michael McCarthy (General Atomics)*

**MPPH011 RF Reference Distribution Using Fiber-Optic Links for KEKB**

*Takashi Naito, Kiyokazu Ebihara, Eizi Ezura, Masaaki Suetake (High Energy Accelerator Research Organization)*

**MPPH012 Design and Experience with the WS/HS Assembly Movement Using LabVIEW VIs, National Instrument Motion Controllers, and Compumotor Electronic Drive Units and Motors**

*Dean Barr, Lisa Day, J. Douglas Gilpatrick, Robert B. Shurter, Matthew Stettler, Robert Valdiviez (Los Alamos National Laboratory), Derwin Martinez (General Atomics), Michael Gruchalla, James O'Hara (Honeywell)*

**MPPH013 Principles for Timing at Spallation Neutron Sources Based on Developments at LANSCE**

*Ronald Nelson, Robert Merl, Chris Rose (Los Alamos National Laboratory)*

**MPPH014 Comparison between an In-House vs. a Commercial Control System for Beam Line Control**

*Martin Pieck, Kai-Uwe Kasemir (Los Alamos National Laboratory)*

**MPPH015 The SNS Linac RF Control System**

*Amy Regan, Sung-il Kwon, Tony S. Rohlev, Yi-Ming Wang (Los Alamos National Laboratory), Mark S. Prokop (Honeywell Federal Manufacturing & Technologies), David W. Thomson (Honeywell Federal Manufacturing & Technologies)*

**MPPH016 A Timing-Reference Generator for Power-Grid-Synchronized Neutron-Spallation Facilities**

*Chris Rose, Patrick Lara, Robert Merl, Ronald Nelson (Los Alamos National Laboratory)*

**MPPH017 ALS Software Component Architecture**

*Hiroshi Nishimura, Loren L Shalz (Lawrence Berkeley National Laboratory)*

**MPPH018 The Control System of HLS**

*Weimin Li (National Synchrotron Radiation Lab)*

**MPPH019 Vacuum Monitoring System of HLS Storage Ring**

*Gongfa Liu (National Synchrotron Radiation Lab)*

**MPPH020 SNS Application Programming Plan**

*John Galambos (Oak Ridge National Laboratory)*

**MPPH021 Vacuum Gauge Control System Using Multi Serial Communication Controllers on the Field Network for PAL Storage Ring**

*Yoon Jong-Chel (Pohang Accelerator Laboratory)*

**MPPH022 An Interactive Orbit Control Program in MATLAB**

*William Corbett (Stanford Linear Accelerator Center)*

**MPPH023 A High Stability, Low Phase Noise RF Distribution System**

*Josef Frisch, Dorel Bernstein, David Brown, Eugene Cisneros (Stanford Linear Accelerator Center)*

**MPPH024 Racetrack Microtron Control System**

*Igor Gribov, V.I. Shvedunov, V.R. Yaliyan (World Physics Technologies)*

**MPPH025 Control and Diagnostic Systems for the LNL5 500 MeV Booster Synchrotron**

*James Piton, Ruy H. A. Farias, Guilherme R. S. Franco, Lucia C. Jahnel, Anderson L. Pissetti, Carlos R. Scorzato, Pedro F. Tavares (Laboratório Nacional de Luz Síncrotron)*

**MPPH026 Upgrade of the LNL5 Synchrotron Light Source Timing System**

*Carlos Scorzato, Sergio R. Marques, Ricardo A. D. Rodrigues, Pedro F. Tavares (Laboratorio Nacional de Luz Sincrotron)*

**MPPH027 A Personal Computer-Based Monitoring and Control System for Electron Accelerators**

*Leo Van Ausdeln, Kevin Haskell, Dr. James L. Jones (Idaho National Engineering & Environmental Laboratory)*

**MPPH028 Web Browser Based Applications for the MIT Bates Accelerators**

*Fuhua Wang, Kenneth Jacobs (MIT-Bates Linear Accelerator Center)*

**MPPH029 The IPNS RCS RF System Third Cavity Upgrade**

*Mark Middendorf, Frank Brunwell, Jeffrey Dooling, Marvin Lien, Gerald McMichael (Argonne National Laboratory)*

**MPPH030 The Radiation Environment in and near High Gradient rf Cavities**

*J. Norem (Argonne National Laboratory), S. Geer, A. Moretti, M. Popovic (Fermi National Accelerator Laboratory), N. Solomey (Illinois Institute of Technology)*

**MPPH031 RHIC 28 MHz Accelerating Cavity System**

*James Rose, J.M. Brennan, J. Butler, A. Campbell, S. Kwiatkowski, A. Ratti, R. Spitz, M. Witte (Brookhaven National Laboratory), W. Pirkel (CERN)*

**MPPH032 Conceptual Design of a Capture RF System for Muon Colliders**

*James Rose (Argonne National Laboratory)*

**MPPH033 HOM Damped 500 MHz Cavity Design for 3rd Generation SR Sources**

*Frank Marhauser, Ernst Wehreter (BESSY), Mike Dykes, Peter McIntosh (Daresbury Laboratory), Kwo Ray Chu (National Tsing Hua University)*

**MPPH034 Weakly Coupled Ferrite Frequency Shifters for High-Q RF Cavities**

*J. Berg, Robert B. Palmer (Brookhaven National Laboratory), David Yu (DULY Research Inc.), Simon S. Yu (Lawrence Berkeley National Laboratory)*

**MPPH035 A Two-Cavity Pulse Compression Scheme**

*J. Berg, Robert B. Palmer, Y. Zhao (Brookhaven National Laboratory), David Yu (DULY Research Inc.)*

**MPPH036 Performance of the RHIC RF System**

*Joseph Brennan (Brookhaven National Laboratory)*

**MPPH037 High Level RF for the SNS Ring**

*Alex Zaltsman, Michael Blaskiewicz, Joseph M Brennan, John Brodowski, Marvin Meth, Richard Spitz (Brookhaven National Laboratory)*

**MPPH038 An Alternative Approach to Low RF Accelerator and Power Source**

*Yongxiang Zhao (Brookhaven National Laboratory)*

**MPPH039 Status of CLIC High Gradient Studies**

*Lars Groening, Hans Braun, Steffen Doebert, Ian Wilson, Walter Wuensch (CERN)*

**MPPH040 Slotted Iris Structure Studies**

*Walter Wuensch, Erk Jensen, Igor Syratchev (CERN)*

**MPPH041 A Preliminary Mechanical Design of a 500MHz Accelerating Cavity with Damped High Order Modes**

*Cheryl Hodgkinson, Alex Daly, Douglas Michael Dykes, Peter McIntosh (Daresbury Laboratory)*

**MPPH042 A Possible Upgrade for the SRS RF System**

*Peter McIntosh, Douglas Michael Dykes (Daresbury Laboratory)*

**MPPH043 Experimental Studies of High-Voltage Suppression Effects from Electron Beam Surface Melting of Copper Surfaces**

*David Kehne, L. K. Len, Frederick Mako (FM Technologies)*

**MPPH044 Engineering Design and Prototype Tests of a 3.9 GHz Transverse-Mode Superconducting Cavity for a Radiofrequency-Separated Kaon Beam**

*Mark Champion, Leo Bellantoni, Timothy Berenc, Craig Deibele, Helen Edwards, Michael Foley, Joel Fuerst, Moyses Kuchnir, Allan Rowe (Fermi National Accelerator Laboratory)*

**MPPH045 Design and Prototype Tests of a Large-Aperture 37-53 MHz Ferrite-Tuned Booster Synchrotron Cavity**

*Mark Champion, Timothy Berenc, Michael May, John Reid (Fermi National Accelerator Laboratory)*

**MPPH046 Improving the Linearity of Ferrite Loaded Cavities Using Feedback**

*Joseph Dey, James Steimel (Fermi National Accelerator Laboratory)*

**MPPH047 Narrowband Beam Loading Compensation in the Fermilab Main Injector Accelerating Cavities**

*Joseph Dey, John Reid, James Steimel (Fermi National Accelerator Laboratory)*

**MPPH048 Beam Loading Compensation Requirements for Multibatch Coalescing in Fermilab Main Injector**

*Kiyomi Koba (Fermi National Accelerator Laboratory)*

**MPPH049 Operational Experience with a 7.5 MHz Finemet RF Cavity in Fermilab Main Injector**

*Kiyomi Koba (Fermi National Accelerator Laboratory)*

**MPPH050 A Prototype 7.5 MHz Finemet Loaded RF Cavity and 200 kW Amplifier for the Fermilab Proton Driver**

*David Wildman, Joseph Dey, Ioanis Kourbanis, Zubao Qian (Fermi National Accelerator Laboratory)*

**MPPH051 The DAFNE Third Harmonic Cavity**

*Alessandro Gallo, David Alesini, Roberto Boni, Alberto Clozza, Susanna Guiducci, Fabio Marcellini, Mauro Migliorati, Luigi Palumbo, Luigi Pellegrino, Francesco Sgamma, Mikhail Zobov (Istituto Nazionale di Fisica Nucleare)*

**MPPH052 Synchrotron RF System for JAERI-KEK Joint Project**

*Chihiro Ohmori, Eiji Ezura, Yoshinori Hashimoto, Yoshiharu Mori, Masahito Yoshii (High Energy Accelerator Research Organization), Masanobu Yamamoto (Japan Atomic Energy Research Institute)*

**MPPH053 Development of an Asymmetric Power Divider for a High-Power RF Distribution System at KEK**

*Takeshi Takahashi, Masaaki Izawa, Shogo Sakanaka (High Energy Accelerator Research Organization)*

**MPPH054 Digital Control for KEK-PS MA Loaded RF System**

*Masahito Yoshii, Eiji Ezura, Yoshinori Hashimoto, Yoshiharu Mori, Chihiro Ohmori (High Energy Accelerator Research Organization), Alexander Schnase (COSY) Forschungszentrum Jülich GmbH, Masanobu Yamamoto (Japan Atomic Energy Research Institute)*

**MPPH055 Bridge-Coupler Thermal/Structural Analysis and Resonant Frequency Shift Studies for the SNS CCL**

*Zukun Chen (Los Alamos National Laboratory)*

**MPPH056 Analysis of the Slot Heating of the Coupled Cavity Linac Cavity**

*Snezana Konecni, Nathan Bultman (Los Alamos National Laboratory)*

**MPPH057 Evaluation and Testing of a Low- $\beta$  Spoke Resonator**

*Frank Krawczyk, Dominic Chan, Robert Gentzlinger, Richard LaFave, Mike Madrid, Debbie Montoya, Dale Schrage, Alan Shapiro, Tsuyoshi Tajima (Los Alamos National Laboratory), Ken Shepard (Argonne National Laboratory)*

**MPPH058 Design of a Low- $\beta$  2-Gap Spoke Resonator for the AAA Project**

*Frank Krawczyk, Richard LaFave (Los Alamos National Laboratory)*

**MPPH059 Finite Element Analysis of Thin Beryllium Windows for a Muon Cooling Channel**

*Neal Hartman, John Corlett, Derun Li (Lawrence Berkeley National Laboratory)*

**MPPH060 Electromagnetic, Thermal, and Structural Analysis of RF Cavities Using ANSYS**

*Neal Hartman, Bob Rimmer (Lawrence Berkeley National Laboratory)*

**MPPH061 Beam Impedance Calculation and Analysis of Higher Order Modes (HOMs) in Strongly Damped RF Cavities Using MAFIA in the Time Domain**

*Derun Li, Robert Rimmer (Lawrence Berkeley National Laboratory)*

**MPPH062 Design and Fabrication of an 805 MHz RF Cavity with Be Windows for High RF Power Testing for a Muon Cooling Experiment**

*Derun Li, John Corlett, Robert MacGill, Robert Rimmer (Lawrence Berkeley National Laboratory), M. Booke, D. Summers (University of Mississippi)*

**MPPH063 A High-Power L-Band RF Window**

*Robert Rimmer, Gary Koehler, Tarik Saleh, Richard Weidenbach (Lawrence Berkeley National Laboratory), Karen Cummings (Los Alamos National Laboratory)*

**MPPH064 An RF Cavity for the NLC Damping Rings**

*Robert Rimmer, John Corlett, Neal Hartman, Gary Koehler, Derun Li, Joseph Rasson, Tarik Saleh, Richard Weidenbach (Lawrence Berkeley National Laboratory), Dennis Atkinson (Lawrence Livermore National Laboratory)*

**MPPH065 Closed-Cell 201.25 MHz RF Structures for a Muon Cooling Channel**

*Robert Rimmer, Neal Hartman, Derun Li (Lawrence Berkeley National Laboratory), Tom Jurgens, Al Moretti (Fermi National Accelerator Laboratory), Ed Black (Illinois Institute of Technology)*

**MPPH066 Measurement and Simulation of a 17 GHz Photonic Bandgap Structure for Accelerator Applications**

*Michael Shapiro, Winthrop Brown, Chiping Chen, Jagadishwar Sirigiri, Evgenya Smirnova, Richard Temkin (MIT Plasma Science and Fusion Center)*

**MPPH067 Simulation of Metallic Photonic Bandgap Structures for Accelerator Applications**

*Evgenya Smirnova, Chiping Chen, Michael A. Shapiro, Richard J. Temkin (MIT Plasma Science and Fusion Center)*

**MPPH068 A Damped and Detuned Linear Accelerating Structure with Optimised Manifold-Structure Coupling and a Reduced Accelerating Mode Gr**

*Roger Jones, Roger Miller (Stanford Linear Accelerator Center), Toshiyasu Higo (High Energy Accelerator Research Organization), Norman Kroll (UCSD & SLAC)*

**MPPH069 The Design, Fabrication, and RF Measurements of the First 25 Cell W-Band Constant Impedance Accelerating Structure**

*Dennis Palmer, X. E. Lin, Robert H. Siemann (Stanford Linear Accelerator Center), Steve Schwartzkopf, Ron Withersponn (RWI), Norman Kroll, Dave Vier (UCSD)*

**MPPH070 Results from an Updated RF Pulsed Heating Experiment at SLAC**

*David Pritzkau, Robert Siemann (Stanford Linear Accelerator Center)*

**MPPH071 Studies of Breakdown in High Gradient X-band Accelerator Structures Using Acoustic Emission**

*Marc Ross, Chris Adolphsen, Josef Frisch, Keith Jobe, Douglas McCormick, Tonee Smith (Stanford Linear Accelerator Center)*

**MPPH072 SPEAR 2 RF System Loads**

*James Sebek, James Judkins, Anatoly Krasnykh, Sam Park, Heinz Schwarz (Stanford Linear Accelerator Center)*

**MPPH073 High Power Window Testing at SLAC**

*Arnold Vlieks, W.R. Fowkes, E. Jongewaard, R. Loewen, A. Menegat, S. Tantawi (Stanford Linear Accelerator Center), S. Kazakov (Budker Institute of Nuclear Physics), R. Lawrence Ives (Calabazas Creek Research Inc.), J. Neilson (Calabazas Creek Research Inc.), Y.H. Chin, H. Mizuno, Koji Takata, Shuichi Tokumoto (High Energy Accelerator Research Organization)*

**MPPH074 SLED Gain for Standing-Wave Accelerator Structures**

*Perry Wilson (Stanford Linear Accelerator Center)*

**MPPH075 Plasma Spots as a Current Source in Simulations of RF Breakdown in Accelerator Structures**

*Perry Wilson, V.A. Dolgashev (Stanford Linear Accelerator Center)*

**MPPH076 Frequency and Pulse Length Scaling of RF Breakdown in Accelerator Structures**

*Perry Wilson (Stanford Linear Accelerator Center)*

**MPPH077 Commissioning of the TRIUMF ISAC RF System**

*Ken Fong, S Fang, M Laverty, J Lu, R. L. Poirier (TRIUMF)*

**MPPH078 RF Control Systems for the TRIUMF ISAC RF Structures**

*Ken Fong, S Fang, M Laverty (TRIUMF)*

**MPPH079 RF Measurement Summary of ISAC DTL Tanks and DTL Bunchers**

*Aniya Mitra, P. Bricault, K. Fong, R.E. Laxdal, R.L. Poirier (TRIUMF), A. Vasyuchenko (INR RAS)*

**MPPH080 Operating Characteristics of 17.14 GHz Frequency-Doubling Coaxial Gyroklystrons**

*Wes Lawson, Mike Castle, Steve Gouveia, Victor Granatstein, Bart Hogan, Younggu Kim, Martin Reiser, Ivan Spassovsky (University of Maryland)*

**MPPH081 Analytical Determination of Coupling Coefficient of a Waveguide Cavity Coupling System**

*Jie Gao (LAL)*

**MPPH082 High Gradient Cavities for Long Bunch Muon Beams**

*Yoshihisa Iwashita, Akio Morita (Institute for Chemical Research, Kyoto University, Japan)*

**MPPH083 High-Power RF Phase and Amplitude Control**

*Marcos Martins, Alfredo Bonini, Militão Figueredo, Alexandre Malafrente, Jiro Takahashi (Laboratório do Acelerador Linear do Instituto de Física da Universidade de São Paulo)*

**MPPH084 Operation of the FOM Fusion Free-Electron Maser in Long-Pulse Mode with Depressed Collector**

*Boris Militsyn (FOM Institute of Plasma Physics), C.A.J. Van Der Geer, P. Manintveld, A.A.M. Oomens, F.C. Schuller, W.H. Urbanus (FOM Institute of Plasma Physics "Rijnhuizen", Nieuwegein), W.A. Bongers (FOM Institute of Plasma Physics "Rijnhuizen", Nieuwegein), G.G. Denisov (Institute Of Applied Physics, Nizhny Novgorod), V.L. Bratman, A.V. Sivilov (Institute of Applied Physics, Nizhny Novgorod), A.A. Varfolomeev (Russian Research Centre "Kurchatov Institute", Moscow)*

**MPPH085 Conceptual Engineering Design of a Bunch Rotation Cavity for a Pion Production and Capture Experiment**

*John Rathke, Thomas Schultheiss (Advanced Energy Systems, Inc.), Harold Kirk, James Rose (Brookhaven National Laboratory)*

**MPPH086 RF Accelerating System for a Compact Ion Synchrotron**

*Kazuyoshi Saito, Kazuo Hiramoto, Koji Matsuda, Hideaki Nishiuchi, Ryosuke Shinagawa, Masumi Umezawa (Hitachi, Ltd. Power & Industrial Systems R&D Laboratory)*

**MPPH087 RF/Thermal/Structural Analysis of the APT LEDA Hot Model Cavity Assembly**

*Thomas Schultheiss, Michael Cole, John Rathke (Advanced Energy Systems, Inc.), Frank Krawczyk, Paul Leslie, Dale Schrage, Rick Wood (Los Alamos National Laboratory)*

**MPPH088 Simulation Study of Higher-Order-Mode Damper of Storage Ring Cavities**

*Chieh Sung (National Tsing Hua University), Ernst Wehretter (BESSY), Yi-Ching Tsai (Industrial Technology Research Institute, Hsinchu, Taiwan), Kwo-Ray Chu (National Taiwan University, Hsinchu, Taiwan), Hsing-Li Cheng, Hsin-Lu Hsu (National Tsing Hua University, Hsinchu, Taiwan), Chaoen Wang (Synchrotron Radiation Research Center)*

**MPPH089 An X-Band Disk-And-Washer Accelerating Structure for Electron Accelerators**

*Chuanxiang Tang, Huibi Chen, Yuan Hu, Yuzheng Lin, Dechun Tong (Tsinghua University, Beijing, PRC)*

**MPPH090 Development, Fabrication and Test of Bunchers for TRIUMF ISAC Facility**

*Alexander Vasyuchenko, Yuri Bylinsky, Alexander Feschenko, Adolf Kvasha, Alexander Menshov, Valentin Paramonov (INR RAS, Moscow, Russia), Gerardo Dutto, Robert Laxdal, Aniya Mitra, Roger Poirier (TRIUMF)*

**MPPH091 A Quantitative Method of Coupler Cavity Tuning and Simulation**

*Shu-xin Zheng, Yu-peng Cui, De-chun Tong (Tsinghua University)*

**MPPH092 RF Activities on Cavities and Turn Key Accelerator Systems at ACCEL**

*Peter vom Stein, Michael Peiniger, Michael Pekeler, Christian Piel (ACCEL Instruments GmbH)*

**MPPH093 Klystron-Modulator System Performance for the Advanced Photon Source Linear Accelerator**

*Moo-Hyun Cho, A. Nassiri, S. Pasky, G. Pile, T. Smith (Argonne National Laboratory)*

**MPPH094 Parallel Klystron Operation at the Advanced Photon Source Storage Ring**

*Douglas Horan, Ernest Cherbak (Argonne National Laboratory)*

**MPPH095 High Power Test of the First C-band (5712 MHz) 50 MW of PPM Klystron**

*H. Matsumoto, K. Kakuno, K. Ohhashi, Y. Ohkubo, T. Shintake, H. Taoka (High Energy Accelerator Research Organization)*

**MPPH096 Very Low Output-Impedance RF System for a Spallation Neutron Source**

*Toshiyuki Oki, Takano Susumu, Irie Yoshiro (High Energy Accelerator Research Organization)*

**MPPH097 Progress on the New High Power 200 MHz RF System for the LANSCE DTL**

*John Lyles, Donald Clark, Jerry Davis, Rodney McCrady (Los Alamos National Laboratory)*

**MPPH098 Low Level RF Control for the LANSCE Proton Storage Ring Buncher**

*John Lyles, Jerry Davis (Los Alamos National Laboratory)*

**MPPH099 The RF System Design for the Spallation Neutron Source**

*Daniel Rees, Joseph Bradley III, Karen Cummings, Tom Hardek, Michael Lynch, William Reass, Amy Regan, William Roybal, Paul Tallerico (Los Alamos National Laboratory)*

**MPPH100 RF Systems for the Betatron Node Scheme Experiment at LBNL**

*Steve Lidia, Stefano De Santis (Lawrence Berkeley National Laboratory)*

**MPPH101 High Efficiency Cross-Field RF Power Sources for Accelerators**

*Valery Dolgashev, Sami Tantawi (Stanford Linear Accelerator Center)*

**MPPH102 Investigation of Megawatt Magnetron Injection Guns with Secondary-Emission Cathodes**

*Anatoly Dovbnya, Nikolay Reshetnyak, Victor Romasko, Valery Zakutin (National Science Centre Kharkov Institute Physics and Technology), Michail Krasnogolovets, Yury Volkolupov (Kharkov Technical University of Radioelectronic)*

**MPPH103 RF System for the LNL S Injector Synchrotron**

*Ruy Farias, C. Pardine, P. F. Tavares, (Laboratório Nacional de Luz Síncrotron)*

**MPPH104 Design Study on the RF Source for KOMAC**

*Hyeok-jung Kwon (Korea Accelerator and Plasma Research Association), Seung-jeong Noh (Department of Applied Physics, Dankook University), Moon-sung Chun, Kie-hyung Chung, Han-sung Kim, Min-joon Park (Department of Nuclear Engineering, Seoul National University), Kang-ok Lee (Korea Accelerator and Plasma Research Association)*

**MPPH105 High Power Seventh Harmonic Converter at 20 GHz**

*Michael LaPointe, Jay Hirshfield, Vyacheslav Yakovlev (Omega-P, Inc.)*

**MPPH106 RF Power Recovery Using CARA and Depressed Collector**

*Michael LaPointe (Omega-P, Inc. ), Jay Hirshfield (Omega-P, Inc.), Changbiao Wang (Yale University)*

**MPPH107 Status of X-Band Pulsed Magnicon Project**

*Oleg Nezhevenko, Jay L. Hirshfield, Vyacheslav P. Yakovlev (Omega-P, Inc.), Allen K. Kinkead (LET Corp.), Arnold W. Fliflet, Steven H. Gold (Naval Research Laboratory)*

**MPPH108 34 GHz Pulsed Magnicon Project**

*Oleg Nezhevenko, Michael A. LaPointe, Sergey V. Schelkunoff, Vyacheslav P. Yakovlev (Omega-P, Inc.), Evgeny V. Kozyrev, Gennady I. Kuznetsov, Boris Z. Persov (Budker Institute of Nuclear Physics), Alexander A. Fix (IAP, Nizhny Novgorod), Jay L. Hirshfield (Yale University)*

**MPPH109 Carbon Nanotube-Based Cathodes for Microwave Tubes**

*Michael Read, Matthew Kremer, John Lennhoff, Willi Schwarz (Physical Sciences Inc.), Zhifeng Ren (Nano-Labs Inc.)*

**MPPH110 Operational Results of the Spallation Neutron Source (SNS) Polyphase Converter-Modulator for the 140 KV Klystron RF System**

*William Reass, J.D. Doss, R.F. Gribble, M.T. Lynch, D.E. Rees, P.J. Tallerico (Los Alamos National Laboratory)*

**MPPH111 Three-Dimensional W-Band Klystrino Simulation**

*Michael Schmolke, Warner Bruns (Technische Universitaet Berlin)*

**MPPH112 An Availability Model for the SNS Linac RF System**

*Paul Tallerico, Daniel Rees (Los Alamos National Laboratory)*

**MPPH113 Klystrons Base on the Secondary Emission Cathodes**

*Yuriy Tur (National Science Center - Kharkov Institute Physics & Technology [NSC-KIPT] ), Vladimir Rodyakin, Aleksandr Sandalov (Moskow State University), Anatoliy Dovbnaya, Valeriy Zakutin (National Science Center - Kharkov Institute Physics & Technology)*

**MPPH114 Study of Anti-Interference Technique in Klystron Corridor**

*Tao Xiaoping (National Synchrotron Radiation Laboratory, University of Science and Technology of China), Guicheng Wang (National Synchrotron Radiation Lab)*

**MPPH115 100 MW Electron Gun for A 34.3 GHz Magnicon**

*Vyacheslav Yakovlev, Jay L. Hirshfield, Michael A. LaPointe, Oleg A. Nezhevenko (Omega-P, Inc.), Marina A. Batazova, Gennady I. Kuznetsov (Budker Institute of Nuclear Physics)*

**MPPH116 Niobium Cavity Development for the High-Energy Linac of the Rare Isotope Accelerator**

*D. Barni, C. Pagani, P. Pierini (Istituto Nazionale di Fisica Nucleare), C. C. Compton, T. L. Grimm, W. Hartung, H. Podlech, R. C. York (National Superconducting Cyclotron Laboratory), G. Ciovati, P. Kneisel (Thomas Jefferson National Accelerator Facility)*

**MPPH117 Cold Tests of a Spoke Cavity Prototype for RIA**

*Michael Kelly, Mark Kedzie, Kenneth Shepard (Argonne National Laboratory)*

**MPPH118 A Surface Study of the Niobium Samples Used in Superconducting RF Cavity Production**

*Qing Ma, Richard Rosenberg (Argonne National Laboratory)*

**MPPH119 Superconducting Intermediate-Velocity Drift-Tube Cavities for the RIA Driver Linac**

*Kenneth Shepard, Mark Kedzie, Michael Kelly (Argonne National Laboratory)*

**MPPH120 Dynamic Mechanical Analysis of SC Cavities for a HPPA Linac**

*Guillaume Devanz (CE Saclay)*

**MPPH121 Detailed Design of a 704 MHz Power Coupler for HPPA Linac**

*Christian Travier, Guillaume Devanz, Michel Luong (CE Saclay), Pascal Balleyguier (CEA Bruyères le Chatel)*

**MPPH122 Change of RF Superconducting Parameters Induced by Baking on Nb Cavities**

*Bernard Visentin, Jean-Pierre Charrier, Gérard Congretel (CE Saclay)*

**MPPH123 Ultimate Performance of the LEP RF System**

*Günther Geschonke, Peter Brown, Olivier Brunner, Andrew Butterworth, Edmond Ciapala, Hans Frischholz, Ernst Peschardt, Jonathan Sladen (CERN)*

**MPPH124 Superconducting RF System Upgrade for Short Bunch Operation of CESR**

*Sergey Belomestnykh, Phil Barnes, Richard Ehrlich, Rongli Geng, Don Hartill, Stuart Henderson, Roger Kaplan, Jens Knobloch, Hasan Padamsee, Stuart Peck, Peter Quigley, John Reilly, David Rubin, Dan Sabol, James Sears, Maury Tigner, Vadim Veshcherevich (Cornell University)*

**MPPH125 Superconducting RF Control Issues at CESR**

*Sergey Belomestnykh, Stuart Henderson, Roger Kaplan (Cornell University)*

**MPPH126 Spectra of Beam Induced Fields in CESR Superconducting Cavities**

*Vadim Veshcherevich, Sergey Belomestnykh (Cornell University)*

**MPPH127 Investigation of Voltage Breakdown Caused by Microparticles**

*G. Werner, J.C. Betzwieser, H. Padamsee, M. Qureshi, J.E. Shipman (Cornell University), P.J. McKeown (Evans East Analytical Group)*

**MPPH128 Dynamic Lorentz Force Compensation with a Fast Piezoelectric Tuner**

*Matthias Liepe, Wolf-Dietrich Moeller, Stefan Norbert Simrock (Deutsches Elektron Synchrotron)*

**MPPH129 Design and Measurements of a Deflecting Mode Cavity for an RF Separator**

*Rainer Wanzenberg (Deutsches Elektron Synchrotron), Leo Bellantoni, Helen Edwards, Michael McAshan (Fermi National Accelerator Laboratory)*

**MPPH130 RF Measurements of the ESS Test Cavity**

*Rolf Stassen, Werner Bräutigam (Forschungszentrum Jülich)*

**MPPH131 Thermal Analysis of a Refined APT Power Coupler and Thermal Shield and the Effect on the Cryoplant Design and Performance**

*Robert Bourque, Greg Laughon (General Atomics)*

**MPPH132 Design of HOM Couplers for the APT Superconducting RF Cavities**

*Jozef Kuzminski, George Spalek (General Atomics)*

**MPPH133 High Power Variable Power Couplers for Ladder and Spoke Type Resonators**

*George Spalek, Jozef Kuzminski (General Atomics)*

**MPPH134 The Superconducting Medium Beta Prototype for Radioactive Beam Acceleration at TRIUMF**

*Alberto Facco, Vladimir Zviagintsev (Istituto Nazionale di Fisica Nucleare), Robert Laxdal (TRIUMF)*

**MPPH135 First Results of the TRASCO Superconducting Reentrant Cavity for High Intensity Beams**

*Alberto Facco, Vladimir Zviagintsev (Istituto Nazionale di Fisica Nucleare), Matteo Pasini (TRIUMF)*

**MPPH136 Study on Superconducting 352 MHz Low Beta Quarter Wave Resonators for High Intensity Proton Linacs**

*Vladimir Zviagintsev, Michele Comunian, Alberto Facco, Andrea Pisent (Istituto Nazionale di Fisica Nucleare)*

**MPPH137 A Statistical Analysis of the Danger Induced by HOM Excitation in a Superconducting Linac**

*Jean-Luc Biarrotte (Institut de Physique Nucléaire d'Orsay)*

**MPPH138 Design of Low Level RF Control for the TESLA Superstructure**

*Shinichiro Michizono (High Energy Accelerator Research Organization), Matthias Liepe, Stefan Simrock (Deutsches Elektron Synchrotron)*

**MPPH139 Room-Temperature Linac Structures for the Spallation Neutron Source**

*James Billen, Sergey Kurennoy, Lloyd Young (Los Alamos National Laboratory), Kenneth Crandall (Tech Source)*

**MPPH140 SNS SRF Time Dependent Cavity RF Resonance Shift due to Lorentz Force Induced Mechanical Excitation**

*Stephen Ellis (Los Alamos National Laboratory)*

**MPPH141 Conceptual Design of the ADTF Low-Beta Spoke Cavity Input Coupler**

*Eric Schmierer, K. C. Dominic Chan, William B. Haynes, Frank L. Krawczyk, Philip Roybal, Dale Schrage (Los Alamos National Laboratory), Brian Rusnak (Lawrence Livermore National Laboratory)*

**MPPH142 Results of the APT RF Power Coupler Development for Superconducting Linacs**

*Eric Schmierer, K. C. Dominic Chan, Cort Gautier, Jack Gioia, William B. Haynes, Frank Krawczyk, Richard Lujan, Michael Madrid, Dale Schrage, Brian Smith, Joe Waynert (Los Alamos National Laboratory), Brian Rusnak (Lawrence Livermore National Laboratory)*

**MPPH143 Pi Mode Structures -- Results and Implications for Operation**

*Stan Schriber (Los Alamos National Laboratory)*

**MPPH144 A New Temperature and X-Ray Mapping System for 700-MHz 5-Cell Superconducting Cavities**

*Alan Shapiro, Robert Gentzlinger, Michael Madrid, Tsuyoshi Tajima (Los Alamos National Laboratory)*

**MPPH145 Developments of 700-MHz 5-Cell Superconducting Cavities for APT**

*Tsuyoshi Tajima, Dominic Chan, Robert Gentzlinger, William Haynes, J. Patrick Kelley, Frank Krawczyk, Michael Madrid, Debbie Montoya, Dale Schrage, Alan Shapiro (Los Alamos National Laboratory), John Mammosser (Thomas Jefferson National Accelerator Facility)*

**MPPH146 Coupling RF Power into the Low-Beta Superconducting Cavities of the RIA Driver Linac**

*Brian Rusnak (Lawrence Livermore National Laboratory), Kenneth Shepard (Argonne National Laboratory)*

**MPPH147 Simulation of Fundamental RF Power Coupler for the Spallation Neutron Source (SNS)**

*Yoon Kang (Oak Ridge National Laboratory), Isidoro Campisi, Mircea Stirbet (Thomas Jefferson National Accelerator Facility)*

**MPPH148 Testing and High-Power Conditioning of Fundamental Power Coupler for the SNS**

*Yoon Kang (Oak Ridge National Laboratory), Isidoro Campisi, Mircea Stirbet (Thomas Jefferson National Accelerator Facility)*

**MPPH149 Higher Order Mode Analysis of the SNS Superconducting Linac**

*Sangho Kim, Marc Doleans, Dong-o Jeon (Oak Ridge National Laboratory), Ronald Sundelin (Thomas Jefferson National Accelerator Facility)*

**MPPH150 Progress Report and Operational Consideration of Superconducting RF Cavity at TLS**

*Gwo-Huei Luo, L.H. Chang, M.C. Lin, Ch. Wang (Synchrotron Radiation Research Center), T.S. Hu (National Tsing Hua University)*

**MPPH151 HOM Couplers Design for the SUPER-3HC Cavity**

*Paolo Craievich (Sincrotrone Trieste), Stephane Chel, Michel Luong (CEA Saclay)*

**MPPH152 CEBAF Upgrade Cryomodule Component Testing in the Horizontal Test Bed (HTB)**

*Isidoro Campisi, Brian Carpenter, G. Kirk Davis, Jean Delayen, Michael Drury, Erich Feldl, John Fischer, Al Guerra, Thomas Hiatt, Curt Hovater, Kurt Macha, John Mammosser, Viet Nguyen, H. Lawrence Phillips, Joseph Preble (Thomas Jefferson National Accelerator Facility)*

**MPPH153 The Fundamental Power Coupler for the Spallation Neutron Source (SNS) Superconducting Cavities**

*Isidoro Campisi, Edward Daly, Peter Kneisel, William Schneider, Mircea Stirbet, Katherine M. Wilson (Thomas Jefferson National Accelerator Facility)*

**MPPH154 The Processing Test Stand for the Fundamental Power Couplers of the Spallation Neutron Source (SNS) Superconducting Cavities**

*Isidoro Campisi, G. Kirk Davis, Michael Drury, Christiana Grenoble, Thomas Powers, Mircea Stirbet, Katherine M. Wilson (Thomas Jefferson National Accelerator Facility)*

**MPPH155 Electronic Damping of Microphonics in Superconducting Cavities**

*Jean Delayen (Thomas Jefferson National Accelerator Facility)*

**MPPH156 Development and Testing of a Prototype Tuner for the CEBAF Upgrade Cryomodule**

*Jean Delayen, G. Kirk Davis, Michael Drury, Erich Feldl (Thomas Jefferson National Accelerator Facility)*

**MPPH157 Microphonics Testing of the CEBAF Upgrade 7-Cell Cavity**

*Jean Delayen, G. Kirk Davis, Michael Drury, Thomas Hiatt, Curt Hovater, Tom Powers, Joseph Preble (Thomas Jefferson National Accelerator Facility)*

**MPPH158 Cryogenic Testing of the RF Input Waveguide for the CEBAF Upgrade Cryomodule**

*Tommy Hiatt, M. Breth, M. Drury, R. Getz, L. Phillips, J. Preble, W. Schneider, J. Takacs, H. Whitehead, M. Wiseman, G. Wu (Thomas Jefferson National Accelerator Facility)*

**MPPH159 Design of SNS SRF Cavity Support Structure**

*John Hogan, Isidoro Campisi, Peter Kneisel, Danny Machie, James Pitts, Joseph Preble, William Schneider, Karl Smith, Larry Turlington (Thomas Jefferson National Accelerator Facility)*

**MPPH160 Revised Cryogenic Optimization for Superconducting RF Cavities**

*Lia Merminga (Thomas Jefferson National Accelerator Facility)*

**MPPH161 RF Performance of Niobium Cavities after Modification with Electron Beam Melting**

*Larry Phillips, John Brawley, Jean Delayen, John Mammosser, Joe Preble, Charlie Reece (Thomas Jefferson National Accelerator Facility)*

**MPPH162 Design of the SNS Cryomodule**

*William Schneider, Ed Daly, Tommy Hiatt, John Hogan, Peter Kneisel, Danny Machie, Joe Preble, Claus Rode, Tim Whitlatch, Katherine Wilson, Mark Wiseman (Thomas Jefferson National Accelerator Facility), Kay Matsumoto, Russ Mitchell (Los Alamos National Laboratory)*

**MPPH163 RF Control System for Superconducting Proton Linacs**

*Boris Bondarev, Alexander Durkin, Yurii Ivanov, Igor Shumakov, Nikolay Uksusov (Moscow Radiotechnical Institute)*

**MPPH164 U.S. Industrial Fabrication of a Five(5) Cell Superconducting Radio Frequency (SCRF) Cavity**

*Al Burger (Advanced Energy Systems, Inc)*

**MPPH165 Researches and Experiments on Niobium-Sputtered Superconducting Quarter Wave Resonator in Peking University**

*Jiankui Hao, Jiaer Chen, Yanle Hu, Shengwen Quan, Zilin Shen, Lifang Wang, Rong Xiang, Baocheng Zhang, Kui Zhao, Kun Zhao, Feng Zhu (Peking University)*

**MPPH166 Industrial Production of Turn Key Superconducting Accelerator Modules for High Current Storage Rings**

*Michael Pekeler, Stefan Bauer, Bernd Griep, Michael Peiniger, Hanspeter Vogel (ACCEL Instruments GmbH), Sergey Belomestnykh, Jens Knobloch, Hasan Padamsee, James Sears (Cornell University)*

**MPPH167 A Superconducting Landau Accelerator Module for BESSY II**

*Peter Stein, Michael Pekeler, Hanspeter Vogel (ACCEL Instruments GmbH), Wolfgang Anders (BESSY), Sergey Belomestnykh, Jens Knobloch, Hasan Padamsee (Cornell University)*

**MPPH168 Study of HOM Couplers on 800MHz Superconducting Cavities**

*Xiaokui Tao, Huaibi Chen, De-chun Tong (Tsinghua University), Zhentang Zhao (Institute of High Energy Physics, Beijing)*

**MPPH301 Orbit Drift Correction Using Correctors with Ultra-High DAC Resolution.**

*Roland Mueller, Klaus Bürkmann, Ren- Bakker, Fjodor Falkenstern, Benjamin Franksen, Rainer Görden, Peter Kuske, Ralph Lange, Ingo Müller, Joachim Rahn, Tobias Schneegans (BESSY)*

**MPPH302 Porting EPICS to L4-Linux Based System**

*Jun-ichi Odagiri, Tadahiko Katoh, Noboru Yamamoto (High Energy Accelerator Research Organization)*

**MPPH303 Refining and Maintaining the Optimal Performance of the CEBAF SRF Systems**

*Charles Reece, Jay Benesch, Joseph Preble (Thomas Jefferson National Accelerator Facility)*

**MPPH304 A System for Managing Critical Knowledge for Accelerator Subsystems: Pansophy**

*Charles Reece, Valerie Bookwalter, Bonnie Madre (Thomas Jefferson National Accelerator Facility)*

**MPPH305 Flexible User Interface for Computer Measurements and Control**

*Vyacheslav Kurakin, Alexander Koltsov (Lebedev Physical Institute, Moscow), Pavel Kurakin (Keldysh Institute of Applied Mathematics, Moscow)*

**MPPH306 S-Band Buncher with Variable Parameters for Electron LINAC**

*Vitaly Podlevskih (Budker Institute of Nuclear Physics)*

**MPPH307 Microwave Quality Assurance Effort for Next Linear Collider R&D Project at Fermilab**

*Ding Sun, Tug Arkan, Evgueni Borissov, John Carson, David Finley, Gregory Kobliska, Gennady Romanov (Fermi National Accelerator Laboratory)*

**MPPH308 Design of the Upgraded RF Cavity of NSRL**

*Zhao Zhentang, Weiming Pan (Institute of High Energy Physics, Beijing), Zhuping Liu (National Synchrotron Radiation Lab)*

**MPPH309 Development of a New Waveguide Valve Using RF Choke Flange for PLS Linac**

*Woon-Ha Hwang, Seung-Hwan Kim, Heung-Soo Lee, Sang-Hoon Nam, Yong-Jung Park (Pohang Accelerator Laboratory)*

**MPPH310 A Coupled-Field Analysis on RF Cavity**

*Ming-Chyuan Lin, Lung-Hai Chang, Ping-Jung Chou, Chaoen Wang (Synchrotron Radiation Research Center), Sheng-Yu Shiau (National Chiao Tung University), Mei-Jiau Huang (National Taiwan University)*

**MPPH311 RF Coupler Design for the KTF RFQ Linac**

*Jang-Min Han, Yong-Sub Cho, Byung-Ho Choi, Ho-Haeng Lee (Korea Atomic Energy Research Institute)*

**MPPH312 3D Method for the Design of Multi or Sheet Beam RF Sources**

*V. Ivanov, A. Krasnykh (Stanford Linear Accelerator Center), L. Ives, G. Miram (Calabazas Creek Research, Inc.)*

**MPPH313 High Power Multi-Moded Waveguide Launchers for Future Linear Collider RF Systems**

*Sami Tantawi, C. Nantista (Stanford Linear Accelerator Center), K. Zaki (University of Maryland)*

**MPPH314 Overmoded High-Power rf Magnetic Switches and Circulators**

*Sami Tantawi (Technische U. Darmstadt), V. Dolgashev (Stanford Linear Accelerator Center)*

**MPPH315 Multi-Moded Circular to Rectangular Tapers for RF Pulse Compression Systems of Future Linear Colliders**

*Sami Tantawi, V. Dolgashev, C. Nantista (Stanford Linear Accelerator Center)*

**MPPH316 Operation of Crowbarless Power Supply for Klystron at NewSUBARU**

*Yoshihiko Shoji, Ainosuke Ando, Satoshi Hashimoto (Japan Synchrotron Radiation Research Institute), Yumiko Jumonji, Hideo Kozu, Yoshimichi Oonishi, Chouji Yamazaki (Toshiba Corporation)*

**MPPH317 High-Current Electron Gun with Secondary Emission**

*Sergiy Cherenshchikov*

**MPPH318 A New 200 MHz Powerful Pulse Triode for the Output Power Amplifier of DTL RF System**

*Adolf Kvasha (Korea Atomic Energy Research Institute), Ludmila Kostromova, Valentin Pirogov, Victor Prilutsky, Vladimir Prokofyev, Ludmila Yatsuk (AS "SED-SPb", S.Peterburg), Valery Serov (Institute for Nuclear research, Moscow)*

**MPPH319 Investigation of the Overvoltages in the Anode-Grid**

*Adolf Kvasha*

**MPPH320 Multipacting in a Rectangular Waveguide**

*Rong-Li Geng, Hasan Padamsee, Valery Shemelin (Cornell University)*

**MPPH321 Thermal Properties Measurements Using Laser Flash Technique at Cryogenic Temperature**

*Paolo Michelato, Danilo Barni, Carlo Pagani, Giuseppe Penco (Istituto Nazionale di Fisica Nucleare)*

**MPPH322 New Results on RF Properties of Superconducting Niobium Films Using a Thermometric System**

*Mohammed Fouaidy (Institut de Physique Nucl-aire d'Orsay), Pierre Bosland, Stephan Chel, Michel Juillard, Marion Ribeau (French Atomic Energy Commission)*

**Session TOAA: Multi-Particle Beam Dynamics**

(1 of 2)

Grand Ballroom (Session A) at 8:30

Session Chairs: J. Bisognano and R. Ryne

**TOAA001 Muon Capture and Cooling Dynamics, Propagation in Solenoidal Channels (Invited)**

*Gregg Penn (University of California, Berkeley)*

**TOAA002 Extremely Cooled Ion Beams in the ESR with Evidence of Ordering (Invited)**

*Markus Steck (Gesellschaft für Schwerionenforschung mbH)*

**TOAA003 Intra-Beam Dynamics in Quantum Dominated Beams**

*Andreas Kabel (Stanford Liner Accelerator Center)*

**TOAA004 Emittance Exchange without Wedges**

*J. Berg (Brookhaven National Laboratory)*

**TOAA005 Crossing Angle in CLIC**

*Daniel Schulte, Frank Zimmermann (CERN)*

**TOAA006 Computational Investigation of Dissipation and Reversibility of Space-Charge Driven Processes in Beams**

*Rami Kishek, S. Bernal, P. G. O'Shea, M. Reiser, A. Valfells (University of Maryland), C. L. Bohn (Fermi National Accelerator Laboratory), I. Haber (Naval Research Laboratory)*

**Session TOAA: Multi-Particle Beam Dynamics**

(2 of 2)

Grand Ballroom (Session A) at 10:40

Session Chairs: J. Bisognano and R. Ryne

**TOAA007 Beam-Beam Compensation in Tevatron: Status Report (Invited)**

*Vladimir Shiltsev (Fermi National Accelerator Laboratory)*

**TOAA008 The University of Maryland Electron Ring (UMER) (Invited)**

*Patrick O'Shea (University of Maryland)*

**TOAA009 Recent Experiments on the Effect of Coherent Synchrotron Radiation on the Electron Beam of CTF II**

*Lars Groening, Hans Braun, Steffen Doebert (CERN), Michael Borland (Argonne National Laboratory)*

**TOAA010 On the Mechanism of Surface Roughness Wake Field Excitation**

*Sebastian Ratschow, Martin Timm, Thomas Weiland (Technische U. Darmstadt), Alexandre Novokhatski (Stanford Linear Accelerator Center)*

**TOAA011 Measurements of Halo Generation for a Proton Beam in a FODO Channel**

*P.L. Colestock, C.K. Allen, K.C.D. Chan, K.R. Crandallb, R.W. Garnett, D. Gilpatrick, W. Lysenko, J.D. Schneider, M.E. Schulzea, R.L. Sheffield, H.V. Smith, T.P. Wangler (Los Alamos National Laboratory)*

**TOAA012 High Average Current Effects in Energy Recovery Linacs**

*Lia Merminga, Isidoro Campisi, David Douglas, Geoffrey Krafft, Joseph Preble, Byung Yunn (Thomas Jefferson National Accelerator Facility)*

**Session TOAB: Magnets (1 of 2)**

**Grand Ballroom (Session B) at 8:30**

**Session Chairs: G.W. Foster and A. Jackson**

**TOAB001 Very High Gradient Quadrupoles (Invited)**

*James Strait (Fermi National Accelerator Laboratory)*

**TOAB002 Superconducting Final Focusing System for KEKB (Invited)**

*Kiyosumi Tsuchiya, Toru Ogitsu, Norihito Ohuchi, Toshiyuki Ozaki, Ryuhei Sugahara (High Energy Accelerator Research Organization)*

**TOAB003 Final Prototypes, First Pre-Series Units and Steps Towards Series Production of the LHC Main Dipoles**

*M. Bajko, L. Bottura, M. Buzio, M. Modena, O. Pagano, D. Perini, F. Savary, W. Scandale, A. Siemko, G. Spigo, E. Todesco, I. Vanenkov, J. Vloaert, C. Wyss (CERN)*

**TOAB004 The Commissioning of the LHC Test String 2**

*Roberto Saban, Frederick Bordry, Davide Bozzini, Juan Casas-Cubillos, Paul Cruikshank, Reiner Denz, Bruno Puccio, Felix Rodriguez-Mateos, Roberto Saban, Rüdiger Schmidt, Luigi Serio (CERN)*

**TOAB005 Currents in, Forces on and Deformations/Displacements of the LHC Beam Screen Expected during a Magnet Quench**

*Christian Rathjen, Fritz Caspers, Stephan Russenschuck, Andrzej Siemko (CERN)*

**TOAB006 Fermilab Electron Cooling Project: Field Measurements in the Cooling Section Solenoid**

*Alexander Shemyakin, Curtis Crawford, Elliott McCrory, Sergei Nagaitsev (Fermi National Accelerator Laboratory), Valentin Bocharov, Alexander Buble, Vasily Parkhomchuk, Vitaly Tupikov (Budker Institute of Nuclear Physics)*

**Session TOAB: Magnets (2 of 2)**

**Grand Ballroom (Session B) at 10:40**

**Session Chairs: G.W. Foster and A. Jackson**

**TOAB007 Advanced Magnet R&D for Future Colliders (Invited)**

*GianLuca Sabbi (Lawrence Berkeley National Laboratory)*

**TOAB008 Superconducting Materials and Applications (High and Low Temperature) (Invited)**

*Lance Cooley (University of Wisconsin)*

**TOAB009 Fabrication and Test Results of a High Field, Nb<sub>3</sub>Sn Superconducting Racetrack Dipole Magnet**

*Stephen Gourlay, Bob Benjegerdes, Paul Bish, Doyle Byford, Shlomo Caspi, Dan Dietderich, Ray Hafalia, Roy Hannaford, Hugh Higley, Alan Jackson, Alan Lietzke, Nate Liggins, Alfred McInturff, Jim O'Neill, Evan Palmerston, Gianluca Sabbi, Ron Scanlan, Jim Swanson (Lawrence Berkeley National Laboratory)*

**TOAB010 Towards Fast-Pulsed Superconducting Synchrotron Magnets**

*Gebhard Moritz, Carsten Muehle (Gesellschaft für Schwerionenforschung mbH), William Hassenzahl (Advanced Energy Analysis), Mike Anerella, Arup Ghosh, William Sampson, Peter Wanderer (Brookhaven National Laboratory), Nikolay Agapov, Hamlet Khodzhbagiyev, Alexander Kovalenko (Joint Institute for Nuclear Research), Martin Wilson (Oxford Instruments (retired))*

**TOAB011 Technology Development for React and Wind Common Coil Magnets**

*John Escallier (Brookhaven National Laboratory)*

**TOAB012 Adjustable Permanent Quadrupoles for the Next Linear Collider**

*James Volk, J. DiMarco, G. W. Foster, W. Fowler, V. S. Kashikhin, A. Makarov, V. Tsvetkov (Fermi National Accelerator Laboratory), C. E. Rago, A. Ringwall, C. M. Spencer, Z. Wolf (Stanford Linear Accelerator Center)*

**Session TPAH: Accelerator Technology**

Poster Hall at 8:30

**TPAH001 Compensating the Frequency Deadband of the APS Real-Time and DC Transverse Orbit Correction Systems**

*Charles Schwartz, Louis Emery (Argonne National Laboratory)*

**TPAH002 New Correction Algorithm for Orbit Feedback Systems**

*Boris Podobedov (Brookhaven National Laboratory)*

**TPAH003 The RHIC Orbit Correction System**

*Vadim Ptitsyn (Brookhaven National Laboratory)*

**TPAH004 Transverse Damping Systems for the Future CERN LHC**

*Trevor Linnecar (CERN)*

**TPAH005 Measurement and Adjustment of the Differential Positions of Colliding Bunches at CESR**

*Michael Billing, Gerald Codner, Sikora John, Robert Meller (Cornell University)*

**TPAH006 Performance of the Beam Stabilizing Feedback Systems at CESR**

*Michael Billing, Gerald Codner, Robert Meller, John Sikora (Cornell University)*

**TPAH007 Bunch by Bunch Feedback Systems for the KEKB Rings**

*Makoto Tobiyama, John Flanagan, Shigenori Hiramatsu, Eiji Kikutani (High Energy Accelerator Research Organization)*

**TPAH008 Uncertain System Modeling of SNS RF Control System**

*Sung-il Kwon, Any Regan, Yi-Ming Wang (Los Alamos National Laboratory)*

**TPAH009 Design of a Fast Global Orbit Feedback System for the Advanced Light Source**

*Christoph Steier, Alan Biocca, Susanna Jacobson, Greg Portmann, Ying Wu (Lawrence Berkeley National Laboratory)*

**TPAH010 Improved Performance of the Transverse Damping System at the Advanced Light Source (ALS) Using a Homodyne Detection Technique**

*Gregory Stover, Walter Barry, John Byrd (Lawrence Berkeley National Laboratory)*

**TPAH011 Closed Orbit Correction of HLS Storage Ring**

*Jingyi Li (National Synchrotron Radiation Lab)*

**TPAH012 Advanced Collimator Engineering for the Next Linear Collider**

*Josef Frisch, Eric Doyle, Knut Skarpaas VIII (Stanford Linear Accelerator Center)*

**TPAH013 Active Vibration Suppression R&D for the Next Linear Collider**

*Josef Frisch, Stephanie Allison, Leif Eriksson, Linda Hendrickson, Thomas Himel, Kristi Luchini, Andrei Seryi (Stanford Linear Accelerator Center)*

**TPAH014 NLC Linac Feedback Simulations with Ground Motion**

*Linda Hendrickson, Srihari Adiga, Thomas Himel, Nannette Phinney, Tor Raubenheimer, Andrei Seryi, Peter Tenenbaum, Mark Woodley (Stanford Linear Accelerator Center)*

**TPAH015 Robinson Instability Modified by Low-Level Feedback Loops of RF Cavity Voltage**

*Takeshi Nakamura, Takeo Takashima (Japan Synchrotron Radiation Research Institute)*

**TPAH016 Commissioning of the TLS Digital Longitudinal Feedback System**

*Wai Lau, Kuo Tung Hsu, Chang Hor Kuo, Meng Shu Yeh (Synchrotron Radiation Research Center)*

**TPAH017 Exploitation of the Integrated Digital Processing and Analysis of the ELETTRA/SLS Transverse Multi-Bunch Feedback System**

*Daniele Bulfone, Marco Lonza, Viktor Smaluk, Lidia Tosi, Lucio Zambon (Sincrotrone Trieste), Micha Dehler, Rok Ursic (Paul Scherrer Institut)*

**TPAH018 On the Choice of Method to Cancel 60 Hz Disturbances in Beam Position and Energy**

*Raphael Akogyeram, Richard Longman (Columbia University), Jer-Nan Juang (NASA Langley Research Center), Andrew Hutton (Thomas Jefferson National Accelerator Facility)*

**TPAH019 Empirically Determined Response Matrices for On-Line Orbit and Energy Correction at Jefferson Lab**

*Alicia Hofler, David Bryan (Cisco Systems), Leigh Harwood, Michele Joyce, Valeri Lebedev (Thomas Jefferson National Accelerator Facility)*

**TPAH020 Measurement of Thermal Effects on the Advanced Photon Source Storage Ring Vacuum Chamber**

*Louis Emery (Argonne National Laboratory)*

**TPAH021 Use of Cerenkov Radiation Detectors in Detecting Beam Losses in the Advanced Photon Source Storage Ring**

*Louis Emery, Anthony Pietryla (Argonne National Laboratory)*

**TPAH022 RHIC Gamma Transition Jump Power Supply Prototype Test**

*Jianlin Mi, G. Ganetis, W. Louie, J. Sandberg, W. Zhang (Brookhaven National Laboratory)*

**TPAH023 Operational Experience with a Radio-Frequency-Based Streak Camera**

*Sergei Gurov, Petr Bak, Gusev Evgeniy, Pavel Logatchov, Tokarev Oleg, Evgeniy Pyata (Budker Institute of Nuclear Physics), R. Calabrese, Luca Guide, Vincenzo Guidi (Department of Physics and INFN, University of Ferrara, Italy), Luigi Tecchio (Legnaro National Laboratory, INFN, Italy)*

**TPAH024 Experimental Study of Transition Radiation in the Near Zone**

*Victor Verzilov, Michele Castellano, Luciano Catani, Alessandro Cianchi (Istituto Nazionale di Fisica Nucleare), Elena Cianci, Vittorio Foglietti, Andrea Notargiacomo (IESS CNR), Gerardo D'Auria, Mario Ferianis, Carlo Rossi (Sincrotrone Trieste)*

**TPAH025 Energy Distribution Diagnosis for Laser Wakefield Experiments Using Cerenkov Radiation**

*Palmyra Catravas, Eric Esarey, Wim Leemans (Lawrence Berkeley National Laboratory)*

**TPAH026 A Very High Resolution Optical Transition Radiation Beam Profile Monitor**

*Marc Ross, Scott Anderson, Josef Frisch, Keith Jobe, Douglas McCormick, Bobby McKee, Janice Nelson, Tonee Smith (Stanford Linear Accelerator Center), Hitoshi Hayano, Takashi Naito, Nobuhiro Terunuma (High Energy Accelerator Research Organization)*

**TPAH027 Transition Radiation for Uneven, Limited Surfaces**

*Sven Reiche, James Rosenzweig (University of California, Los Angeles)*

**TPAH028 The Application of OTR-DR Interferometry to the Measurement of the Divergens of Low Energy Electron Beams**

*Anatoly Shkvarunets, Donald Feldman, John Harris, Jonathan Neumann, Patrick O'Shea (University of Maryland), Ralph Fiorito (Catholic University of America, Washington DC)*

**TPAH029 Analysis of Coherent Optical Transition Radiation Interference Patterns Produced by SASE-Induced Microbunches**

*D.W. Rule (Naval Surface Warfare Center, Carderock Division), A. H. Lumpkin (Argonne National Laboratory)*

**TPAH030 Schottky Measurements During RHIC 2000**

*Peter Cameron (Brookhaven National Laboratory)*

**TPAH031 Carbon Wire Profile Monitors in the SNS**

*Peter Cameron (Brookhaven National Laboratory)*

**TPAH032 Tune Feedback at RHIC**

*Peter Cameron (Brookhaven National Laboratory)*

**TPAH033 Performance of the RHIC IPM**

*Roger Connolly, P. Cameron, R. Michnoff, S. Tepikian (Brookhaven National Laboratory)*

**TPAH034 SNS Laser-Wire Experiments**

*Roger Connolly, P. Cameron, J. Cupolo, M. Grau, M. Kesselman, C-J. Liaw, R. Sikora (Brookhaven National Laboratory)*

**TPAH035 A Comparison of Several Instruments Measuring Transverse Beam Profile**

*Stanley Pruss (Fermi National Accelerator Laboratory)*

**TPAH036 Permanent Magnet Ion Profile Monitor at the Fermilab Main Injector**

*James Zigel, S. Assadi, B.C. Brown, H. Glass, D. J. Harding, L. Koziem, S.M. Pruss, J. Volk (Fermi National Accelerator Laboratory)*

**TPAH037 Analysis of Data from the LEDA Wire Scanner/Halo Scraper**

*James Kamperschroer (General Atomics), James O'Hara (Honeywell), Lisa Day, Doug Gilpatrick (Los Alamos National Laboratory)*

**TPAH038 New Beam Profile Monitoring System for the IHEP Extracted Beams**

*Victor Terekhov, Alexander Afonin, Gennadi Antonichev, Vladimir Gorlov, Victor Gres, Irina Ivanova, Vladimir Momot (Institute of High Energy Physics, Protvino)*

**TPAH039 First Measurement of Transverse Beam Emittance Using Diffraction Transition Radiation**

*Michele Castellano, Luciano Catani, Alessandro Cianchi, Viktor Verzilov (Istituto Nazionale di Fisica Nucleare), Elena Cianci, Vittorio Foglietti, Andrea Notargiacomo (IESS CNR), Gerardo D'Auria, Mario Ferianis, Carlo Rossi (Sincrotrone Trieste)*

**TPAH040 Automated Control and Real-Time Data Processing of Wire Scanner/Halo Scraper Measurements**

*Patrick Colestock, D. Barr, L. Day, J.D. Gilpatrick (Los Alamos National Laboratory), J.H. Kamperschroer (General Atomics), J.F. O'Hara (Honeywell)*

**TPAH041 Wire Scanner Design for the SNS Superconducting-RF Linac**

*Robert Hardekopf, Ross Meyer, Michael Plum, John Power, David Sattler, Robert Shafer (Los Alamos National Laboratory)*

**TPAH042 Experience with Photomultiplier Based Beam Loss Monitors (PMBLM) at the Low Energy Demonstration Accelerator (LEDA)**

*William Sellyey, J. Douglas Gilpatrick, Michael E. Gruchalla, Pilar S. Marroquin (Los Alamos National Laboratory)*

**TPAH043 Bench Test of Residual Gas Ionization Profile Monitor (RGIPM)**

*William Sellyey, J. Douglas Gilpatrick (Los Alamos National Laboratory)*

**TPAH044 The High-Heat Flux Testing of an Interceptive Device for an Intense Proton Beam**

*Robert Valdiviez, Larry Earley, Richard LaFave, Felix Martinez, Dinh Nguyen, Armando Rendon (Los Alamos National Laboratory)*

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*Alexander Tron (Moscow Engineering Physics Institute)*

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*Alexander Aleksandrov (Oak Ridge National Laboratory)*

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*Alex Murokh, James Rosenzweig (University of California, Los Angeles), Ilan Ben-Zvi, Xijie Wang, Vitaly Yakimenko (Brookhaven National Laboratory)*

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*Efstathios Stiliaris, S. Cohen, D. Economou, A. Karabarounis, N.H. Papadakis, C.N. Papanicolas, M. Tzamtzi (Institute of Accelerating Systems & Applications)*

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*SukHong Kim (Argonne National Laboratory)*

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*Robert Lill (Argonne National Laboratory)*

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*Chun-xi Wang, Michael Borland, Kwang-Je Kim, Vadim Sajaev (Argonne National Laboratory)*

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*David Gassner, Peter Cameron (Brookhaven National Laboratory), Richard Witkover (TechSource, Inc.)*

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*Martin Kesselman, Peter Cameron, John Cupolo (Brookhaven National Laboratory)*

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*James Rose, F. Severino (Brookhaven National Laboratory)*

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*Jeffrey Rothman (Brookhaven National Laboratory)*

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*Christian Magne (CE Saclay)*

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*Mark Palmer, John Dobbins, Donald Hartill, Charles Strohman (Cornell University)*

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*Igor Pinayev, Brendan Crowley, Steve Hartman, Vladimir Litvinenko, Werner Tornow, Henry Weller (Duke University)*

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*Tohru Honda, Yukinori Kobayashi, Tsukasa Miyajima, Takashi Obina (High Energy Accelerator Research Organization)*

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*Dean Barr, J. Douglas Gilpatrick, Robert B. Shurter (Los Alamos National Laboratory)*

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*Sergey Kurennoy (Los Alamos National Laboratory)*

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*John Power, Sergey Kurennoy, James O'Hara, Michael Plum, Robert Shafer, Matthew Stettler (Los Alamos National Laboratory)*

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*Scott Nelson, Thomas Fessenden, Clifford Holmes (Lawrence Livermore National Laboratory)*

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*Junhua Wang, Jianhong Liu, Zuping Liu, Lianguan Shen, Guicheng Wang (National Synchrotron Radiation Lab)*

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*Jung-Yun Huang (Pohang Accelerator Laboratory)*

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*Kuotung Hsu, Jenny Chen, Kuo-Hwa Hu, Chang-Hor Kuo, Demi Lee, Ke-Kang Lin (Synchrotron Radiation Research Center)*

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*John Harris (Institute for Plasma Research, University of Maryland), Patrick G. O'Shea, Marcel Pruessner, Bryan Quinn, Martin Reiser, Victor Yun (University of Maryland)*

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*Charles Schwartz, J. Carwardine, T. Fors (Argonne National Laboratory)*

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*Arthur Grelick, Steve Berg, George Goepfner, John Wellen, Stephen Milton, Alireza Nassiri, Geoffrey Pile, Terry Smith (Argonne National Laboratory)*

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*Douglas Horan, Dave Bromberek, Ali Nassiri, Geoff Pile (Argonne National Laboratory)*

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*Klaus Bürkmann, Andreas Knoch, Heinz Prange, Dirk Schüler, Günter Schindhelm, Tobias Schneegans (BESSY)*

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*Raymond Filler III, Angelika Drees, David Gassner, Gary McIntyre, Dejan Trbojevic (Brookhaven National Laboratory), Valery Biryukov, Yury Chesnokov, Victor Terekhov (Institute of High Energy Physics, Protvino)*

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*Nikolaos Simos, Nuria Catalan-Lasheras, Hans Ludewig, Jie Wei (Brookhaven National Laboratory)*

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*Nikolaos Simos, Kevin Brown, Harold Kirk, Ralf Prigl (Brookhaven National Laboratory)*

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*Jean-Louis Lemaire (French Atomic Energy Commission)*

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*Jean-Louis Lemaire (French Atomic Energy Commission)*

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*Jerry Leibfritz, Kermit Carlson, A. Curtis Crawford, Vladimir Kashikhin, Alexander Makarov, Michael McGee, Sergei Nagaitsev, Greg Saewert, Fred Saffrahn, Alexander Shemyakin, Arden Warner (Fermi National Accelerator Laboratory)*

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*David Christiansen, Peter Smith, George Spalek (General Atomics)*

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*Yury Chesnokov, A.G. Afonin, V.T. Baranov, V.M. Biryukov, V.N. Chepegin, Yu.S. Fedotov, V.I. Kotov, V.I. Terekhov, E.F. Troyanov (Institute of High Energy Physics, Protvino), D. Trbojevic (Brookhaven National Laboratory), W. Scandale (CERN), V. Guidi, G. Martinelli, M. Stefancich, D. Vincenzi (Ferrara University), Yu.M. Ivanov (Petersburg Nuclear Physics Institute), M.B.H. Breese (Surrey University)*

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*Hikaru Sato, Tomio Kubo, Katsumi Marutsuka, Yoshio Saito, Masashi Shirakata, Noboru Tokuda (High Energy Accelerator Research Organization)*

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*Takeshi Toyama, Yoshio Saito, Masahiko Uota (High Energy Accelerator Research Organization), Michikazu Kinsho, Hiroshi Tsutsui (Japan Atomic Energy Research Institute)*

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*Richard Brown, John Bernardin, Stanley Brown, Gerald Bustos, Martin Crow, William Gregory, Michael Hood, James Journey, Ivan Medalen, Albert Owen Jr., Robert Weiss (Los Alamos National Laboratory)*

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*Richard Brown, John Bernardin, William Gregory (Los Alamos National Laboratory)*

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*David Katonak, John Bernardin, Steve Hopkins (Los Alamos National Laboratory)*

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*Sergey Kurennoy, J.F. Power, R.J. Roybal, D.L. Schrage (Los Alamos National Laboratory)*

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*Robert Merl, Kevin Kupcho, Ronald Nelson (Los Alamos National Laboratory)*

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*Chris Rose, Patrick Lara, Ronald Nelson (Los Alamos National Laboratory)*

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*Chris Rose, Patrick Lara, Ronald Nelson (Los Alamos National Laboratory)*

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*Victor Karpenko, Peter Seidl (Lawrence Berkeley National Laboratory), R.M. Franks, Steve Lund (Lawrence Livermore National Laboratory)*

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*Victor Karpenko, Peter Seidl (Lawrence Berkeley National Laboratory), R. M. Franks, Steve Lund (Lawrence Livermore National Laboratory)*

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*Mark Franks, Owen Alford, Louis Bertolini (Lawrence Livermore National Laboratory)*

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*Ron Akre (Stanford Linear Accelerator Center)*

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*Robert Dortwegt*

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*Marcel Gaudreau, Jeffrey Casey, Timothy Hawkey, Michael Kempkes, Michael Mulvaney, Ian Roth (Diversified Technologies, Inc.)*

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*Kevin Beczek, John Lewellen (Argonne National Laboratory)*

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*Lin Zhang, Marc Lesourd (European Synchrotron Radiation Facility), Tom Lewis (Damping Technologies, Inc)*

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*Vladimir Shiltsev, John Marriner (Fermi National Accelerator Laboratory)*

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*Vladimir Shiltsev, Joseph Lach (Fermi National Accelerator Laboratory), Boris Baklakov, Andrei Chupira, Alexander Erokhin, Mikhail Kondaurov, Vasily Parkhomchuk, Evgeni Shubin, Shavkat Singatulin (Budker Institute of Nuclear Physics)*

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*Shigeru Takeda (High Energy Accelerator Research Organization)*

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*Stephen Ellis (Los Alamos National Laboratory)*

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*Weishi Wan, John Galambos, Jie Wei (Oak Ridge National Laboratory)*

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*Andrei Seryi, Sri Adiga (Stanford Linear Accelerator Center)*

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*Timothy Whitlatch, Chris Curtis, Ed Daly, Phil Mutton, Jim Pitts, Joe Preble, Wayne Sachleben, William Schneider, Stephanie Slachtouski, Mark Wiseman (Thomas Jefferson National Accelerator Facility), Kay Matsumoto (Los Alamos National Laboratory)*

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*Charles Doose, Louis Emery, Suk Kim (Argonne National Laboratory)*

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*J. Norem, A. Hassanein (Argonne National Laboratory)*

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*Boris Grishanov (Budker Institute of Nuclear Physics)*

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*Konstantin Gubin, Mikhail Avilov, Nikolay Kot, Pavel Logatchev, Pavel Martyshkin, Sergey Morozov, Alexander Starostenko (Budker Institute of Nuclear Physics)*

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*German Tumaikin, Sergey Rastigeyev, Vladimir Vostrikov (Budker Institute of Nuclear Physics)*

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*Tatiana Vsevolozhskaya (Budker Institute of Nuclear Physics)*

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*Leif Ahrens, J.L. Mi, W. Zhang (Brookhaven National Laboratory)*

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*Joanne Beebe-Wang, Yong Y Lee, Deepak Raparia, Jie Wei (Brookhaven National Laboratory)*

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*Kevin Brown, D. Gassner, J.W. Glenn, R. Prigl, J. Scaduto, N. Simos, N. Tsoupas (Brookhaven National Laboratory)*

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*Kevin Brown, C. Gardner, J.W. Glenn, I. Marneris, N. Tsoupas, W. van Asselt (Brookhaven National Laboratory)*

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*Nuria Catalan-Lasheras (Brookhaven National Laboratory)*

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*Joseph DeLong, J. M. Brennan, W. Fischer, T. Hayes, K. Smith, S. Valentino (Brookhaven National Laboratory)*

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*Joseph Glenn, I-Hung Chiang, Donald Lazarus, Michael Sivertz (Brookhaven National Laboratory), Shane Koscielniak (TRIUMF)*

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*Bruce King, Nick Simos, Robert Weggel (Brookhaven National Laboratory), Nikolai Mokhov (Fermi National Accelerator Laboratory)*

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*Chong-Jer Liaw, Yong Y Lee, Joseph E Tuozzolo (Brookhaven National Laboratory)*

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*Roman Samulyak, Wohho Oh (Brookhaven National Laboratory)*

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*Jan Borburgh, Mike Hourican, Michel Thivent (CERN)*

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*Brennan Goddard, Etienne Carlier, Patrick Knaus, Jan Uythoven (CERN)*

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*Anke-Susanne Mueller, Luc Durieu, Michel Martini (CERN)*

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*Anke-Susanne Mueller, Massimo Giovannozzi, Michel Martini (CERN)*

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*Valeri Balbekov, Nikolai Mokhov (Fermi National Accelerator Laboratory)*

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*Oliver Meusel, Christoph Gabor, Ansgar Jakob, Juergen Pozimski (Institut für Angewandte Physik)*

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*Alexey Asseev, Yuriy Karshev, Alexander Maximov, Alexander Minchenko, Gennadiy Voronin (Institute of High Energy Physics, Protvino)*

**TPAH149 Progress in Study of Efficient Crystal Extraction at IHEP**

*Evgeny Troyanov, A.G. Afonin, V.T. Baranov, V.M. Biryukov, V.N. Chepegin, Yu.A. Chesnokov, Yu.S. Fedotov, V.I. Kotov, V.I. Terekhov (Institute of High Energy Physics, Protvino), D. Trbojevic (Brookhaven National Laboratory), W. Scandale (CERN), V. Guidi, G. Martinelli, M. Stefancich, D. Vincenzi (Ferrara University), Yu.M. Ivanov (Petersburg Nuclear Physics Institute), M.B.H. Breese (Surrey University)*

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*Igor Kalafgin, G. Gulbekian, I. Ivanenko (Joint Institute for Nuclear Research)*

**TPAH151 Thermal and Structural Analysis of a Beam Stop**

*Snezana Konecni, David Ireland, Ross Meyer (Los Alamos National Laboratory)*

**TPAH152 Mechanical Design of the SNS MEBT**

*Daryl Oshatz, Allan DeMello, Lawrence Doolittle, John Staples, Andrew Zachoszcz (Lawrence Berkeley National Laboratory)*

**TPAH153 A Thermal Analysis Model for High Power Density Beam Stops**

*Steve Virostek, Daryl Oshatz, John Staples (Lawrence Berkeley National Laboratory)*

**TPAH154 Target Enclosure/System Design for a Mercury-Target Neutrino Producing Facility**

*Philip Spampinato, Joel Chesser, Tony Gabriel, John Haines (Oak Ridge National Laboratory)*

**TPAH155 The Primary Target Facility for a Neutrino Factory Based on Muon Beams**

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**TPAH156 The R&D Program for Targetry at a Neutrino Factory**

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*James Sebek, J. Langton, G. Pappas (Stanford Linear Accelerator Center)*

**TPAH159 Design of the JLAB Energy Upgrade Cryomodule Cold Mass**

*John Hogan, Isidoro Campisi, Jean Delayen, Richard Getz, Al Guerra, James Henry, Peter Kneisel, John Mammosser, H. Lawrence Phillips, Joseph Preble, William Schneider, Karl Smith, James Takacs, Larry Turlington, Mark Wiseman (Thomas Jefferson National Accelerator Facility)*

**TPAH160 The NuMI Hadronic Hose**

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**TPAH161 High-Brightness Racetrack Microtron Injector**

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**TPAH162 Liquid Helium Cryogenic System for the Superconducting Cavity in SRRC**

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**TPAH301 System Identification of the Linac RF System Using a Wavelet Method and Its Applications in the SNS LLRF Control System**

*Yi-Ming Wang, Sung-il Kwon, Amy Regan (Los Alamos National Laboratory)*

**TPAH302 Longitudinal and Transverse Feedback Systems for PLS Storage Ring**

*Heung-Sik Kang, Jung-Yun Huang, Woon-Ha Hwang, Do-Tae Kim, Sang-Hoon Nam, Hong- Jip Park (Pohang Accelerator Laboratory)*

**TPAH303 Development and Diagnostic Tools in the Feedback System of SRRC**

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**TPAH304 Design of the Cerenkov Radiation Detection System for the Advanced Photon Source Storage Ring**

*Anthony Pietryla, William Berg (Argonne National Laboratory), Robert Merl (Los Alamos National Laboratory)*

**TPAH305 Longwavelength Transition Radiation by Relativistic Electron Oblique Moving Through a Thin Target**

*Sergiy Dobrovolsky (National Scientific Center, Kharkov), Nikolai Shul'ga (National Scientific Center, Kharkov Institute of Physics and Technology)*

**TPAH306 Some Aspects of Transition Radiation (TR) Theory**

*Edmond Gazazyan, Sergey Elbakyan, Karapet Ispiryan (Yerevan Physics Institute)*

**TPAH307 Design of a Beam Size Monitor Using Fresnel Zone Plates**

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**TPAH308 Development of a Non-Destructive Beam Profile Monitor Using a Gas Sheet**

*Yoshinori Hashimoto, Yuzo Fujita, Teruhisa Morimoto, Suguru Muto (High Energy Accelerator Research Organization), Daisuke Ohsawa (Kyoto University), Takashi Fujisawa, Toshihiro Homma, Kouji Noda, Yukio Sato, Satoru Yamada (National Institute of Radiological Sciences), Hidetaka Kawauchi, Atsuo Morinaga, Yoshiyuki Taki (Science University of Tokyo), Junpei Takano, Kouji Takano (Takano Giken CO, Ltd.)*

**TPAH309 Development of Measurement Equipment for Calibrating Beam Position Monitor in HLS Storage Ring**

*Lianguan Shen, Wang Guicheng, Junha Wang (National Synchrotron Radiation Lab)*

**TPAH310 Single-Pass BPM System of NewSUBARU**

*Yoshihiko Shoji, Ainosuke Ando, Satoshi Hashimoto, Yoshitaka Kawashima, Takashi Ohshima (Japan Synchrotron Radiation Research Institute)*

**TPAH311 Efficiency of the Losses Localization Systems**

*Igor Yazynin, Igor Degtyarev (Institute of High Energy Physics, Protvino)*

**TPAH312 Leak Sealing Inaccessible Accelerator Cooling Water Pipework**

*Gregory Willetts (National Nuclear Corporation Limited (UK))*

**TPAH313 Slow Beam Extraction from the Nuclotron**

*Igor Issinsky, Nikolay Agapov, Vasiliy Andreev, Stanislav Averichev, Alexander Baldin, Nikolay Blinov, Oleg Brovko, Vladimir Buldakovsky, Andrey Butenko, Oleg Golubitsky, Alexander Govorov, Evgeny Ivanov, Serge Kalenov, Vladimir Kaplin, Hamlet Khodgibagiyan, Alexander Kirichenko, Anatoly Kochurov, Alexander Kovalenko, Oleg Kozlov, Ilya Kulikov, Leonid Leonov, Alexander Malakhov, Evgeny Matyushevsky, Igor Meshkov, Vladimir Mikhailov, Valery Monchinsky, Peter Nikitayev, Stanislav Novikov, Serge Romanov, Pavel Rukoyatkin, Shamil Sayfulin, Vasily Seleznev, Anatoly Smirnov, Boris Sveshnikov, Bogdan Vasilishin, Mikhail Voevodin, Anatoly Vol'nov, Valery Volkov (Joint Institute for Nuclear Research)*

**TPAH314 Evaluation of Ionization Cross-Sections in Energetic Ion-Atom Collisions**

*Igor Kaganovich, Ronald C. Davidson, Larry Grisham, Dennis Mueller (Princeton University)*

**TPAH315 Crystal Horn for Neutrino Beam Sources**

*Yuriy Bashmakov (Lebedev Physical Institute)*

**TPAH316 Electron Beam Extraction from the Synchrotron "Pakhra"**

*Yuriy Bashmakov, Vladislav Karpov (Lebedev Physical Institute)*

**Session TOPA: Light Sources and Free-Electron  
Lasers (1 of 2)**

**Grand Ballroom (Session A) at 13:30**  
**Session Chairs: W. Trzeciak and R. Walker**

**TOPA001 The Frontier of Ultrashort Pulse  
Techniques: Probing the Quantum Limit of Rapidity  
(Invited)**

*Swapan Chattopadhyay (Lawrence Berkeley National  
Laboratory)*

**TOPA002 Overview of New Light Sources (Invited)**

*Mark de Jong (Canadian Light Source)*

**TOPA003 Commissioning of the Swiss Light Source**

*Andreas Streun (Paul Scherrer Institut)*

**TOPA004 The DIAMOND Project: An Advanced Light  
Source for the UK**

*Michael Poole, James Clarke, Michael Dykes, Mark Heron,  
David Holder, James Kay, Neil Marks, Colin Nave, Ronald  
Reid, Roy Ryder, Susan Smith, Victor Suller (Daresbury  
Laboratory), Richard Mason (Rutherford Appleton  
Laboratory)*

**TOPA005 The Energy Recovery Linac (ERL) as a  
Driver for X-ray Producing Insertion Devices**

*Maury Tigner, I. Bazarov, D. Bilderback, S. Gruner, H.  
Padamsee (Cornell University), G. Krafft, L. Merminga, C.  
Sinclair (Thomas Jefferson National Accelerator Facility)*

**TOPA006 A Superconductive Small Period Undulator:  
Concept and Test Result**

*Robert Rossmannith (Forschungszentrum Karlsruhe), Andreas  
Geisler, Achim Hohl, Michael Schillo (ACCEL GmbH)*

**Session TOPA: Light Sources and Free-Electron  
Lasers (2 of 2)**

**Grand Ballroom (Session A) at 15:40**  
**Session Chairs: W. Trzeciak and R. Walker**

**TOPA007 Measurements of Exponential Gain and  
Saturation of SASE at the APS LEUTL (Invited)**

*Stephen Milton, and The APS LEUTL Commissioning Team  
(Argonne National Laboratory)*

**TOPA008 Issues and R&D Critical to the LCLS  
(Invited)**

*Paul Emma (Synchrotron Radiation Center, University of  
Wisconsin)*

**TOPA009 High-Gain Harmonic Generation Free-Electron Laser at Saturation**

*Timur Shaftan, M. Babzien, I. Ben-Zvi, L.F. DiMauro, A. Doyuran, W. Graves, E. Johnson, S. Krinsky, R. Malone, I. Pogorelsky, G. Rakowsky, J. Skaritka, X.J. Wang, M. Woodle, V. Yakimenko, L. H. Yu (Brookhaven National Laboratory), S. G. Biedron, J. Jagger, V. Sajaev, I. Vasserma (Argonne National Laboratory)*

**TOPA010 A 10 kW IRFEL Design for Jefferson Lab**

*Stephen Benson, George Biallas, James Boyce, David Douglas, H. Frederick Dylla, Richard Evans, Al Grippo, Joseph Gubeli, Kevin Jordan, Geoffrey Krafft, Rui Li, John Mammosser, Lia Merminga, George Neil, Larry Phillips, Joseph Preble, Michelle Shinn, Tim Siggins, Richard Walker, Byunn Yunn (Thomas Jefferson National Accelerator Facility)*

**TOPA011 Prospects for a 4th Generation Light Source for the UK**

*James Clarke, Hywel Owen, Michael Poole, Susan Smith, Naomi Wyles (Daresbury Laboratory)*

**TOPA012 Design and Manufacture of a Prototype Undulator for the LCLS Project**

*Patric Den Hartog, Roger Dejus, Efim Gluskin, Elizabeth Moog, Isaac Vasserma (Argonne National Laboratory), Vladimir Tcheskidov, Nikolai Vinokurov (Budker Institute of Nuclear Physics)*

**Session TOPB: Controls and Computing (1 of 2)**

**Grand Ballroom (Session B) at 13:30**

**Session Chairs: D. Gurd and F. Zimmerman**

**TOPB001 How to Commission, Operate and Maintain a Large Future Accelerator Complex from Far Remote Sites (Invited)**

*Ferdinand Willeke (Deutsches Elektron Synchrotron)*

**TOPB002 Parallel Computations of Wakefield Effects in Linear Colliders and Storage Rings (Invited)**

*Zenghai Li, N. Folwell, G. Golub, A. Guetz, K. Ko, B. McCandless, C. Ng, Y. Sun, M. Wolf, R. Yu (Stanford Linear Accelerator Center)*

**TOPB003 Comparison of Linac Simulation Codes**

*Subrata Nath, James Stovall, Harunori Takeda, Ji Xiang, Lloyd Young (Los Alamos National Laboratory), Nicolas Pichoff, Didier Uriot (CE Saclay), Robert Ryne (Lawrence Berkeley National Laboratory), Kenneth Crandall (TechSource)*

**TOPB004 Multiturn Simulation of Coherent Betatron Resonance with Space Charge**

*Mikhail D'yachkov, Richard Baartman, Frederick Jones (TRIUMF)*

**TOPB005 Solving by Parallel Computation the Poisson Problem for High Intensity Beams in Accelerators**

*Alfredo Luccio, Nicholas L. D'Imperio (Brookhaven National Laboratory), James Glinn (State University of New York at Stony Brook)*

**TOPB006 Calculating Trapped Modes in Accelerating Cavities with Time and Frequency Domain Methods**

*Rolf Schuhmann, Thomas Weiland (Darmstadt University of Technology)*

**Session TOPB: Controls and Computing (2 of 2)**

**Grand Ballroom (Session B) at 15:40**

**Session Chairs: D. Gurd and F. Zimmerman**

**TOPB007 EPICS: Recent Applications and Future Directions (Invited)**

*Leo Dalesio (Los Alamos National Laboratory)*

**TOPB008 High Reliability Computing for Control and Safety Systems (Invited)**

*William Goble (exida.com)*

**TOPB009 Control System Segmentation**

*Karen White, Matthew Bickley (Thomas Jefferson National Accelerator Facility)*

**TOPB010 Finite State Machine Implementation to Automate RF Operation at the TESLA Test Facility**

*Valeri Ayvazyan, Kay Rehlich, Stefan Simrock (Deutsches Elektron Synchrotron)*

**TOPB011 New X-Ray BPM Data Acquisition System for the APS**

*Frank Lenkszus, Glenn Decker, Lester Erwin, Michael Hahne, Robert Laird, Om Singh (Argonne National Laboratory)*

**TOPB012 Commissioning of the SLS Using CORBA based Beam Dynamics Applications**

*Michael Boege, Jan Chrin, Marc Munoz, Andreas Streun (Paul Scherrer Institut)*

**Session TPPH: Beam Dynamics and Instabilities**  
Poster Hall at 13:30

**TPPH001 Beam Transmission and Emittance in the IPNS 50 MeV LINAC**

*Jeffrey Dooling, Frank Brumwell, Lawrence Donley, Gerald McMichael, Vernon Stipp (Argonne National Laboratory)*

**TPPH002 Experimental Investigation on the Impact of the Harmonic Sextupoles in the BESSY II Storage Ring**

*Bettina Kuske, Olaf Dressler, Peter Kuske (BESSY)*

**TPPH003 Investigation of Non-Linear Beam Dynamics with Apple-type Undulators at BESSY II**

*Peter Kuske (BESSY)*

**TPPH004 The Dynamic Aperture of VEPP-4M**

*Eugeni Levichev (Budker Institute of Nuclear Physics)*

**TPPH005 Injection Painting Optimization with Fuzzy Logic Expert System**

*Joanne Beebe-Wang, Johnny Tang (Brookhaven National Laboratory)*

**TPPH006 Measuring Nonlinear Momentum Compaction in RHIC**

*Michael Blaskiewicz, J.M. Brennan, P. Cameron, A. Drees, J. Kewisch, T. Roser, K. Smith (Brookhaven National Laboratory), C. Tang (State University of New York at Stony Brook)*

**TPPH007 Impact of Magnetic Field Interference in the SNS Accumulator Ring**

*Yannis Papaphilippou, John Jackson, Yong Y. Lee, Wuzheng Meng, Nick Tsoupas (Brookhaven National Laboratory)*

**TPPH008 Application of UAL-Based Correction Schemes to the SNS Accumulator Ring**

*Yannis Papaphilippou, Alexei Fedotov, Nikolay Malitsky, Andrei Shishlo, Jie Wei (Brookhaven National Laboratory)*

**TPPH009 Deterministic Chaos**

*Zohreh Parsa (Brookhaven National Laboratory), Veladimir Zadorozhny (Institute of Cybernetic, National Academy of Sciences of Ukraine)*

**TPPH010 Beam Parameters of the AGS Synchrotron during Fast Beam Extraction**

*Nicholaos Tsoupas, Leif Ahrens, Kevin Brown, Wooderson Glenn, Kevin Smith, Willem van Asselt (Brookhaven National Laboratory)*

**TPPH011 General Relativity Derivation of Beam Rest-Frame Hamiltonian**

*Jie Wei (Brookhaven National Laboratory)*

**TPPH012 Correction of the Long-Range Beam-Beam Effect in LHC using Electromagnetic Lenses**

*Jean-Pierre Koutchouk (CERN)*

**TPPH013 Beam-based Measurements of Field Multipoles in the RHIC Low-Beta Insertions and Extrapolation of the Method to the LHC**

*Jean-Pierre Koutchouk (CERN), Fulvia Pilat, Vadim Ptitsyn (Brookhaven National Laboratory)*

**TPPH014 Dynamic Effects in the Main Linac of CLIC**

*Daniel Schulte, Nicolas Leros (CERN)*

**TPPH015 Robustness of the Resonance-Free Lattice against Gradient Errors**

*Andre Verdier, Frank Schmidt (CERN), Dobrin Kaltchev (TRIUMF)*

**TPPH016 Feed-Down Effect in Dipole Alignment**

*Andre Verdier, Stephane Fartoukh, Elena Wildner (CERN)*

**TPPH017 Fast Beam-Ion Instability Simulations in the TESLA Electron Damping Ring and the FEL Transfer Line**

*Christoph Montag (Deutsches Elektron Synchrotron)*

**TPPH018 Transverse Beam Tail Shaping in HERA-p by Means of Tune Modulation**

*Christoph Montag (Deutsches Elektron Synchrotron)*

**TPPH019 Non-Linear Optics Studies at the ESRF**

*Annick Ropert, Laurent Farvacque (European Synchrotron Radiation Facility)*

**TPPH020 Pbar Acceleration in the MI - A Tuneup Study**

*Chandra Bhat (Fermi National Accelerator Laboratory)*

**TPPH021 Round Beams, Mapping Invariance and Angular Momentum Preservation**

*Alexey Burov (Fermi National Accelerator Laboratory)*

**TPPH022 An Imaginary Gamma-t Lattice for the Fermilab Proton Driver**

*Weiren Chou, Alexandr Drozhdin, Carol Johnstone (Fermi National Accelerator Laboratory), David Ritson (Stanford University), Shoroku Ohnuma (University of Hawaii)*

**TPPH023 Large Acceptance Imaginary Gamma-t Lattice for a 16-GeV Proton Driver**

*Carol Johnstone (Fermi National Accelerator Laboratory)*

**TPPH024 Optimizing Bunch Coalescing in Fermilab Main Injector**

*Kiyomi Koba (Fermi National Accelerator Laboratory)*

**TPPH025 A Two-Parameter Accelerating FODO Cell: From Circular Reasoning to Straight Thinking**

*Leo Michelotti (Fermi National Accelerator Laboratory)*

**TPPH026 Dynamic Aperture of Fermilab Recycler Ring**

*Meiqin Xiao, Tanaji Sen (Fermi National Accelerator Laboratory)*

**TPPH027 Effects of Nonlinear Terms in the Wiggler Magnets at DAFNE**

*Catia Milardi, David Alesini, Gabriele Benedetti, Sergio Bertolucci, Caterina Biscari, Manuela Boscolo, Simone Di Mitri, Giampiero Di Pirro, Alessandro Drago, Andrea Ghigo, Susanna Guiducci, Giovanni Mazzitelli, Miro Preger, Fernando Sannibale, Alessandro Stecchi, Cristina Vaccarezza, Mikhail Zobov (Istituto Nazionale di Fisica Nucleare), Pantaleo Raimondi (Stanford Linear Accelerator Center)*

**TPPH028 Simulation of SNS Beam in Gap Cleaning**

*Sarah Cousineau (Indiana University), Nuria Catalan-Lasheras (Brookhaven National Laboratory), Jeff Holmes (Oak Ridge National Laboratory)*

**TPPH029 Resonance Strength for the Synchrotron Hamiltonian with RF Phase Modulation**

*S.Y. Lee, Yunkai Zhang (Indiana University)*

**TPPH030 Lattice Diagnostics and Correction at KEKB**

*Haruyo Koiso (High Energy Accelerator Research Organization)*

**TPPH031 Experimental Measurements of Third-Order Resonance Islands at the Photon Factory Storage Ring**

*Tsukasa Miyajima, Yukinori Kobayashi, Kazuhito Ohmi (High Energy Accelerator Research Organization)*

**TPPH032 Parameters for Quantifying Beam Halo**

*Christopher Allen, Thomas Wangler (Los Alamos National Laboratory)*

**TPPH033 Coupled-Plane Resonance: A Mechanism for Very Large Amplitude Halo Formation**

*Ji Qiang (Los Alamos National Laboratory), Ingo Hofmann (Gesellschaft für Schwerionenforschung mbH), Robert Ryne (Lawrence Berkeley National Laboratory)*

**TPPH034 RF Undulator Field and Ion Beam Acceleration in Linac**

*Eduard Masunov (Moscow Engineering Physics Institute)*

**TPPH035 Beam Dynamics Study of a Superconducting Linear Accelerator for RIA**

*Jong-Won Kim, Dmitri Gorelov, Felix Marti, Holger Podlech, Xiaoyu Wu, Richard York (National Superconducting Cyclotron Laboratory)*

**TPPH036 Beam Induced Transient Vacuum Instability in H- Beam**

*Alexander Aleksandrov (Oak Ridge National Laboratory)*

**TPPH037 3-D Calculations of Field Distribution in the MEBT Quad and Effect of the Fringe Field on Beam Dynamics**

*Alexander Aleksandrov (Oak Ridge National Laboratory)*

**TPPH038 Calculations of the Electron Accumulation in the SNS Accumulator Ring**

*Viatcheslav Danilov, Alexander Aleksandrov (Oak Ridge National Laboratory), Mike Blaskiewicz, Jie Wei (Brookhaven National Laboratory)*

**TPPH039 90-Degree Collision to Obtain High Luminosity**

*Viatcheslav Danilov (Oak Ridge National Laboratory)*

**TPPH040 Transverse Impedance Implementation in ORBIT**

*Viatcheslav Danilov, John Galambos, Jeff Holmes (Oak Ridge National Laboratory)*

**TPPH041 Proposal for Experiments on Wave Function Localization**

*Viatcheslav Danilov, Alexander Aleksandrov (Oak Ridge National Laboratory)*

**TPPH042 Cavity Misalignment and Off-Axis Fields Effect on Transverse Beam Dynamic in Spallation Neutron Source Superconducting Linac**

*Marc Doleans, Sang-ho Kim (Oak Ridge National Laboratory), Jim Stovall (Los Alamos National Laboratory), Ronald Sundelin (Thomas Jefferson National Accelerator Facility)*

**TPPH043 Study of Drift Compression for Heavy Ion Fusion Drivers**

*Chang Jun, Ronald Davidson, Philip Heitzenroeder, Hong Qin (Princeton University)*

**TPPH044 Experimental Measurements and Simulation of Transverse Wakefield Effects in the SLC Linac**

*Linda Hendrickson, Franz-Josef Decker, Pantaleo Raimondi (Stanford Linear Accelerator Center)*

**TPPH045 Higher Order Chromatic Aberration of Betatron Function of Circular Accelerators**

*Masaru Takao, Kouichi Soutome, Hitoshi Tanaka (Japan Synchrotron Radiation Research Institute)*

**TPPH046 Nonlinear Beam Dynamics Experiments at the SRRC**

*C.C. Kuo, H.P. Chang, J. Chen, K.T. Hsu, K.H. Hu, K.K. Lin, Y.C. Liu, H.J. Tsai, T. S. Ueng (Synchrotron Radiation Research Center)*

**TPPH047 Experimental Study on the 5th Order Nonlinear Resonance at Taiwan Light Source**

*Tzong-Shyan Ueng, Jenny Chen, Kuo-Tung Hsu, Kuo-Hwa Hu (Synchrotron Radiation Research Center)*

**TPPH048 A Full-Order, Almost-Deterministic Optical Matching Algorithm**

*Yu-Chiu Chao (Thomas Jefferson National Accelerator Facility)*

**TPPH049 Computation of Transfer Maps Using Boundary-Value Data**

*Alexander Dragt (University of Maryland)*

**TPPH050 Relativistic Quantum Wavepackets Moving in Magnetic Fields**

*Philip R. Johnson, Alex J. Dragt (University of Maryland)*

**TPPH051 Stochastic Dynamics of Relativistic Particles Moving in the Quantum Electrodynamical Field**

*Philip R. Johnson (University of Maryland)*

**TPPH052 Algebraic Approach to Symmetries and Invariants Construction**

*Serge Andrianov (Saint-Petersburg State University)*

**TPPH053 Order-by-Order Symplectification of Truncated Lie Maps**

*Serge Andrianov (Saint-Petersburg State University)*

**TPPH054 Stern-Gerlach Effect at Particle Motion in Accelerators and Storage Rings**

*Nikolai Bondarenko, Nikolai Shul'ga (Kharkov Institute of Physics and Technology)*

**TPPH055 Simulation of Self-Consistent Distributions for Beam in Longitudinally Non-Uniform Field**

*Oleg Drivotin (St.Petersburg State University)*

**TPPH056 Orbital Beam Dynamics in Multipole Fields via Multiscale Expansions**

*Antonina Fedorova, Michael Zeitlin (IPME RAS)*

**TPPH057 Studies on Optical Asymmetries in the ELETTRA Storage Ring**

*Ornella Ferrando (ELETTRA- Sincrotrone Trieste - Italy), Emanuel Karantzoulis (ELETTRA - Sincrotrone Trieste - Italy)*

**TPPH058 Analytical Calculation of the Beam-Beam Interaction Limited Lifetimes in e+e- Circular Colliders**

*Jie Gao (LAL)*

**TPPH059 Analytical Calculation of the Dynamic Apertures of Circular Accelerators**

*Jie Gao (LAL)*

**TPPH060 Printed-Circuit Magnets for the University of Maryland Electron Ring (UMER) - New Developments**

*Hui Li, S. Bernal, R.A. Kishek, P.G. O'Shea, M. Reiser, V. Yun (Institute For Plasma Research, University of Maryland), T. Godlove (Institute for Plasma Research, University of Maryland)*

**TPPH061 Beam-Beam Resonances and the Onset of Beam-Beam Instability in Hadron Colliders**

*Jack Shi, Lihui Jin (University of Kansas)*

**TPPH062 Beam-Based Global Compensation of Nonlinear Field Errors**

*Jack Shi (University of Kansas)*

**TPPH063 Modelling of Beam-Beam Effects in Multiscales**

*Michael Zeitlin, Antonina Fedorova (IPME RAS)*

**TPPH064 Coherent Structures and Pattern Formation in Vlasov-Maxwell-Poisson Systems**

*Michael Zeitlin, Antonina Fedorova (IPME RAS)*

**TPPH065 The Short-Term Dynamical Aperture via Variational-Wavelet Approach with Constraints**

*Michael Zeitlin, Antonina Fedorova (IPME RAS)*

**TPPH066 Quasiclassical Calculations of Wigner Functions in Nonlinear Beam Dynamics**

*Michael Zeitlin, Antonina Fedorova (IPME RAS)*

**TPPH067 Scaling Relations for the Determination of Beam Optics Errors Using Response Matrix Analysis**

*Volker Ziemann (The Svedberg Laboratory, Uppsala University)*

**TPPH068 Measurement of the Longitudinal Microwave Instability in the APS Storage Ring**

*Yong-Chul Chae, Louis Emery, Alex Lumpkin, Joshua Song, Bingxin Yang (Argonne National Laboratory)*

**TPPH069 Broad-Band Model Impedance for the Advanced Photon Source Storage Ring**

*Yong-Chul Chae, Emery Louis, Su-Bin Song (Argonne National Laboratory)*

**TPPH070 Measurement of Local Transverse Impedance of Narrow Gap ID Chambers in Storage Rings by Local Bump Method**

*Louis Emery, Glenn Decker (Argonne National Laboratory)*

**TPPH071 Transverse Coupling Impedance of the VEPP-4M Collider: Measurements and Simulations**

*Vladimir Kiselev, Viktor Smaluk, Vladimir Zorin (Budker Institute of Nuclear Physics)*

**TPPH072 Measured Transverse Coupling Impedance of RHIC Injection and Abort Kickers**

*H. Hahn, M. Blaskiewicz (Brookhaven National Laboratory)*

**TPPH073 RHIC Beam Components Impedance Analysis with MAFIA**

*Haipeng Wang, Wlodek Guryń, Haixin Huang, Dejan Trbojevic (Brookhaven National Laboratory)*

**TPPH074 Image Currents in Azimuthally Inhomogeneous Metallic Beam Pipes**

*Andrea Mostacci, Fritz Caspers, Francesco Ruggiero (CERN), Luigi Palumbo (University of Rome "La Sapienza")*

**TPPH075 Reducing Beam Coupling Impedances in SNS Ring Extraction Kickers**

*Sergey Kurennoy (Los Alamos National Laboratory), Y.Y. Lee (Brookhaven National Laboratory)*

**TPPH076 Impedance and Instabilities in the NLC Damping Rings**

*John Corlett, Stefano DeSantis, Derun Li, Robert Rimmer, Andrej Wolski (Lawrence Berkeley National Laboratory), Cho Ng, Marc Ross (Stanford Linear Accelerator Center)*

**TPPH077 Analysis of Coupling Impedance Bench Measurements Using Bethe's Diffraction Theory**

*Stefano De Santis (Lawrence Berkeley National Laboratory)*

**TPPH078 Analysis of Broadband Impedance and Trapped Modes in a Two-Ring Collider Transition from a Common Beam Tube to Two Separate Tubes; Application to the Interaction Regions of the LHC**

*Derun Li, Glen Lambertson, W. Turner (Lawrence Berkeley National Laboratory)*

**TPPH079 Transverse Impedance Measurements of the DARHT-2 Accelerator Cells**

*Richard Briggs (Science Applications International Corporation), Lou Reginato, Michael Vella (Lawrence Berkeley National Laboratory), Scott Nelson (Lawrence Livermore National Laboratory), Dan Bix (Science Research Lab (deceased))*

**TPPH080 Numerical Calculations of Short-Range Wakefields of Collimators**

*C.-K. Ng, T. O. Raubenheimer, T. Tenenbaum (Stanford Linear Accelerator Center)*

**TPPH081 Beam Instability and Microbunching due to Coherent Synchrotron Radiation**

*Gennady Stupakov, Samuel Heifets (Stanford Linear Accelerator Center)*

**TPPH082 Wakefield of Tapered Collimator**

*Gennady Stupakov (Stanford Linear Accelerator Center)*

**TPPH083 Degradation of Multibunch Luminosity in a Linear Collider due to Cumulative Beam Breakup**

*Courtlandt Bohn, Michael Syphers (Fermi National Accelerator Laboratory), Daniel Schulte (CERN)*

**TPPH084 Using RF Quadrupoles for Beam Break-up Suppression in the NLC Main Linac**

*Karl Bane, Gennady Stupakov (Stanford Linear Accelerator Center)*

**TPPH085 Cumulative Beam Breakup in Linear Accelerators with Arbitrary Beam Current Profile**

*Jean Delayen (Thomas Jefferson National Accelerator Facility)*

**TPPH086 Long-Range Resonance Wakefields at High Group Velocity**

*Alexei Smirnov, David Yu (DULY Research Inc.), Eduard Masunov (Moscow Engineering Physics Institute)*

**TPPH087 Performance of Bunch-by-Bunch Feedback Systems at BESSY-II**

*Shaukat Khan, Thomas Knuth (BESSY)*

**TPPH088 The Effect of Noise on Transverse Emittance Growth in the Tevatron**

*Cheng-Yang Tan, James Steinel (Fermi National Accelerator Laboratory)*

**TPPH089 Environmental Effects on RF Cavity Tuning**

*James Sebek, Limborg Cecile (Stanford Linear Accelerator Center)*

**TPPH090 Experimental Demonstration of Two Beam Acceleration Using Dielectric Step-up Transformer**

*Wei Gai, M.E. Conde, R. Konecny, J. G. Power, P. Schoessow, J. Simpson, Xiang Sun, P. Zou (Argonne National Laboratory)*

**TPPH091 Transverse Behaviour of the LHC Proton Beam in the SPS: An Update**

*Gianluigi Arduini, Karel Cornelis, Wolfgang Hofle, Giovanni Rumolo, Frank Zimmermann (CERN)*

**TPPH092 Simulation of Single Bunch Instabilities Driven by Electron Cloud in the SPS**

*Giovanni Rumolo, Frank Zimmermann (CERN)*

**TPPH093 Electron Cloud Studies for KEKB**

*Giovanni Rumolo, Frank Zimmermann (CERN), Hitoshi Fukuma, Kazuhito Ohmi (High Energy Accelerator Research Organization)*

**TPPH094 Some Features of Transverse Instability of Partly Compensated Proton Beams**

*Vadim Dudnikov (Fermi National Accelerator Laboratory)*

**TPPH095 Heating of the Window-Frame Magnets by the Circulating Beam in the Proton Ring**

*Yoshiro Irie, Kiyoshi Kitagawa, Izumi Sakai (High Energy Accelerator Research Organization)*

**TPPH096 PIC Simulation of Beam-Electron Cloud Interactions**

*Kazuhito Ohmi (High Energy Accelerator Research Organization)*

**TPPH097 Use of Multipolar Fields to Control the e-p Instability in the Los Alamos Proton Storage Ring**

*Thomas Spickermann, Andrew Browman, Daniel Fitzgerald, Robert Macek, Rodney McCrady, Michael Plum (Los Alamos National Laboratory)*

**TPPH098 Updated Electron-Cloud Simulation Results for the LHC**

*Miguel Furman, Mauro Pivi (Lawrence Berkeley National Laboratory)*

**TPPH099 Nondamped Oscillations of Electron Beam in Ion Beam Undulator with Electron and Ion Beams with Different Radii**

*Yurii Golub (Moscow Radiotechnical Institute)*

**TPPH100 The Electron Cloud Instability at PEP-II**

*John Seeman, Artem Kulikov (Stanford Linear Accelerator Center)*

**TPPH101 Electromagnetic (Darwin) Model for Three-Dimensional Perturbative Particle Simulation of High Intensity Beams**

*W. Lee, Ronald C. Davidson, Hong Qin, Edward Startsev (Princeton Plasma Physics Laboratory)*

**TPPH102 Periodic Structure of an Ion-Related Vertical Instability in the KEK Photon Factory Electron Storage Ring**

*Akira Mochihashi (Research Center for Nuclear Physics, Osaka University), Toshio Kasuga, Takashi Obina, Yasunori Tanimoto (High Energy Accelerator Research Organization)*

**TPPH103 Some Remarks to Oneself: Neutralization Model of Beams**

*Juraj Pivarc (Institute of Physics of the Slovak Academy of Sciences), Alexander Tikhomirov (Joint Institute for Nuclear Research)*

**TPPH104 Vlasov-Maxwell Description of Axisymmetric Two-Stream Instabilities in High-Intensity Particle Beams**

*Han Uhm (Ajou University), Ronald Davidson, Igor Kaganovich (Princeton University)*

**TPPH105 Transverse Sawtooth Instability at the Advanced Photon Source**

*Katherine Harkay, Zhirong Huang, Eliane Lessner, Bingxin Yang (Argonne National Laboratory)*

**TPPH106 Simulation Investigations of the Longitudinal Sawtooth Instability at SURF**

*Katherine Harkay, Kwang-Je Kim (Argonne National Laboratory), Uwe Arp, Gerald Fraser, Thomas Lucatorto (National Institute of Standards and Technology)*

**TPPH107 Response of Microwave Unstable Beams to External Excitation**

*Boris Podobedov (Brookhaven National Laboratory), Robert Siemann (Stanford Linear Accelerator Center)*

**TPPH108 Slow Microwave Instability Threshold Condition**

*Boris Podobedov (Brookhaven National Laboratory), Sam Heifets (Stanford Linear Accelerator Center)*

**TPPH109 Shape Oscillations of Unstable Bunches Emitting Coherent IR**

*Boris Podobedov, G. Lawrence Carr, Stephen L. Kramer, James B. Murphy (Brookhaven National Laboratory)*

**TPPH110 Analytic Properties of the Longitudinal Beam Transfer Function**

*Nathan Towne (Brookhaven National Laboratory)*

**TPPH111 Measurements of the Longitudinal Dipole-Coupled Bunch Instability at the Cornell Electron-Positron Storage Ring**

*Robert Holtzapple (Cornell University)*

**TPPH112 Observation, Modelling and Cure of Transverse Instabilities at the ESRF**

*Jean-Luc Revol, Ryutaro Nagaoka (European Synchrotron Radiation Facility)*

**TPPH113 Coupled-Bunch Instability in the Fermilab Main Injector**

*Chandra Bhat (Fermi National Accelerator Laboratory)*

**TPPH114 Crossing Transition in Fermilab Main Injector with High Intensity Bunches**

*Ioanis Kourbanis (Fermi National Accelerator Laboratory)*

**TPPH115 Study on a Longitudinal Quadrupole Oscillation in the KEK Photon Factory Storage Ring**

*Shogo Sakanaka, Toshiyuki Mitsuhashi, Takashi Obina (High Energy Accelerator Research Organization)*

**TPPH116 Induction Synchrotron (5): Instability Analysis of a Superbunch**

*Takeshi Toyama, Ken Takayama (High Energy Accelerator Research Organization)*

**TPPH117 Single Bunch Collective Effects in PLS Storage Ring**

*C. Kim, M. H. Cho, J. Y. Huang, D. T. Kim, K. H. Kim, Yujong Kim, I. S. Ko, N. S. Nam, W. Namkung (Pohang Accelerator Laboratory)*

**TPPH118 Coherent Beam-Beam Effects**

*Eun-San Kim, Moohyun Yoon (Pohang Accelerator Laboratory), Il-Moon Hwang (POSTECH)*

**TPPH119 Correction of Horizontal and Vertical Coupling in the PLS**

*Eun-San Kim (Pohang Accelerator Laboratory)*

**TPPH120 Collective Effects in the PLS Storage Ring**

*Eun-San Kim (Pohang Accelerator Laboratory)*

**TPPH121 Limitation of Beam Current in the PLS Storage Ring**

*Eun-San Kim, M.H. Chun, J.Y. Huang, W.H. Hwang, H.S. Kang, D.T. Kim, S.H. Nam, H.J. Park, J.S. Yang, I.H. Yu (Pohang Accelerator Laboratory)*

**TPPH122 Ion Trapping Driven Longitudinal Damping in PLS Storage Ring**

*Yujong Kim, M. H. Cho, J. Y. Huang, C. Kim, K. H. Kim, I. S. Ko, S. H. Nam, W. Namkung, C. D. Park (Pohang Accelerator Laboratory)*

**TPPH123 RF Noise Driven Dipole Mode Parametric Resonance in PLS Storage Ring**

*Y. Kim, M. H. Cho, M. H. Chun, J. Y. Huang, C. Kim, K. H. Kim, I. S. Ko, S. H. Nam, W. Namkung, J. S. Yang, I. H. Yu (Pohang Accelerator Laboratory)*

**TPPH124 Bunch Length Beating in PLS Storage Ring**

*Y. Kim, M. H. Cho, M. H. Chun, J. Y. Huang, C. Kim, K. H. Kim, I. S. Ko, S. H. Nam, W. Namkung, J. S. Yang, I. H. Yu (Pohang Accelerator Laboratory)*

**TPPH125 Low Frequency Longitudinal Beam Oscillation in PLS Storage Ring**

*Y. Kim, M. H. Cho, M. H. Chun, J. Y. Huang, C. Kim, K. H. Kim, I. S. Ko, S. H. Nam, W. Namkung, J. S. Yang, I. H. Yu (Pohang Accelerator Laboratory)*

**TPPH126 Complicated Bunch Pattern in PEP-II**

*Franz-Josef Decker, M. H. R. Donald, R.C. Field, A. Kulikov, J. Seeman, M. Sullivan, U. Wienands (Stanford Linear Accelerator Center), W. Kozanecki (DAPNIA-SPP, CEA-Saclay, Gif-s/-Yvette)*

**TPPH127 Observations of Fast Multi-Bunch Instability in the SPring-8 Storage Ring**

*Takeshi Nakamura, Mitsuhiro Masaki, Takashi Ohshima, Masaya Ooishi, Shigeki Sasaki, Kouichi Soutome, Masaru Takao (Japan Synchrotron Radiation Research Institute)*

**TPPH128 Single-Bunch Instability Simulation Code SISR**

*Takeshi Nakamura (Japan Synchrotron Radiation Research Institute)*

**TPPH129 Resistive-Wall Coupled-Bunch Instability Driven by In-Vacuum Insertion Devices in the SPring-8 Storage Ring**

*Takeshi Nakamura, Mitsuhiro Masaki, Kouichi Soutome, Masaru Takao (Japan Synchrotron Radiation Research Institute), Toru Hara (RIKEN)*

**TPPH130 Single-Bunch Collective Effects Observed in the SPring-8 Storage Ring**

*Takeshi Nakamura, Mitsuhiro Masaki, Haruo Ohkuma, Takashi Ohshima, Masaya Ooishi, Shigeki Sasaki, Masazumi Shouji, Kouichi Soutome, Shiro Takano, Kazuhiro Tamura, Kouji Tsumaki (Japan Synchrotron Radiation Research Institute)*

**TPPH131 Chromaticity for Energy Spread Measurement and for Cure of Transverse Multi-Bunch Instability in the SPring-8 Storage Ring**

*Takeshi Nakamura, Mitsuhiro Masaki, Takashi Ohshima, Shigeki Sasaki, Masazumi Shoji, Kouichi Soutome, Shiro Takano, Masaru Takao, Kouji Tsumaki (Japan Synchrotron Radiation Research Institute)*

**TPPH132 Suppression of Coherent Synchrotron Oscillation of the SPring-8 Storage Ring**

*Takashi Ohshima, Noritaka Kumagai (Japan Synchrotron Radiation Research Institute)*

**TPPH133 Collective Beam Instabilities in the Taiwan Light Source**

*Ping Chou (Synchrotron Radiation Research Center), Alex Chao (Stanford Linear Accelerator Center)*

**TPPH134 Study of Uneven Fills to Cure the Coupled-Bunch Instability in SRRC**

*Min-Huey Wang, P. J. Chou (Synchrotron Radiation Research Center), A. Chao (Stanford Linear Accelerator Center)*

**TPPH135 SNS HOM Damping Requirements via Bunch Tracking**

*Ronald Sundelin (Thomas Jefferson National Accelerator Facility), Dong-o Jeon, Sang-ho Kim, Doleans Marc (Oak Ridge National Laboratory)*

**TPPH136 Initial and Subsequent Growth of the Fast Ion ("Ion Hose") Instability**

*Robert Bosch (Synchrotron Radiation Center)*

**TPPH137 Influence of the Momentum Compaction upon Landau-Cavity Stability**

*Robert Bosch, J. J. Bisognano, K. J. Kleman (Synchrotron Radiation Center)*

**TPPH138 Observation of the Dynamic Beta Effect for Various Bunch Lengths at VEPP-2M**

*Igor Nesterenko, Petr Ivanov, Alexander Valishev (Budker Institute of Nuclear Physics)*

**TPPH139 Experimental Study of Flip-Flop Phenomenon at VEPP-2M**

*Igor Nesterenko, Petr Ivanov, Alexander Valishev (Budker Institute of Nuclear Physics)*

**TPPH140 Correction of the Betatron Coupling and Closed Orbit Distortion at the VEPP-2000 Collider**

*Alexander Valishev, Eugene Perevedentsev, Dmitry Shwartz (Budker Institute of Nuclear Physics)*

**TPPH141 Coherent Dipole Synchro-Betatron Beam-Beam Modes in Asymmetric Ring Colliders**

*Alexander Valishev, Eugene Perevedentsev (Budker Institute of Nuclear Physics)*

**TPPH142 Experimental Study of the Coherent Beam-Beam Effects at the VEPP-2M Collider**

*Alexander Valishev, Igor Nesterenko, Eugene Perevedentsev (Budker Institute of Nuclear Physics)*

**TPPH143 Coherent Synchro-Betatron Beam-Beam Modes: Enhanced Model**

*Alexander Valishev, Eugene Perevedentsev (Budker Institute of Nuclear Physics)*

**TPPH144 Beam-Beam Simulation for the  $e^+ e^-$  Collider with Strong Betatron Coupling at Interaction Point**

*Sergei Nikitin, Eugeny Simonov (Budker Institute of Nuclear Physics)*

**TPPH145 Simulations of Long Range Beam-Beam Effects in CESR in a Strong-Strong Scenario**

*Dong Wang, Dave Rubin, Dave Sagan (Cornell University)*

**TPPH146 Analytical Study and Tracking Simulations of the Beam-Beam Compensation at Tevatron**

*Yuri Alexahin, Vladimir Shiltsev (Fermi National Accelerator Laboratory), Dmitry Shatilov (Budker Institute of Nuclear Physics)*

**TPPH147 Feasibility of the Nonlinear Beam-Beam Compensation at Tevatron**

*Yuri Alexahin, Vladimir Shiltsev (Fermi National Accelerator Laboratory), Dmitry Shatilov (Budker Institute of Nuclear Physics)*

**TPPH148 Beam-Beam Interactions at the Tevatron in Run IIa**

*Tanaji Sen, Norman Gelfand, Meiqin Xiao (Fermi National Accelerator Laboratory)*

**TPPH149 Fluctuations and the Beam-Beam Interaction in Hadron Colliders**

*Tanaji Sen (Fermi National Accelerator Laboratory), Maripaz Zorzano (CERN), James Ellison, Irina Vlaicu (University of New Mexico)*

**TPPH150 Tune Shifts and Spreads Due to Short and Long Range Beam-Beam Interaction**

*Wang Lanfa, Zhang Chuang (Institute of High Energy Physics, Beijing)*

**TPPH151 Analysis and Simulation of Beam-Beam Kink Instability in a Linac-Ring Electron-Ion Collider**

*Rui Li, Valeri Lebedev, Lia Merminga, Byung Yunn (Thomas Jefferson National Accelerator Facility), Joseph Bisognano (Synchrotron Radiation Center, University of Wisconsin-Madison)*

**TPPH152 Observing Beam-Beam Effects at CESR**

*David Cinabro (Wayne State University)*

**TPPH153 Beam-Beam Instability Driven by Wakefield Effects in Linear Colliders**

*Daniel Schulte, Olivier Napoly (CE Saclay), Reinhardt Brinkmann (Deutsches Elektron Synchrotron)*

**TPPH154 Simulations of the Strong-Strong Beam-Beam Interaction in Hadron Colliders**

*Mathias Vogt, James Ellison (University of New Mexico), Tanaji Sen (Fermi National Accelerator Laboratory), Robert Warnock (Stanford Linear Accelerator Center)*

**TPPH155 Longitudinal Acceptance of a Linac**

*J. Berg (Brookhaven National Laboratory)*

**TPPH156 Full Emittance Exchange Using Electromagnetic Components**

*J. Berg (Brookhaven National Laboratory)*

**TPPH157 Frequency Shifting Requirements for FFAG Recirculating Accelerators**

*J. Berg, Dejan Trbojevic (Brookhaven National Laboratory), Carol Johnstone (Fermi National Accelerator Laboratory)*

**TPPH158 Four-Frequency Scheme for RF in an Isochronous FFAG Recirculating Accelerator**

*J. Berg, Robert B. Palmer (Brookhaven National Laboratory)*

**TPPH159 Automated Longitudinal Design for Recirculating Accelerators**

*J. Berg (Brookhaven National Laboratory)*

**TPPH160 Beam Loading in Bunch Trains in Recirculating Accelerators**

*J. Berg (Brookhaven National Laboratory)*

**TPPH161 Phase Rotation at the Front End of a Neutrino Factory**

*Harold Kirk, Juan Gallardo, Robert Palmer (Brookhaven National Laboratory), Michael Green, Lou Reginato, Simon Yu (Lawrence Berkeley National Laboratory), Yasuo Fukui (University of California, Los Angeles)*

**TPPH162 High-frequency Buncher for the  $\mu$  Storage Ring  $\nu$ -Factory**

*David Neuffer (Fermi National Accelerator Laboratory)*

**TPPH163 Experience on Beam Induced Backgrounds in the DAFNE Detectors**

*Manuela Boscolo, Sergio Bertolucci, Susanna Guiducci, Catalina Petrascu (Istituto Nazionale di Fisica Nucleare), Georg von Holtey (CERN)*

**TPPH164 Simulation Study of a Bunch Stacking Scheme for the Longitudinal-Transverse Emittance Exchange for a Muon Collider**

*Yasuo Fukui (University of California, Los Angeles)*

**TPPH165 Observations and Studies of Ordered Ion Beams in CRYRING**

*Håkan Danared, Mikael Björkhage, Anders Källberg, Andras Paál, K.-G. Rensfelt, Ansgar Simonsson (Manne Siegbahn Laboratory)*

**TPPH166 The Landau-Pomeranchuk-Migdal Effect in Crystals**

*Serguei Fomin, Nikolai Shul'ga (Kharkov Institute of Physics & Technology)*

**TPPH167 Electron and Positron Beams Cooling According to the Transverse Degrees of Freedom at Channeling Motion in Semiconductive Crystals at the Expense of their Interaction with Electron Sub-Systems**

*Nikolay Maksyuta, Vladimir Vysotskii (Kiev Shevchenko University)*

**TPPH168 X-Ray Appearance at Surface Channeling of Relativistic Electrons near Conducting Monocrystals**

*Nikolay Maksyuta, Vladimir Vysotskii (Kiev Shevchenko University)*

**TPPH169 Passage of High-Energy Particles through Bent Crystal near Crystallographic Axis**

*Nikolai Shul'ga, Greenenko natoliy (National Science Center Kharkov Institute of Physics & Technology)*

**TPPH301 Measurement of Non-linearities using Spectrum Analysis of Driven Betatron Oscillation**

*M. Bai, A. Lehrach, T. Roser, W. van Asselt (Brookhaven National Laboratory), F. Schmidt (CERN)*

**TPPH302 Crossing a Coupling Spin Resonance with an RF Dipole**

*M. Bai, T. Roser (Brookhaven National Laboratory)*

**TPPH303 Spin Flipping in RHIC**

*Mei Bai, Alfredo Luccio, Thomas Roser (Brookhaven National Laboratory)*

**TPPH304 Sensitivity of Fermilab Recycler Focusing and Orbit Properties to Longitudinal Distribution of the Fields in the Permanent Magnets**

*Bruce Brown, Martin Hu (Fermi National Accelerator Laboratory)*

**TPPH305 Periodic Electron Motion in the Field of Intensive Plane Light Wave**

*Yurij Grigor'ev, Olga Zvonar'ova (Kharkov Institute of Physics & Technology)*

**TPPH306 Beam of Neutral or Charged Atoms as Source of Stimulated Microwave Radiation**

*Vladislav Grishin (Institute of Nuclear Physics of Moscow State University, Russia), Tatiana Novikova (Ulianovsky State University)*

**TPPH307 Bound States of Electronic Pair in Magnetic Storage Ring**

*Vladislav Grishin (Institute of Nuclear Physics of Moscow Lomonosov State University)*

**TPPH308 The Dynamic Aperture of a Storage Ring Stipulated by Resonances of the Third Order**

*Andrey Zelinsky (Kharkov Institute Of Physics & Technology)*

**TPPH309 The Low Momentum Compaction Factor Regime for Laser Electron Storage Ring**

*Andrey Zelinsky (Kharkov Institute of Physics & Technology)*

**TPPH310 Measurements of the SPS Transverse Impedance in 2000**

*Frank Zimmermann, Gianluigi Arduini, Helmut Burkhardt, Karel Cornelis, Jukka Klem, Maria-Paz Zorzano (CERN)*

**TPPH311 Longitudinal Impedance Simulations in ORBIT: Benchmarking and Application to the SNS Extractor Kicker**

*Jeffrey Holmes, Viatcheslov Danilov, John Galambos (Oak Ridge National Laboratory), Katherine Woody (Tennessee Technical Institute)*

**TPPH312 Longitudinal Broadband Impedance Measurement System by Coaxial Line Methods**

*Gang Huang, Wenhui Huang, Dechun Tong (Tsinghua University), Zhentang Zhao (Shanghai Synchrotron Radiation Center)*

**TPPH313 Transverse Beam Break-up Study of SNS SC Linac**

*Dong-o Jeon (Oak Ridge National Laboratory), Jie Wei (Brookhaven National Laboratory), Jean Delayen, Geoffrey Krafft, Lia Merminga, Ronald Sundelin, Byung Chul Yunn (Thomas Jefferson National Accelerator Facility)*

**TPPH314 Diagnostics and Analysis of Instabilities with the Digital Transverse Multibunch Feedback System at ELETTRA**

*Lidia Tosi, Daniele Bulfone, Emanuel Karantzoulis, Marco Lonza, Victor Smaluk, Michele Svandrlík (Sincrotrone Trieste)*

**TPPH315 Design and Implementation of a Simple Electron Detector for Accelerator Diagnostics**

*Richard Rosenberg, Katherine Harkay (Argonne National Laboratory)*

**TPPH316 Lasertron Effect in Electrostatic Separator**

*Alexander Mikhailichenko (Cornell University)*

**TPPH317 Nonlinear Charge and Current Neutralization for an Intense Ion Beam Pulse Propagating through a Background Plasma**

*Igor Kaganovich, Ronald C. Davidson, Gennady Shvets, Eduard Startsev (Princeton University)*

**PAC 2001  
Chicago, IL**

**Tuesday, June 19, 2001  
AFTERNOON SESSIONS**

**TPPH318 Hamiltonian Formalism for Solving the  
Vlasov-Poisson Equations and its Application to the  
Coherent Beam-Beam Interaction**

*Stephan Tzenov, Ronald Davidson (Princeton University)*

**TPPH319 Macroscopic Fluid Approach to the  
Coherent Beam-Beam Interaction**

*Stephan Tzenov, Ronald Davidson (Princeton University)*

**Session WOOA: Special Session**

**Grand Ballroom (Session A) at 8:30**

**Session Chair: A. Chao**

**WOOA001 The Free-Electron Laser Collective Instability and the Development of X-Ray SASE-FELs (Invited)**

*Claudio Pellegrini (University of California, Los Angeles)*

**WOOA002 New Diagnostics and Cures for Coupled-Bunch Instabilities (Invited)**

*Shyam Prabhakar (Stanford University)*

**WOOA003 Higher Luminosity B-Factories (Invited)**

*John Seeman (Stanford Linear Accelerator Center)*

**WOOA004 Operations of the LEDA Resonantly-Coupled RFQ (Invited)**

*Lloyd Young (Los Alamos National Laboratory)*

**Session WOOA: Pulsed Power and High Intensity Beams**

**Grand Ballroom (Session A) at 10:40**

**Session Chairs: R. Briggs and G. Caporaso**

**WOOA005 Progress in Heavy Ion Driven Inertial Fusion Energy: From Scaled Experiments to the Integrated Research Experiment (Invited)**

*John Barnard (LLNL/LBNL)*

**WOOA006 Performance Optimization and the Path Towards a 2 MW Spallation Neutron Source**

*Jie Wei, J. Beebe-Wang, M. Blaskiewicz, N. Catalan-Lasheras, A. Fedotov, Y.Y. Lee, N. Malitsky, Y. Papaphilippou, D. Raparia, A. Shishlo, N. Tsoupas, W.T. Weng, S.Y. Zhang (Brookhaven National Laboratory), R. Kustom (Argonne National Laboratory), R. Keller, J. Staples (Lawrence Berkeley National Laboratory), J. Billen, S. Kurennoy, S. Nath, J. Stovall, H. Takeda, L. Young (Los Alamos National Laboratory), A. Aleksandrov, P. Chu, S. Cousineau, V. Danilov, M. Doleans, J. Galambos, J. Holmes, D. Jeon, S. Kim, E. Tanke, W. Wan (Oak Ridge National Laboratory), R. Sundelin (Thomas Jefferson National Accelerator Facility)*

**WOOA007 The Present Status of the JAERI/KEK Joint Project for High Intensity Proton Accelerators**

*Yoshishige Yamazaki (High Energy Accelerator Research Organization)*

**WOAA008 Status of the DARHT Phase 2 Long-Pulse Accelerator (Invited)**

*Michael Burns, Bruce Carlsten, Hal Davis, Carl Ekdahl, Cliff Fortgang, Bruce McCuistian, Frank Merrill, Kurt Nielsen, Carol Wilkinson (Los Alamos National Laboratory), Ken Chow, William Fawley, Henry Rutkowski, Will Waldron, Simon Yu (Lawrence Berkeley National Laboratory), George Caporaso, Yu-Jiuan Chen, Edward Cook, Steve Sampayan, James Watson, Glen Westenskow (Lawrence Livermore National Laboratory), Thomas Hughes (Mission Research Corporation)*

**WOAA009 Beam-Target Interaction Experiments for Multipulse Bremsstrahlung Converters Applications**

*Sampayan Stephen (Lawrence Livermore National Laboratory)*

**WOAA010 Beam Dynamics Experiments in Support of Relativistic Klystrons**

*Timothy Houck (Lawrence Livermore National Laboratory), Steve Lidia (Lawrence Berkeley National Laboratory)*

**Session WOAB: Lepton Accelerators and Colliders  
(1 of 2)**

**Grand Ballroom (Session B) at 8:30**

**Session Chairs: S. Kurokawa and J. Poole**

**WOAB001 Beam Dynamics in High Luminosity e<sup>+</sup>e<sup>-</sup> Factories (Invited)**

*Joseph Rogers (Cornell University)*

**WOAB002 Measurements of the Beam-Beam Interaction at PEP-II**

*John Seeman, Ina Reichel, Michael Sullivan, Uli Wienands (Stanford Linear Accelerator Center), Witold Kozanecki (CE Saclay)*

**WOAB003 Beam-Beam Simulations for PEP-II**

*Ina Reichel (Stanford Linear Accelerator Center)*

**WOAB004 Effect on Luminosity from Bunch-to-Bunch Orbit Displacements at CESR**

*David Sagan, Michael Billing, Mark Palmer (Cornell University)*

**WOAB005 A Comparison of Synchrotron Radiation Background Measurements with Simulation in the CESR/CLEO Interaction Region**

*Stuart Henderson (Cornell University)*

**WOAB006 Status Report on DAFNE**

*Susanna Guiducci, David Alesini, Gabriele Benedetti, Sergio Bertolucci, Caterina Biscari, Roberto Boni, Manuela Boscolo, Alberto Clozza, Giovanni Delle Monache, Simone Di Mitri, Giampiero Di Pirro, Alessandro Drago, Alessandro Gallo, Andrea Ghigo, Fabio Marcellini, Giovanni Mazzitelli, Catia Milardi, Luigi Pellegrino, Miro Preger, Ruggero Ricci, Claudio Sanelli, Fernando Sannibale, Mario Serio, Francesco Sganna, Alessandro Stecchi, Angelo Stella, Cristina Vaccarezza, Mario Vescovi, Mikhail Zobov (Istituto Nazionale di Fisica Nucleare), Georg Von Holtey (CERN), Pantaleo Raimondi (Stanford Linear Accelerator Center)*

**WOAB007 Electron-Positron Collisions at 209 GeV in LEP**

*Ralph Assmann, Gianluigi Arduini, Roger Bailey, Andrew Butterworth, Paul Collier, Karel Cornelis, Stephane Fartoukh, Michael Lamont, Giulio Morpurgo, Ghislain Roy, Jorg Wenninger, Tijs Wijnands (CERN)*

**Session WOAB: Lepton Accelerators and Colliders  
(2 of 2)**

**Grand Ballroom (Session B) at 10:40**  
**Session Chairs: S. Kurokawa and J. Poole**

**WOAB008 Status of Neutrino Factory and Muon Collider R&D (Invited)**

*Michael Zisman (Lawrence Berkeley National Laboratory)*

**WOAB009 Ground Motion and Vibration Issues for Accelerators (Invited)**

*Andrei Seryi (Stanford Linear Accelerator Center)*

**WOAB010 Prospects for Multi-TeV Two-Beam Linear Colliders (Invited)**

*Ronald Ruth (Stanford Linear Accelerator Center)*

**WOAB011 Parameters for Low Energy Operation of CESR**

*David Rice, Gerald Codner, Gerald Dugan, Richard Ehrlich, Zipora Greenwald, Yun He, Yulin Li, Valery Mejidzade, Alexander Mikhailichenko, Nariman Mistry, Emery Nordberg, Joseph Rogers, David Rubin, Eric Smith, Alexander Temnykh, Maury Tigner (Cornell University)*

**WOAB012 Two-Beam Interference of Long Wavelength Synchrotron Radiation**

*G. Lawrence Carr, S.L. Kramer (Brookhaven National Laboratory), N. Jisrawi (University of Jordan)*

**Session WPAH: Sources, Vacuum and  
Instrumentation**  
Poster Hall at 8:30

**WPAH001 Design, Analysis, and Initial Results of a  
200 keV Ferroelectric Gun**

*David Kehne, Lek Len, F. Mako (FM Technologies, Inc.)*

**WPAH002 Multi-MeV Ion Beams from Terawatt Laser-  
Thin-Foil Interactions**

*Kirk Flippo, Sudeep Banerjee, V. Yu. Bychenkov, Shaoting  
Gu, Anatoly Maksimchuk, Gerard Mourou, Kosichi Nemoto,  
Donald Umstadter (American Physical Society)*

**WPAH003 MEVVA with Additional Anode**

*Timur Kulevoy, Vladimir Batalin, Rostislav Kuibeda,  
Vladimir Pershin, Sergey Petrenko (Department of Energy),  
Dmitriy Selesnev (Moscow Radiotechnical Institute)*

**WPAH004 High-Current Micro-Pulse Electron Gun and  
Accelerator Applications**

*Samar Guharay, Lek Len, Frederick Mako (FM Technologies)*

**WPAH005 30 Years of High-Intensity Negative Ion  
Sources for Accelerators**

*Vadim Dudnikov (Fermi National Accelerator Laboratory)*

**WPAH006 Beam Line Transport Studies Using a High  
Current Density Negative Ion Source**

*Vadim Dudnikov, Charles W. Schmidt, James Wendt (Fermi  
National Accelerator Laboratory)*

**WPAH007 Metallic Ion Production from Induction  
Ovens Feeding ECR Ion Sources**

*Marco Cavenago (Istituto Nazionale di Fisica Nucleare),  
Timur Kulevoy, Serghey Petrenko (ITEP)*

**WPAH008 A Milliampere Polarized and Unpolarized  
Negative Ion Source for IUCF**

*Vladimir Derenchuk (Indiana University), Alexander S. Belov  
(Institute for Nuclear Research of the Russian Academy of  
Sciences, Moscow)*

**WPAH009 An Injector and LEBT for the AAA  
Accelerator**

*Lash Hansborough, Joseph Sherman, H. Vernon Smith, Jr.  
(Los Alamos National Laboratory)*

**WPAH010 Basis and Method for Developing an  
Effective Single-Gap Proton Extractor**

*J. David Schneider, Joseph D. Sherman (Los Alamos National  
Laboratory)*

**WPAH011 2-MV Injector for HCX**

*Frank Bieniosek, E. Henestroza, J. W. Kwan (Lawrence  
Berkeley National Laboratory)*

**WPAH012 Development of High Current Surface Ionization Sources for Heavy Ion Fusion**

*Joe Kwan, David Baca, Frank Bieniosek, Edwin Chacon-Golcher (Lawrence Berkeley National Laboratory)*

**WPAH013 Design of a Compact High Current Density Injector for Heavy Ion Fusion**

*Joe Kwan, Victor Karpenko (Lawrence Berkeley National Laboratory), Larry Ahle, David Grote (Lawrence Livermore National Laboratory)*

**WPAH014 High-Efficiency Matching Network for RF-Driven Ion Source**

*John Staples (Lawrence Berkeley National Laboratory)*

**WPAH015 Thermal Shock Structural Analyses of a Positron Target**

*Werner Stein, Anne Sunwoo, Karl van Bibber (Lawrence Livermore National Laboratory), Vinod Bharadwaj, David Schultz, John Sheppard (Stanford Linear Accelerator Center)*

**WPAH016 Computational Design of an Extraction System for the Oak Ridge National Laboratory ECR Ion Source**

*Gerald D. Alton (Oak Ridge National Laboratory)*

**WPAH017 A High-Charge State Acceleration Scheme for Potential Upgrade of the HRIBF**

*Gerald D. Alton (Oak Ridge National Laboratory)*

**WPAH018 A Low-Charge-State Acceleration Scheme for Potential Upgrade of the HRIBF**

*Gerald D. Alton (Oak Ridge National Laboratory)*

**WPAH019 Analysis of Beam-Induced Damage to the SLC Positron Production Target**

*Vinod Bharadwaj, Theofilos Kotserglou, David Schultz, John Sheppard (Stanford Linear Accelerator Center), Stan Bodenstern, James Gallegos, Robert Gonzales, James Ledbetter, Manuel Lopez, Stuart Maloy, Robert Romero, Tobias Romero, Robert Rutherford (Los Alamos National Laboratory)*

**WPAH020 Parmela Simulations for the LCLS Photoinjector**

*Cecile Limborg, Patrick Krejcik (Stanford Linear Accelerator Center)*

**WPAH021 Simulation Study of Muon Polarization in a Front-End Channel of a Neutrino Factory**

*Yasuo Fukui (University of California, Los Angeles), Richard Fernow, Juan Gallardo (Brookhaven National Laboratory)*

**WPAH022 Thermal Effects in Emittance Compensation of High Brightness Beams**

*James Rosenzweig, S.G. Anderson, Salime Boucher (University of California, Los Angeles)*

**WPAH023 Beam Tests of the 10 keV Injector for the University of Maryland Electron Ring (UMER)**

*Santiago Bernal, T. Godlove, M. Holland, R. A. Kishek, S. P. Kwon, H. Li, P. G. O'Shea, N. Rahimi, M. Reiser, A. Valfells, M. Virgo, V. Yun (University of Maryland)*

**WPAH024 Combined Thermionic and Photoelectric Emission from Dispenser Cathodes**

*D. Feldman, B. Beaudoin, J. Harris, J. Neumann, P. G. O'Shea, M Virgo (University of Maryland)*

**WPAH025 Proposal about High-Current Polarized Electron Source with Long Lifetime on the Base of Secondary-Emission Magnetron Injection Gun**

*Sergiy Cherenshchykov (National Scientific Center )*

**WPAH026 Modeling of Electron Cyclotron Resonance Ion Source Plasmas and Ion Extraction**

*Dana Edgell, Ioan Bogatu, Jin-Soo Kim (FARTECH, Inc.), Richard Pardo, Richard Vondrasek (Argonne National Laboratory)*

**WPAH027 Generation and Application of Energetic Heavy Ion and X-Ray via 12TW50fs Laser-Solid Interaction**

*Kenichi Kinoshita, Tetsuya Kobayashi, Takeru Ohkubo, Hiroyuki Okuda, Toru Ueda, Mitsuru Uesaka, Takahiro Watanabe, Koji Yoshii (University of Tokyo)*

**WPAH028 Analysis and Simulation on the Afterglow Pulsed Modes Extracted from an ECR Ion Source**

*Masanobu Niimura, Ara Chutjian, Steven Smith (Jet Propulsion Laboratory, Caltech), Akira Goto, Yasushige Yano (RIKEN Accelerator Research Facility), Michele Lamoureux (University of P&M Curie)*

**WPAH029 On the Coherent X-Ray Radiation by Relativistic Electrons in a Crystal**

*Nikolai Shul'ga, Truten' Valentin (National Science Center Kharkov Institute of Physics & Technology)*

**WPAH030 Electron-Induced Surface Chemistry on TiN in Ultrahigh Vacuum**

*Qing Ma, Richard Rosenberg (Argonne National Laboratory)*

**WPAH031 Flexible and Telescopic Vacuum Chambers for the APS Bunch Compressor**

*Dean Walters, Leonard Morrison (Argonne National Laboratory)*

**WPAH032 Secondary Electron Yield of a Thin Film Coating on the APS RF Cavity Tuners**

*Dean Walters, Qing Ma (Argonne National Laboratory)*

**WPAH033 Performance of RHIC Vacuum Systems**

*Hsiao-Chaun Hseuh, R.W. Davis, R.C. Lee, D.J. Pate, L.A. Smart, R.J. Todd, D. Weiss (Brookhaven National Laboratory)*

**WPAH034 Development of TiN Coating for SNS Ring Vacuum Chambers**

*Robert Todd, Ping He, H.C. Hseuh, Daniel Weiss (Brookhaven National Laboratory)*

**WPAH035 Measurement of the Mechanical Behaviour of the LHC Beam Screen During a Quench**

*Jose M-Darve, K. Artoos, P. Cruikshank, N. Kos, C. Rathjen (CERN)*

**WPAH036 Experimental Investigation of Impact-Induced Molecular Desorption by 4.2 MeV/amu Pb Ions**

*Niels Madsen, Michel Chanel, Jan Hansen, Jean-Michel Laurent, Edgar Mahner (CERN)*

**WPAH037 Design Aspects of the RF Contacts for the LHC Beam Vacuum Interconnects**

*Raymond Veness, Sergio Calatroni, Fritz Caspers, Karine Couturier, Noel Hilleret, Juan Ramon Knaster, Patrick Lepeule, Lucien Vos (CERN)*

**WPAH038 Duke FELL Storage Ring Vacuum System Upgrades**

*Gary Swift, M. Emamian, S. Hartman, N. Hower, M. Johnson, V.N. Litvinenko (Duke University)*

**WPAH039 Comparison of ESRF and Elettra Vacuum Evolution, Troubleshooting and Success**

*Roberto Kersevan (European Synchrotron Radiation Facility), Jana Miertusova (Sincrotrone Trieste)*

**WPAH040 FNAL Proton Driver Canned Magnet Vacuum System Design**

*Terry Anderson, Weiren Chou, Evan Malone (Fermi National Accelerator Laboratory)*

**WPAH041 Reduction of the Photoelectron Yield from a Copper Beam Chamber by Saw-Tooth Machining**

*Yusuke Suetsugu, Yoichiro Hori, Ken-ichi Kanazawa, Masanori Kobayashi, Yasunori Tanimoto (High Energy Accelerator Research Organization), Yao-Jane Hsu (Synchrotron Radiation Research Center)*

**WPAH042 Effect of the External Magnetic Fields on the Photoelectron Emission from a Copper Beam Chamber**

*Yusuke Suetsugu, Yoichiro Hori, Ken-ichi Kanazawa, Masanori Kobayashi, Yasunori Tanimoto (High Energy Accelerator Research Organization), Yao-Jane Hsu (Synchrotron Radiation Research Center)*

**WPAH043 Observation and Simulation of the Nonlinear Dependence of Vacuum Pressures on the Positron Beam Current at the KEKB**

*Yusuke Suetsugu (High Energy Accelerator Research Organization)*

**WPAH044 Development of the Movable Mask Free from Trapped Mode for the KEKB**

*Yusuke Suetsugu, Nobumasa Akasaka, Tatsuya Kageyama, Ken-ichi Kanazawa, Kotaro Satoh, Yasunao Takeuchi (High Energy Accelerator Research Organization)*

**WPAH045 Mechanical Design of the SNS Coupled Cavity Linac**

*Nathan Bultman (Los Alamos National Laboratory)*

**WPAH046 Spallation Neutron Source LINAC Vacuum Seal Design and Testing**

*Zukun Chen (Los Alamos National Laboratory)*

**WPAH047 Fabrication and Measurement of Low-Outgassing Surfaces for UHV Vacuum Chambers**

*John Corlett, Dennis Atkinson, Kurt Kennedy, Tom Miller (Lawrence Berkeley National Laboratory), D. Behne, S Shen (Lawrence Livermore National Laboratory), Leif Eriksson, Marc Ross (Stanford Linear Accelerator Center)*

**WPAH048 Design and Analysis of Vacuum Pumping Systems for SNS DTL and CCL Linac**

*Stewart Shen, Keith Kishiyama, Walter Nederbragt, Louann Tung (Lawrence Livermore National Laboratory), John Bernardin, Gerald Bustos, Robert Gillis, R Meyer Sr. (Los Alamos National Laboratory)*

**WPAH049 Vacuum System Design for the Jefferson Laboratory IR/UV FEL Upgrade**

*L. Dillon-Townes, M. Bevins, E. Feldl, R. Lassiter, J. Smith, S. Williams, R. Wines, M. Wiseman (Thomas Jefferson National Accelerator Facility)*

**WPAH050 The LNLS 500 MeV Booster Synchrotron Vacuum System**

*Marcelo Ferreira, Reginaldo Oliveira Ferraz, Fernanda Regina Francisco, Milton Batista Silva (National Synchrotron Light Laboratory)*

**WPAH051 Time Dependence of the Pressure Profile in a Tube with Axially-Dependent Degassing**

*Marcos Martins (Faculdade de Tecnologia de Sao Paulo, FATEC-SP/CEETEPS), Sergio Verardi (IBILCE-UNESP, S. Jose do Rio Preto, SP), Marcos Martins, Jiro Takahashi (Laboratorio do Acelerador Linear do Instituto de Fisica da Universidade de Sao Paulo)*

**WPAH052 A Rationalized Approach to Thermionic RF Gun Design**

*Kevin Beczek, John Lewellen, A. Nassiri (Argonne National Laboratory), Eiji Tanabe (Advanced Electronics Technologies Associates, Inc.)*

**WPAH053 Potential Production of Ultrashort Electron Bunches with the Advanced Photon Source Linac**

*Michael Borland (Argonne National Laboratory)*

**WPAH054 The Advanced Photon Source Injector Test Stand**

*John Lewellen, Kevin Beczek, William Berg, George Goepfner, Arthur Grelick, John Maclean, Ali Nassiri (Argonne National Laboratory)*

**WPAH055 Emittance Measurements of the Advanced Photon Source Photocathode RF Gun**

*John Lewellen, Michael Borland (Argonne National Laboratory)*

**WPAH056 Generation of Sub-Picosecond Electron Bunches from Superconducting 3+1/2 Cell RF Gun**

*Volkov Vladimir (Budker Institute of Nuclear Physics), Janssen Dietmar, Wuensch Rudi (Forschungszentrum Rossendorf)*

**WPAH057 Modeling and Measurements of the DUVFEL Photoinjector Cavity RF Properties**

*William Graves, W.S. Graves, R. Heese, B. Sheehy (Brookhaven National Laboratory), E.D. Johnson (Budker Institute of Nuclear Physics)*

**WPAH058 Ultrashort Electron Bunch Length Measurements at DUVFEL**

*William Graves, G.L. Carr, A. Doyuran, R. Heese, E.D. Johnson, B. Podobodov, J. Rose, T. Shaftan, B. Sheehy (Brookhaven National Laboratory), D.H. Dowell (Boeing Aerospace), C. Neuman (Duke University)*

**WPAH059 Measurement of Thermal Emittance for a Copper Photocathode**

*William Graves, R. Heese, E.D. Johnson, J. Rose, T. Shaftan, B. Sheehy (Brookhaven National Laboratory)*

**WPAH060 DUVFEL Photoinjector Dynamics: Measurement and Simulation**

*William Graves, R. Heese, E.D. Johnson, J. Rose, T. Shaftan, B. Sheehy, L.-H. Yu (Brookhaven National Laboratory), D.H. Dowell (Boeing Corp.)*

**WPAH061 High-rep Rate Photocathode Injector for LCLS**

*X.J. Wang, M. Babzien, I. Ben-Zvi, X.Y. Chang, S. Pjetrov, M. Woodle (Brookhaven National Laboratory)*

**WPAH062 The TESLA X-FEL Injector**

*Philippe Piot, Klauss Floettmann, Bagrat Grigoryan (Deutsches Elektron Synchrotron), Massimo Ferrario (Istituto Nazionale di Fisica Nucleare)*

**WPAH063 Studies of Photo-Emission and Field Emission in an RF Photo-Injector with a High Quantum Efficiency Photo-Cathode**

*W. Hartung, J.-P. Carneiro, H. Edwards, M. Fitch, M. Kuchnir (Fermi National Accelerator Laboratory), D. Sertore (Deutsches Elektron Synchrotron), P. Michelato (INFN Milano)*

**WPAH064 Ultra-Short Electron Bunch Generation with Rectilinear Compressors**

*Luca Serafini, Alberto Bacci, Massimo Ferrario (Istituto Nazionale di Fisica Nucleare)*

**WPAH065 Electron Beam and rf Characterization of a High-Brightness X-Band Photoinjector**

*Frederic Hartemann, Hector A. Baldis, David J. Gibson, Eric C. Landahl (Lawrence Livermore National Laboratory), Ching-Hung Ho (Synchrotron Radiation Research Center), Neville C. Luhmann, Jr. (University of California, Davis)*

**WPAH066 Production of High Brightness Electron Beams with a 17 GHz RF Gun**

*Winthrop Brown, Steve Korbly, Ken Kreisler, Ivan Mastovsky, Richard Temkin (MIT Plasma Science and Fusion Center)*

**WPAH067 Measurements on the ISIS RFQ LEBT**

*Christopher Bailey (Rutherford Appleton Laboratory)*

**WPAH068 The ORION Photoinjector**

*Dennis Palmer, Mark Hogan, Robert H. Siemann, Dieter Walz (Stanford Linear Accelerator Center), Robert Noble (Fermi National Accelerator Laboratory), James Rosenzweig (University of California, Los Angeles)*

**WPAH069 Studies for Low Emittance Beam in the SPring-8**

*Akihiko Mizuno (Japan Synchrotron Radiation Research Institute)*

**WPAH070 10 MeV Injector Design for a 10 kW IRFEL at JLAB**

*Byung Yunn (Thomas Jefferson National Accelerator Facility)*

**WPAH071 Emittance Growth in the TTF RF-Gun**

*Stefan Setzer, Mikhail Krassilnikov, Thomas Weiland (Technische U. Darmstadt), Alexandre Novokhatski (Stanford Linear Accelerator Center)*

**WPAH072 Chicane Compressor Development for the BNL ATF**

*Ronald Agustsson, J.B. Rosenzweig (University of California, Los Angeles)*

**WPAH073 Emittance Measurements of the Space Charge Dominated LLNL Thomson Scattering Photoinjector**

*Scott Anderson, James Rosenzweig (University of California, Los Angeles), John Crane, Greg LeSage (Lawrence Livermore National Laboratory)*

**WPAH074 Commissioning of the UCLA PEGASUS Photoinjector**

*Telfer Soren, Gerard Andonian, Pedro Frigola, Sven Reiche, James Rosenzweig (University of California, Los Angeles)*

**WPAH075 Investigation for PERL Injetcor with DC Gun**

*Feng Zhou, David Cline (University of California, Los Angeles), Ilan Ben-Zvi, Timur Shaftan, Xijie Wang (Brookhaven National Laboratory)*

**WPAH076 BNL Photo-Injector Performance Optimization**

*Xiangyun Chang, Ilan Ben-Zvi, Xijie Wang (Brookhaven National Laboratory)*

**WPAH077 Progress Toward an All Niobium Superconducting RF Photocathode Electron Gun**

*Michael Cole, Hans Bluem, John Rathke, Thomas Schultheiss (Advanced Energy Systems Inc), Ilan Ben-Zvi, Triveni Srinivasan-Rao (Brookhaven National Laboratory)*

**WPAH078 Status of the Superconducting RF Photoelectron Gun**

*D. Janssen, E. Barthels, H. Buettig, F. Gabriel, E. Grosse (Forschungszentrum Rossendorf), M. Pekeler, P.v. Stein (ACCEL Instruments Bergisch Gladbach), A. Bushuev, M. Karliner, S. Konstantinov, S. Kruchkov, O. Myskin, V. Petrov, I. Sedlyarov, A. Tribendis, V. Volkov (Budker Institute of Nuclear Physics), A. Matheisen (Deutsches Elektron Synchrotron), T. Quast, W. Sandner, I. Will (Max Born Institute), Ch. Haberstroh (TU Dresden)*

**WPAH079 Measurement of Beam Characteristics for Photo-Electron Beam at Waseda University**

*Ryunosuke Kuroda (Waseda University)*

**WPAH080 Status of the MAX-lab Injector Project**

*Greg LeBlanc, Bengt Anderberg, Åke Andersson, Medine Demirkan, Mikael Eriksson, Mattias Georgsson, Lars-Johan Lindgren (MAX-lab, Lund Sweden)*

**WPAH081 Evanescent Oscillations in Bunching Systems**

*Sergey Perezhogin, Mikola Ayzatsky, Katerina Kramarenko (National Science Center Kharkov Institute of Physics & Technology)*

**WPAH082 Investigation of the ANKA Injector**

*Lars Praestegaard, H. Bach, L. Kruse, B. R. Nielsen (Danfysik A/S), F. P-rez, D. Einfeld, M. Pont (Forschungszentrum Karlsruhe), N. Hertel, S. P. Møller, J. S. Nielsen (Institute for Storage Ring Facilities, University of Aarhus)*

**WPAH083 Thermal/Structural Analysis of an All Niobium Superconducting RF Photocathode Electron Gun**

*Thomas Schultheiss, Michael Cole, John Rathke (Advanced Energy Systems, Inc.)*

**WPAH084 Ion Streams Accelerators**

*Yuri Volkolupov, Mikhail Krasnogolovets (Kharkov State Technical University of Radioelectronics (KhTURE) )*

**WPAH085 Present Status of RF Gun Project at Waseda University**

*Masakazu Washio, Shigeru Kashiwagi, Tomoaki Kobuki, Ryunosuke Kuroda (Waseda University), Xijie Wang (Brookhaven National Laboratory), Junji Urakawa (High Energy Accelerator Research Organization)*

**WPAH086 The Research on a Novel RF Gun with High Duty Factor**

*Xingfan Yang, Xisan Liu, Zhou Xu (China Academy of Engineering Physics)*

**WPAH087 Characterization of PWT Photoinjector at Heavy Beam Loading**

*David Yu, Alexei Smirnov (DULY Research Inc.)*

**WPAH088 Development of an X-Band PWT Photoinjector**

*David Yu, David Newsham, Luo Yan, Jiyang (Jimmy) Zeng (DULY Research Inc.), Jamie Rosenzweig (University of California, Los Angeles)*

**WPAH089 Design of a Bunch Length Measurement System for PITZ**

*Qiang Zhao, Juergen Baehr, Frank Stephan (DESY-Zeuthen), Klaus Floettmann (DESY- Hamburg)*

**WPAH090 Photoinjector Test Facility at DESY-Zeuthen**

*Qiang Zhao, Juergen Baehr, Ilja Bohnet, Alexander Donat, Ulrich Gensch, Hans-Juergen Grabosch, Holger Leich, Bert Schoeneich, Frank Stephan, Thorsten Thon, Gunter Trowitzsch, Michael Winde (DESY-Zeuthen), Rene Bakker, Benjamin Franksen, Eberhard Jaeschke, Dieter Kraemer (BESSY), Stefan Choroba, Klaus Floettmann, Albrecht Leuschner, Philippe Piot, Kay Rehlich, Joerg Rossbach, Stefan Simrock, Kirsten Zapfe (DESY-Hamburg), Harald Redlin, Wolfgang Sandner, Ingo Will (Max-Born Institute), Mikhail Krassilnikov, Alexandre Novokhatski, Stefan Setzer, Thomas Weiland (Technische U. Darmstadt)*

**WPAH091 IEEE 1394 Camera Imaging System for Brookhaven's Booster Application Facility Beam Diagnostics**

*Kevin Brown, D. Gassner, L. Hoff, S. Tepikian (Brookhaven National Laboratory)*

**WPAH092 Booster Applications Facility Instrumentation**

*David Gassner, Steve Bellavia, Kevin Brown, I Hung Chiang, Phil Pile, Ralph Prigl (Brookhaven National Laboratory)*

**WPAH093 Beam Measurement Systems for the CERN Antiproton Decelerator (AD)**

*Vinod Chohan (CERN)*

**WPAH094 Beam Diagnostics for Tevatron Electron Lens**

*Xiaolong Zhang, J. Fitzgerald, M. Olson, V. Shiltsev, N. Solyak (Fermi National Accelerator Laboratory), G. Kuznetsov, A. Sleptsov (Budker Institute of Nuclear Physics)*

**WPAH095 New Beam Intensity Monitoring System, Serving Extraction from IHEP U-70 Machine**

*Victor Terekhov, Alexander Afonin, Victor Gres (Institute of High Energy Physics, Protvino)*

**WPAH096 Proton Driver Beam Instrumentation**

*Victor Terekhov (Institute of High Energy Physics, Protvino), Jim Crisp, Robert C. Webber (Fermi National Accelerator Laboratory)*

**WPAH097 Experience with the Low Energy Demonstration Accelerator (LEDA) Halo Experiment Beam Instrumentation**

*J. Gilpatrick, D. Barr, P. Colestock, L. Day, W. Sellyey, R. B. Shurter, M. Stettler, R. Valdiviez (Los Alamos National Laboratory), J. Kamperschroer (General Atomics), M. Gruchalla, J. O'Hara (Honeywell Corporation)*

**WPAH098 Beam Profile Wire-Scanner/Halo-Scraper Sensor Analog Interface Electronics**

*Michael Gruchalla, Dean S. Barr, Lisa A. Day, J. Douglas Gilpatrick, Matthew W. Stettler (Los Alamos National Laboratory), Derwin G. Martinez (General Atomics), James F. O'Hara (Honeywell FM&T/NM)*

**WPAH099 Several New Beam Measurement Systems for HLS**

*Baogen Sun, Duohui He, Jianhong Liu, Ping Lu, Junhua Wang (National Synchrotron Radiation Lab)*

**WPAH100 The Updating COD System of the HLS and VXI-BASED Application of the LabVIEW**

*Junhua Wang, Jianhong Liu, Zuping Liu, Ping Lu, Baogen Sun (National Synchrotron Radiation Lab)*

**WPAH101 A Dual Digital Signal Processor VME Board for Instrumentation and Control Applications**

*Hai Dong, Roger Flood, Curt Hovater, John Musson (Thomas Jefferson National Accelerator Facility)*

**WPAH102 Spallation Neutron Source Beam Current Monitor Electronics**

*Martin Kesselman (Brookhaven National Laboratory)*

**WPAH103 High Accuracy Beam Current Monitor for CEBAF Hall A**

*Jean-Claude Denard, Arunava Saha (Thomas Jefferson National Accelerator Facility)*

**WPAH104 A Beam Current Monitoring System for Machine Protection Using a Digital Receiver**

*John Musson, Hai Dong, Roger Flood, Curt Hovater, Tom Powers (Thomas Jefferson National Accelerator Facility)*

**WPAH105 Measurements of Beam Current for Relativistic Electrons in Air by Current Transformer**

*Sergey Korenev (Steris Corporation)*

**WPAH106 Fast Faraday Cups and Secondary Emission Monitors**

*J. Norem (Argonne National Laboratory), N. Solomey (Illinois Institute of Technology)*

**WPAH107 Design and Performance of a Compact Imaging System for the APS Linac Bunch Compressor**

*Bingxin Yang, Ned Arnold, William Berg, Elbio Rotela, Sushil Sharma, Josh Stein (Argonne National Laboratory)*

**WPAH108 Measurement of the APS Storage Ring Electron Beam Energy Spread Using Undulator Spectra**

*Bingxin Yang (Argonne National Laboratory)*

**WPAH109 Non-Destructive Diagnostic Tool for Turn-by-Turn Longitudinal Charge Distribution Monitoring in Intense Relativistic Bunch**

*Alexander Starostenko, Peter Bak, Nikolay Dikansky, Anatoly Frolov, Pavel Logatchev, Oleg Tokarev (Budker Institute of Nuclear Physics)*

**WPAH110 Bunch Length Measurements at the TESLA Test Facility Using a Streak Camera**

*Siegfried Schreiber, Katja Honkavaara, Philippe Piot, Daniele Sertore (Deutsches Elektron Synchrotron)*

**WPAH111 A Novel Method for Measuring Energy Loss in Electron Rings**

*John Byrd, Stefano De Santis (Lawrence Berkeley National Laboratory)*

**WPAH112 Wire Heating and Breakage at Interaction with Beam**

*Alexander Tron, Igor Merinov (Moscow Engineering Physics Institute)*

**WPAH113 Bunch Phase Distribution Monitoring**

*Alexander Tron (Moscow Engineering Physics Institute)*

**WPAH114 Design of a Smith-Purcell Radiation Bunch Length Diagnostic**

*Steve Korbly, Winthrop Brown, Michael Shapiro, Richard Temkin (MIT Plasma Science and Fusion Center)*

**WPAH115 Design of a Gas Scattering Energy Analyser for the ISIS R.F.Q Test Stand**

*Jonathan Duke, David Findlay, Graeme Murdoch (Rutherford Appleton Laboratory)*

**WPAH116 A Transverse RF Deflecting Structure for Bunch Length and Phase Space Diagnostics**

*Patrick Krejcik, Ron Akre, Lynn Bentson, Paul Emma (Stanford Linear Accelerator Center)*

**WPAH117 Bunch-Length Monitor for an Electron Linac**

*Victor Mitrochenko (National Science Center ), Mykola Ayzatsky, Anatoly Dovbnya, Efrem Biller, Igor Khodak, Volodymyr Kushnir, Anatoly Opanasenko, Sergey Perezhogin, Dmitry Stepin, Leonid Zavada (National Science Center "Kharkov Institute of Physics & Technology"), Vladimir Kiseliyov, Yevgeny Kuleshov, Moisey Yanovsky (Usikov Institute for Radiophysics and Electronics NASU)*

**WPAH118 Conceptual Study of an Ultra-Short Bunch Length Monitor**

*Luigi Palumbo (Universita' La Sapienza di Roma e INFN-LNF), Andrea Mostacci (CERN), David Alesini (Istituto Nazionale di Fisica Nucleare), Manuela Di Giosa (Universita' La Sapienza di Roma)*

**WPAH119 Diagnostics of Subpicosecond Electron Pulse by the Fluctuation Method**

*Takahiro Watanabe (University of Tokyo)*

**WPAH120 Carbon Wire Heating due to Scattering in the SNS**

*Chong-Jer Liaw, Peter R. Cameron (Brookhaven National Laboratory)*

**WPAH121 Measurement of Coherent Off-Axis Undulator Radiation as a Beam Diagnostic**

*Charles Neuman, G. Lawrence Carr, William Graves (Brookhaven National Laboratory), Patrick O'Shea (University of Maryland)*

**WPAH122 The New Digital-Receiver-Based System for Antiproton Beam Diagnostics**

*Maria Elena Angoletta, Vinod Chohan, Michael Ludwig, Flemming Pedersen (CERN)*

**WPAH123 Crystal Technique to Study Beam Halo**

*Valery Biryukov (Institute of High Energy Physics, Protvino), Drees Angelika, Fliller Ray, Dejan Trbojevic (Brookhaven National Laboratory)*

**WPAH124 Diagnostics Plate for SNS Linac Commissioning**

*Michael Plum, Robert Garnett, R. Shafer (Los Alamos National Laboratory)*

**WPAH125 SNS Beam Chopping and its Implications for Machine Protection**

*Lawrence Doolittle (Lawrence Berkeley National Laboratory), Coles Sibley (Oak Ridge National Laboratory)*

**WPAH126 Electron Beam 3.5MV, 2kA Injector Diode Diagnostics for the DARHT Facility**

*Shmuel Eylon, C. Ekdahl, Enrique Henestroza, Yu Simon, M. Vella (Lawrence Berkeley National Laboratory)*

**WPAH127 Reconstruction of FXR Beam Conditions**

*William Nexsen, Raymond Scarpetti, Jan Zentler (Lawrence Livermore National Laboratory)*

**WPAH128 Analyzing the Reason of Break of Film-Mode Resistor with PET Carrier and Its Improvement Program**

*Guicheng Wang (National Synchrotron Radiation Lab)*

**WPAH129 Betatron Phase Advanced Measurement System for the Storage Ring of SRRC**

*Kuo-Hwa Hu, Jenny Chen, Kuotung Hsu, Cang-Hor Kuo, Demi Lee, Ke-Kang Lin (Synchrotron Radiation Research Center)*

**WPAH130 The CEBAF Beam Scraping Monitor**

*Trent Allison, Valeri Lebedev, Joan Sage, Mark Wissman (Thomas Jefferson National Accelerator Facility), Chip Piller (Spike Broadband Systems)*

**WPAH131 Continuous Monitoring of Beam Transfer Functions at CEBAF**

*Richard Dickson, Valeri Lebedev (Thomas Jefferson National Accelerator Facility)*

**WPAH132 Unique Polarimeter Comparison and Spin-Based Energy Measurement**

*Joseph Grames (Thomas Jefferson National Accelerator Facility)*

**WPAH133 Turn-by-Turn Transverse Phase Space Measurements in Real Time**

*Kenneth Jacobs, Brian McAllister (MIT-Bates Linear Accelerator Center)*

**WPAH301 Flux Concentrator Positron Capture Efficiency**

*Pavel Martyshkin (Budker Institute of Nuclear Physics)*

**WPAH302 Improvements in the Emission from Ceramic Cathodes**

*Ilario Boscolo (Istituto Nazionale di Fisica Nucleare), Simone Cialdi, Daniele Cipriani (University of Milan)*

**WPAH303 First Beam from the TRASCO Intense Proton Source (TRIPS) at INFN-LNS**

*Giovanni Ciavola, Luigi Celona, Santo Gammino (Istituto Nazionale di Fisica Nucleare)*

**WPAH304 Comparison of Operations of the SERSE Ion Source at 18 and 28 GHz**

*Giovanni Ciavola, Luigi Celona, Santo Gammino (Istituto Nazionale di Fisica Nucleare), Alain Girard, Denis Hitz, Girard Melin (CEA-DRFMC-SBT, Grenoble)*

**WPAH305 Emitter of Electrons and Ions for Industrial and Research Accelerators**

*Eugeni Popov (A.F. Ioffe Physicotechnical Institute of Russian Academy of Sciences (Ioffe PTI RAN), Cyclotron Laboratory), Korovin Oleg, Karatetskii Segey, Shrednik Vladimir (A.F. Ioffe Physicotechnical Institute of Russian Academy of Sciences)*

**WPAH306 Gas Desorption in LHC Vacuum Chamber under Influence of Synchrotron Radiation**

*Alexandre Krasnov, Vadim Anashin, Nikita Fedorov, Oleg Malyshev, Dostovalov Rodion (Budker Institute of Nuclear Physics), Ian Collins, Oswald Grobner (CERN)*

**WPAH307 Vacuum System Design and Research for the VSX Ring**

*Yoichiro Hori (High Energy Accelerator Research Organization), Yukihide Kamiya, Tadashi Koseki, Norio Nakamura (University of Tokyo)*

**WPAH308 Study of Ceramic Vacuum Chambers in HLS New Injection System**

*Lei Shang (National Synchrotron Radiation Lab)*

**WPAH309 First Energy Spectra Obtained with a Time-of-Flight (TOF) Electron Spectrometer on Cs<sub>2</sub>Te Photocathodes**

*Paolo Michelato, Laura Monaco (Istituto Nazionale di Fisica Nucleare), Siegfried Schreiber, Daniele Sertore (Deutsches Elektron Synchrotron)*

**WPAH310 High Power Test of the First S-Band RF Gun at SRRC**

*Ching-Hung Ho, S.S. Chang, J.P. Chiou, C.S. Fann, K.T. Hsu, S.Y. Hsu, J.Y. Hwang, W.K. Lau, K.K. Lin, T.T. Yang, M.S. Yeh (Synchrotron Radiation Research Center), M.L. Hsieh (ITRI (Taiwan))*

**WPAH311 All-Solid-State Picosecond Laser System for Photo Cathode RF-Gun and X-Ray Generation at Waseda University**

*Shigeru Kashiwagi, Hiroki Ishikawa, Tomoaki Kobuki, Ryunosuke Kuroda, Takashi Oshima, Masakazu Washio, Akira Yada (Waseda University)*

**WPAH312 Research on DC-SC Photocathode Injector for High Average Power FELs**

*Kui Zhao, Jiaer Chen, Jiankui Hao, Yanle Hu, Senlin Huang, Tiejun Meng, Shengwen Quan, Rong Xiang, Baocheng Zhang (Peking University)*

**WPAH313 Recent Beam Diagnostic Developments at COSY-Jülich**

*Juergen Dietrich, Klehr Franz, Mohos Istvan, Bojowald Johannes (Forschungszentrum Jülich)*

**WPAH314 Nuclotron Extracted Beam Diagnostics**

*Valery Volkov, Vasily Andreev, Vladimir Gorchenko, Igor Issinsky, Alexander Kirichenko, Alexander Kovalenko, Ilia Kulikov, Leonid Leonov, Vladimir Mikhailov, Valery Monchinsky, Stanislav Novikov, Sergey Romanov, Pavel Rukoyatkin, Vasily Seleznev, Boris Sveshnikov, Alexander Tsarenkov, Bogdan Vasilishin, Mikhail Voevodin, Valery Volkov (Joint Institute for Nuclear Research), Dusan Krusinsky, Lubomir Ondris (Institute of Measurement Science SAS)*

**WPAH315 Bunch-by-Bunch Phase Measurements at the KEKB**

*Takao Ieiri, Kazunori Akai, Takashi Kawamoto (High Energy Accelerator Research Organization)*

**WPAH316 CVD-Diamond-Based Position-Sensitive Detector Test with Electron Beam from a Rhodotron(TM) Accelerator**

*Deming Shu, Panakkal K. Job, Tuncer M. Kuzay (Argonne National Laboratory), Sergey Korenev (Steris Corporation)*

**WPAH317 Measurement of the Beam Angular Size in the Interaction Point of the VEPP-4M Collider**

*Anton Bogomyagkov, Elena Kremyanskaya, Nikolai Muchnoi, Yuriy Pakhotin (Budker Institute of Nuclear Physics)*

**WPAH318 Optical Measurements of Beam Parameters at VEPP-4 Storage Ring**

*Oleg Meshkov, M.G. Fedotov, S.E. Karanev, V.A. Kiselev, A.N. Selivanov, S.V. Smirnov, E.I. Zinin (Budker Institute of Nuclear Physics)*

**WPAH319 Calibration of the VEPP-4M Collider  
Electron Beam Energy with Backscattered Laser  
Photons**

*Nickolai Muchnoi (Budker Institute of Nuclear Physics)*

**WPAH320 A New Relative Proton Polarimeter for RHIC**

*Haixin Huang, Gerry Bunce, Abhay Deshpande, Kazu Kurita, Zheng Li, Waldo W. MacKay, George Mahler, Yousef Makdisi, Sergio Rescia, Thomas Roser, Haipeng Wang, Wanchang Zhang, Linjuan Zhao (Brookhaven National Laboratory), Hal Spinka, Dave Underwood (Argonne National Laboratory), Igor Alekseev, Dima Svirida, Vadim Kanavets (ITEP), Bill Lozowski (Indiana University), Ken Imai, Junji Tojo (Kyoto University), Yoji Goto, M. Ishihara, Naohito Saito (RIKEN Accelerator Research Facility), N. Bruner, Doug Fields (University of New Mexico)*

**WPAH321 Semiconductor Detector for nA Ion Beam of  
Low Energy**

*Serguei Petrenko, D.N. Seleznirov, V.P. Zubovskiy (Institute of Theoretical and Experimental Physics)*

**Session WOPA: Instabilities and Feedback**

Grand Ballroom (Session A) at 13:30

Session Chairs: K. Harkay and J.-L. Revol

**WOPA001 Harmonic Cavities and Longitudinal Beam Stability in Electron Storage Rings (Invited)**

*John Byrd (Lawrence Berkeley National Laboratory)*

**WOPA002 Methods of Observing the Microwave Instability Above and Below Transition (Invited)**

*Elena Shaposhnikova (CERN)*

**WOPA003 Strategy for Achieving True Submicron rms Orbit Stabilization at the Advanced Photon Source**

*Glenn Decker, Om Singh (Argonne National Laboratory)*

**WOPA004 Excitation of a Transverse Quadrupole-Mode Oscillation of a Bunch by Means of a High-Frequency Quadrupole Magnet**

*Shogo Sakanaka, Yukinori Kobayashi, Toshiyuki Mitsuhashi, Takashi Obina (High Energy Accelerator Research Organization)*

**WOPA005 Fast Digital Orbit Feedback Systems at NSLS**

*Boris Podobedov, Brian Kushner, Susila Ramamoorthy, Yong Tang, Emil Zitvogel (Brookhaven National Laboratory)*

**WOPA006 Frequency Resolved Measurement of Longitudinal Impedances Using Transient Beam Diagnostics**

*Dmitry Teytelman, John D. Fox (Stanford Linear Accelerator Center), Shyam Prabhakar (Stanford University)*

**Session WOPA: Linear Colliders**

Grand Ballroom (Session A) at 15:40

Session Chairs: G. Guignard and S. Holmes

**WOPA007 Highlights from the TESLA Technical Design Proposal (Invited)**

*Olivier Napoly (CE Saclay)*

**WOPA008 Overview of the X-Band R&D Program (Invited)**

*Tor Raubenheimer (Stanford Linear Accelerator Center)*

**WOPA009 An Overview of the New CLIC Test Facility (CTF3)**

*Roberto Corsini (CERN)*

**WOPA010 JLC R&D Status**

*Yong Ho Chin, JLC Development Group (High Energy Accelerator Research Organization)*

**WOPA011 Transverse Wakefields from Tapered Collimators: Measurements and Analysis**

*Peter Tenenbaum, Karl Bane, R. Keith Jobe, Douglas McCormick, Cho K. Ng, Dmitry Onoprienko, Tor O. Raubenheimer, Marc C. Ross, Gennady Stupakov, Dieter Walz (Stanford Linear Accelerator Center)*

**WOPA012 Recent Results from the Tesla Test Facility (TTF)**

*Markus Hüning (III Phys Inst RWTH Aachen), Michiko Minty (Deutsches Elektron Synchrotron)*

**Session WOPB: Single-Particle Beam Dynamics and Optics (1 of 2)**

**Grand Ballroom (Session B) at 13:30**

**Session Chairs: M. Berz and S. Koscielniak**

**WOPB001 Collimation Optimization in High Energy Rings (Invited)**

*Nuria Catalan-Lasheras (Brookhaven National Laboratory)*

**WOPB002 Beam-Based Nonlinear Corrections in Storage Rings: Review and Potential Applications for the LHC Commissioning (Invited)**

*Oliver Brüning (CERN)*

**WOPB003 Understanding the Dynamic Momentum Aperture of the Advanced Light Source**

*Christoph Steier, David Robin, Ying Wu (Lawrence Berkeley National Laboratory), Winfried Decking (Deutsches Elektron Synchrotron)*

**WOPB004 Measurement of Resonance Driving Terms at the CERN SPS Using Turn-by-Turn Data from Beam Position Monitors**

*Frank Schmidt, Rogelio Tomas (CERN), Angeles Faus-Golfe (IFIC--University of Valencia)*

**WOPB005 Pbar Deceleration in the MI**

*Chandra Bhat (Fermi National Accelerator Laboratory)*

**WOPB006 Nonlinear Beam Dynamics at DAFNE**

*Cristina Vaccarezza, David Alesini, Gabriele Benedetti, Sergio Bertolucci, Caterina Biscari, Manuela Boscolo, Simone Di Mitri, Giampiero Di Pirro, Alessandro Drago, Andrea Ghigo, Susanna Guiducci, Fabio Marcellini, Giovanni Mazzitelli, Catia Milardi, Miro Preger, Fernando Sannibale, Mario Serio, Alessandro Stecchi, Mikhail Zobov (Istituto Nazionale di Fisica Nucleare), Pantaleo Raimondi (Stanford Linear Accelerator Center)*

**Session WOPB: Single-Particle Beam Dynamics  
and Optics (2 of 2)**

**Grand Ballroom (Session B) at 15:40**

**Session Chairs: M. Berz and S. Koscielniak**

**WOPB007 Expected Beam Performance of the SNS  
Linac (Invited)**

*James Stovall, James H. Billen, Subrata Nath, Harunori Takeda, Lloyd M. Young (Los Alamos National Laboratory), Kenneth R. Crandall, Robert Shafer (TechSource Inc.)*

**WOPB008 Magnet Fringe Fields, Nonlinear Effects,  
and Compensation in Large Acceptance Rings  
(Invited)**

*Kyoko Makino (University of Illinois at Urbana-Champaign)*

**WOPB009 Magnetic Field Expansion for Particle  
Tracking in a Bent-Solenoid Focusing Channel**

*Chun-xi Wang, Lee Teng (Argonne National Laboratory)*

**WOPB010 Symplectic Models for General Insertion  
Devices**

*Ying Wu, Dave Robin, Andrzej Wolski (Lawrence Berkeley National Laboratory), Vladimir Litvinenko (Duke University), Etienne Forest (High Energy Accelerator Research Organization)*

**WOPB011 Frequency and Diffusion Maps for the SNS  
Accumulator Ring**

*Yannis Papaphilippou, Alexei Fedotov, Nikolay Malitsky, Andrei Shishlo (Brookhaven National Laboratory)*

**WOPB012 Beam Dynamics for a Photoinjected Energy  
Recovery Linac at the NSLS**

*James Murphy, Ilan Ben-Zvi, William Graves, Stephen Kramer, Sam Krinsky, Boris Podobedov, Timur Shaftan, Brian Sheehy, Nathan Towne, Jiunn-Ming Wang, Xijie Wang, Ju Hao Wu, Vitaly Yakimenko, Li-Hua Yu (Brookhaven National Laboratory)*

**Session WPPH: Accelerator Facilities and Applications**  
Poster Hall at 13:30

**WPPH001 Planar Electromagnetic Multipole Correctors for a Circularly Polarized Undulator**

*Shigemi Sasaki, Emil Trakhtenberg, Isaac Vasserman (Argonne National Laboratory)*

**WPPH002 A Superconducting 7T Multipole Wiggler for the BESSY II Ring**

*Ernst Weihreter, F. Schaefers, M. Scheer (BESSY), M. Fedurin, N. Mezentsev, V. Shkaruba (Budker Institute of Nuclear Physics), S. Mhaskar (Center of Advanced Technology), D. Berger (Hahn-Meitner Institute)*

**WPPH003 NSLS In-Vacuum Undulators and Mini-Beta Straights**

*George Rakowsky, Eric Blum, Samuel Krinsky, Donald Lynch (Brookhaven National Laboratory)*

**WPPH004 The CHESS G-Line Wiggler Tuning**

*Alexander Temnykh, Ken Finkelstein (Cornell University)*

**WPPH005 Construction of Helical and In-Vacuum Undulators at the ESRF**

*Joel Chavanne, Pascal Elleaume, Pierre Van Vaerenbergh (European Synchrotron Radiation Facility)*

**WPPH006 New Chicane Magnet Design for Insertion Device Straights at the Advanced Light Source**

*Steve Marks, David Robin, Ross Schlueter, Christoph Steier, Troy Stevens (Lawrence Berkeley National Laboratory)*

**WPPH007 Compensation of Optics Distortions Caused by an Elliptically Polarizing Undulator at the Advanced Light Source**

*Christoph Steier, Steve Marks, David Robin, Kem Robinson, Ross Schlueter (Lawrence Berkeley National Laboratory)*

**WPPH008 Modeling Wiggler Field Using Numerical Field Data**

*Ying Wu, Steve Marks, Sean Murdock (Lawrence Berkeley National Laboratory)*

**WPPH009 Insertion Device Commissioning at SRC**

*Michael Green (SRC), Joseph J. Bisognano, Robert A. Bosch, David E. Eisert, Michael V. Fisher, Kevin J. Kleman, Greg C. Rogers, Walter S. Trzeciak, Daniel J. Wallace (Synchrotron Radiation Center, University of Wisconsin)*

**WPPH010 Mini Environment Control for the Elliptic Polarize Undulator**

*Da Sheng Lee, J. R. Chen, Z. D. Tsai (Synchrotron Radiation Research Center)*

**WPPH011 New Insertion Devices for ELETTRA**

*Bruno Diviacco, Roberto Bracco, Daniele Millo, Richard Walker, Massimo Zalateu, Dino Zangrando (Sincrotrone Trieste)*

**WPPH012 Wiggler Effects via Wavelet Calculations**

*Antonina Fedorova, Michael Zeitlin (IPME RAS)*

**WPPH013 The Effects of the Insertion Devices at the Super SOR Light Source**

*Kentaro Harada (Institute for Solid State Physics, the University of Tokyo)*

**WPPH014 Design of 4 Tesla Room Temperature Wiggler for the KSRS**

*Iouri Krylov, Alexander Khlebnikov, N. Osmanov, Vladimir Ushkov (RRC Kurchatov Institute)*

**WPPH015 The MAX-III Storage Ring**

*Greg LeBlanc, Åke Andersson, Mikael Eriksson, Mattias Georgsson, Lars-Johan Lindgren, Sverker Werin (MAX-lab, Lund Sweden)*

**WPPH016 The MAX Wiggler**

*Greg LeBlanc (MAX-lab), Erik Wallèn (MAX-lab, Lund Sweden)*

**WPPH017 Analytical Calculation of Three-Dimensional Magnetic Fields of Insertion Devices**

*Mikhail Smolyakov (Moscow State University, Physics Department)*

**WPPH018 The Rapid Cycling Medical Synchrotron**

*Steve Peggs, D. Barton, M. Brennan, J. Kewisch, G. McIntyre, D. Phillips, J. Sandberg, S. Tepikian, N. Tsoupas, J. Tuozzolo, S.Y. Zhang (Brookhaven National Laboratory), J. Cardona (University of Stony Brook, New York)*

**WPPH019 Design Studies of an RFQ-Injector for a Medicine-Synchrotron**

*Alexander Bechtold, Alwin Schempp (Institut für Angewandte Physik)*

**WPPH020 Dispersion Suppression in the MPRI Achromat Beam Line**

*Vladimir Anferov, D.L. Friesel, W.P. Jones (Indiana University)*

**WPPH021 The TOP Project Status**

*Luigi Picardi, Concetta Ronsivalle (ENEA), Robert Hamm (AccSys Technology Inc.), Salvatore Frullani (Italian National Institute of Health)*

**WPPH022 Accelerators Development for Intra-Operative Radiation Therapy**

*Concetta Ronsivalle, Luigi Picardi, Angelo Vignati (ENEA-Frascati), Antonino Tata (ENEA - Casaccia ), Marcello Benassi (Istituti Fisioterapici Ospedalieri (IFO) Roma)*

**WPPH023 Study on the Energy Switch in an On-Axis Coupled Standing-Wave Accelerator**

*Xiaokui Tao, Qingxiu Jin, Yuzheng Lin, De-chun Tong (Tsinghua University)*

**WPPH024 Electron Linacs in Radioactive Waste Disposal Problem**

*Vyacheslav Uvarov, Nikolay Dikiy, Anatoliy Dovbnya, Sergey Sayenko (NSC Kharkov Institute of Physics and Technology)*

**WPPH025 The Distributions of Absorbed Doses in the Irradiated Materials from "Rhodotron" Electron Accelerator and Monte Carlo Simulation**

*Oleg Krivosheev (Fermi National Accelerator Laboratory), Sergei Korenev (Steris Corporation), Anatoly M. Kolchuzhkin, Igor S. Tropin (Tomsk Polytechnic University)*

**WPPH026 Development of 1MV Tandem Proton Accelerator**

*Yong-Sub Cho, Byung-Ho Choi, Woo-Sub Song (Korea Atomic Energy Research Institute)*

**WPPH027 High-Current Industrial Electron LINACS**

*Andrey Alimov, D.I. Ermakov, B.S. Ishkhanov, E.A. Knapp, V.I. Shvedunov, W.P. Trower (World Physics Technologies)*

**WPPH028 Compact Electron Accelerator for Radiation Technologies**

*Sergey Korenev (Steris Corporation)*

**WPPH029 Single Pass Acceleration Experiment Using Coaxial Cavity**

*Hyeok-jung Kwon, Kang-ok Lee (Korea Accelerator and Plasma Research Association), Moon-sung Chun, Kie-hyung Chung, Han-sung Kim, Min-joon Park (Department of Nuclear Engineering, Seoul National University)*

**WPPH030 Energy Variable 4 - 10 MeV X-Band Linac**

*Andrey Mishin (AS&E High Energy Systems Division)*

**WPPH031 Compact Electron Linacs for Radiation Technology Systems**

*Vitaly Pirozhenko, Vladimir M. Belugin, Alexandre V. Mischenko, Nikolay E. Rozanov, Alexandre A. Zavadtsev (BioSterile Technology, Inc.), Alexandre N. Korolev, Karl G. Simonov (Istok, Frjazino, Russia)*

**WPPH032 Monte Carlo Simulation of X-ray Facilities for Industrial Accelerator Applications**

*Gennadiy Popov, Valentin Lazurik, Valentina Lazurik, Yuriy Rogov (Kharkiv National University), Sergey Korenev (Steris Corporation)*

**WPPH033 SIRTEL, Computer Program for Optimization of Industrial Electron Beam Processes**

*Gennadiy Popov, Valentin Lazurik, Valentina Lazurik, Yuriy Rogov (Kharkiv National University), Sergey Korenev (Steris Corporation)*

**WPPH034 Project of Rotating Carbon High-Power Neutron Target. Conceptual Design.**

*Konstantin Gubin, Andrey Antoshin, Mikhail Avilov, Nikolay Kot, Nikolay Lebedev, Pavel Logatchev, Pavel Martyshkin, Sergey Morozov, Ilya Pivovarov, Sergey Shiyankov, Alexander Starostenko (Budker Institute of Nuclear Physics), Luigi Tecchio (Istituto Nazionale di Fisica Nucleare)*

**WPPH035 Project of Rotating Carbon High-Power Neutron Target. Research of Graphite Properties for Production of High-Intense Neutron Source**

*Konstantin Gubin, Mikhail Avilov, Petr Bak, Nikolay Kot, Pavel Logatchev (Budker Institute of Nuclear Physics)*

**WPPH036 Optical Beam Line Design for the Duke Free Electron Laser Laboratory**

*M. Emamian, M.S. Hutson, G. Swift (Duke University)*

**WPPH037 The Mine Detection System Coupled with a Compact Tandem Accelerator**

*Ha Jang Ho, Yung Sub Cho, Byung Ho Choi, Yong Kyun Kim, Jae Hyung Lee, Jae S. Lee (Korea Atomic Energy Research Institute)*

**WPPH038 Conception of Electron Linac with Regulation of Main Parameters for Radiation Technologies**

*Boris Bogdanovich, Eduard Masunov, Alexandr Nesterovich (Moscow Engineering Physics Institute), Sergey Korenev (Steris Corporation)*

**WPPH039 A 70KeV Neutral Hydrogen Beam Injector with Energy Recovery for an MSE Diagnostic Application in Fusion Research**

*Simonin Alain, Armitano Arthur, Dougnac Hubert, Brugnetti Robert, Cano Vincent (CEA Cadarache), Fazilleau Philippe (CE Saclay)*

**WPPH040 Configurational Splitting of Electron Radiation on Atoms and Its Discovery on Accelerators**

*Vladislav Grishin, Sergei Likhachev, Grigory Nefedov (Institute of Nuclear Physics of Moscow State University)*

**WPPH041 High Efficiency Circuital Sources of Hard Radiation on Base of Compact Electron Accelerators**

*Vladislav Grishin, Sergey Likhachev (Institute of Nuclear Physics of Moscow State University)*

**WPPH042 The Free Electron Lasers and X-Ray Holography**

*Ivan Ivanov, Angel Angelov, Dimitr Dimitrov, Ivan Vlaev (Institute for Nuclear Research and Nuclear Energy)*

**WPPH043 Photoneutron Spectrum at Pohang Neutron Facility Based on 100-MeV Electron Linac**

*Guinyun Kim, Dongchul Son (Center for High Energy Physics, Kyungpook National University), Moo-Hyun Cho, In Soo Ko, Youngseok Lee, Won Namkung (Pohang Accelerator Laboratory)*

**WPPH044 The Plasma Accelerator-Based Power Generator of Optical Radiation**

*Yuri Volkolupov, Vladimir Chumakov, Mikhail Krasnogolovets, Mikhail Ostrizhnoy (Kharkov State Technical University of Radioelectronics)*

**WPPH045 Upgrade and Operation of the BNL Tandems for RHIC Injection**

*Dannie Steski, James Alessi, John Benjamin, Charles Carlson, Mario Manni, Peter Thieberger, Michael Wiplich (Brookhaven National Laboratory)*

**WPPH046 Fermilab Electron Cooling Project: Commissioning of the 5 MeV Recirculation Test Set-up**

*Alexander Shemyakin, Alexey Burov, Thomas Kroc, Jerry Leibfritz, Michael McGee, Sergei Nagaitsev, Gregory Saewert, Charles W. Schmidt, Arden Warner (Fermi National Accelerator Laboratory)*

**WPPH047 An Electrostatic Storage Ring at IAP**

*Carsten Welsch, Alwin Schempp (Institut für Angewandte Physik)*

**WPPH048 Beam Deceleration Performance of the Fermilab Main Injector**

*Gerald P. Jackson, Brian Chase, Consulato Gattuso (Technanogy, LLC), Bruce Brown, David Capista, Joseph Dey, Robert Flora (Fermi National Accelerator Laboratory)*

**WPPH049 Commissioning of the Coupled Cyclotron System at NSCL**

*Peter Miller (American Physical Society), Felix Marti, David Poe, Mathias Steiner, Jeffry Stetson, Xiaoyu Wu (National Superconducting Cyclotron Laboratory)*

**WPPH050 Choice of Injection Scenario for the Spallation Neutron Source Rings**

*Jie Wei, J. Beebe-Wang, J. Brodowski, A. Fedotov, C. Gardner, Y.Y. Lee, D. Raparia (Brookhaven National Laboratory), S. Machida (High Energy Accelerator Research Organization), C. Prior, G. Rees (Rutherford Appleton Laboratory)*

**WPPH051 Optics for the Antiproton Decelerator at CERN**

*Stephan Maury, Pavel Beloshitsky, Christian Carli, Diether Mohl, Flemming Pedersen (CERN)*

**WPPH052 Siberian Snake for the Cooler Synchrotron COSY**

*Andreas Lehrach, Rudolf Maier (Forschungszentrum Jülich)*

**WPPH053 Beam Loss Collection in the Fermilab Booster**

*Alexandr Drozhdin, Peter H. Kasper, Oleg E. Krivosheev, James R. Lackey, Nikolai V. Mokhov, Milorad Popovic, Robert C. Webber (Fermi National Accelerator Laboratory)*

**WPPH054 Beam Loss and Collimation in the Fermilab 16 GeV Proton Driver**

*Alexandr Drozhdin, Oleg E. Krivosheev, Nikolai V. Mokhov (Fermi National Accelerator Laboratory)*

**WPPH055 Corrections to the Fermilab Recycler Focusing with End Shim Changes**

*David Johnson (Fermi National Accelerator Laboratory)*

**WPPH056 Radiation Shielding and Activation in the Fermilab 16 GeV Proton Driver**

*Nikolai V. Mokhov, Alexander I. Drozhdin, Oleg E. Krivosheev (Fermi National Accelerator Laboratory)*

**WPPH057 Challenges to the Fermilab Linac and Booster Accelerators**

*Robert C. Webber (Fermi National Accelerator Laboratory)*

**WPPH058 New Injection Mode for the LNS Superconducting Cyclotron**

*Danilo Rifuggiato (Istituto Nazionale di Fisica Nucleare)*

**WPPH059 Operational Performance, Developments, and Refurbishing of the 500 MeV H- Cyclotron for the TRIUMF Facility**

*Gerardo Dutto, R. Baartman, K. Fong, T. Kuo, R.E. Laxdal, G.H. Mackenzie, A. Mitra, R.L. Poirier, K. Reiniger, L. Root, M. Stenning (TRIUMF)*

**WPPH060 Operational Experience with Resonantly Extracted Beam**

*Kenneth Jacobs, Fabio Casagrande, Manouch Farkhondeh, Brian McAllister, Lawrence O'Brien, Christoph Tschalaer, Evgeni Tsentalovich, Fuhua Wang, Townsend Zwart (MIT-Bates Linear Accelerator Center)*

**WPPH061 Beam Commissioning of a Multi-Purpose Compact Ion Synchrotron**

*Koji Matsuda, Kazuo Hiramoto, Hideaki Nishiuchi, Kazuyoshi Saito, Ryosuke Shinagawa, Tsuneyuki Tonooka, Masumi Umezawa (Hitachi, Ltd.)*

**WPPH062 A Clustered Isochronous Cyclotron Driver for a Thorium-Cycle Fission Power Reactor**

*Peter McIntyre, George Kim, Don May, Akhdior Sattarov (Texas A&M University)*

**WPPH063 70 MeV Electron Racetrack Microtron Commissioning**

*Vasily Shvedunov, A.N. Ermakov, A.I. Karev, E.A. Knapp, N.P. Sobenin, W.P. Trower (World Physics Technologies)*

**WPPH064 Recent Operational Data on Continuous Top-up Operation at the Advanced Photon Source**

*Louis Emery (Argonne National Laboratory)*

**WPPH065 Progress and Prospects Towards Brightness Improvements at the Advanced Photon Source**

*Louis Emery, Michael Borland, Roger Dejus, Efim Gluskin, Elizabeth Moog (Argonne National Laboratory)*

**WPPH066 Implementation of the Horizontal Focusing Optics at the APS**

*Vadim Sajaev, Louis Emery (Argonne National Laboratory)*

**WPPH067 Performance of BESSY II the Undulator Based Synchrotron Light Source**

*Dieter Kraemer (BESSY)*

**WPPH068 Photoinjected Energy Recovering Linac Upgrade for the NSLS**

*Ilan Ben-Zvi, Marcus Babzien, Eric Blum, William Casey, Xiangyun Chang, William Graves, Jerome Hastings, Steven Hulbert, Erik Johnson, Chi-Chang Kao, Stephen Kramer, Samuel Krinsky, Payman Mortazavi, James Murphy, Satoshi Ozaki, Slobodan Pjerov, Boris Podobedov, George Rakowsky, James Rose, Timur Shaftan, Brian Sheehy, David Siddons, John Smedley, Triveni Srinivasan-Rao, Nathan Towne, Jiunn-Ming Wang, Xijie Wang, Juhao Wu, Vitaly Yakimenko, Li Hua Yu (Brookhaven National Laboratory)*

**WPPH069 Coherent Radiation Measurements at the NSLS Source Development Lab**

*G. Lawrence Carr, W. Graves, E. Johnson, J.B. Murphy (Brookhaven National Laboratory), C. Neuman (University of Maryland)*

**WPPH070 Recent Developments in the DIAMOND Storage Ring Design**

*Michael Poole, James Jones, Hywel Owen, Duncan Scott, Susan Smith, Jennifer Varley, Naomi Wyles (Daresbury Laboratory)*

**WPPH071 Project for Generation of Femtosecond X-ray Beams from the Duke Storage Ring**

*Vladimir Litvinenko, Stepan F. Mikhailov, Oleg A. Shevchenko (Duke University), Ying Wu (Lawrence Berkeley National Laboratory)*

**WPPH072 Recent Developments for an Improved Operation at ESRF**

*Laurent Hardy (European Synchrotron Radiation Facility)*

**WPPH073 e-Beam Stability Enhancement by Use of Damping Link for Magnet Girder Assembly at the ESRF**

*Lin Zhang, Laurent Farvacque, Jean-Marc Filhol, Eric Plouviez (European Synchrotron Radiation Facility)*

**WPPH074 On a Dedicated Infrared Synchrotron Radiation Source at the ALS**

*John Byrd, Warren Byrne, Michael Martin, Wayne McKinney, Hiroshi Nishimura, David Robin, Christoph Steier, Greg Stover, Will Thur, Ying Wu (Lawrence Berkeley National Laboratory)*

**WPPH075 Monitoring the Performance of the Advanced Light Source**

*Warren Byrne, Edward Lampo, Bruce Samuelson (Lawrence Berkeley National Laboratory)*

**WPPH076 Status and Development of ALS**

*David Robin, Benedict Feinberg (Lawrence Berkeley National Laboratory)*

**WPPH077 Superbend Project at the Advanced Light Source**

*David Robin, Alan Biocca, Carol Corradi, Jan De Vries, Michael Famie, Joseph Harkins, Thomas Henderson, James Hinkson, Egon Hoyer, James Krupnick, Steve Marks, Alan Paterson, Paul Pipersky, Art Ritchie, Ross Schlueter, Christoph Steier, William Thur, John Zbasnik (Lawrence Berkeley National Laboratory)*

**WPPH078 A Dedicated Synchrotron Light Source for Ultrafast X-ray Science**

*Alexander Zholents, John Corlett, Kem Robinson (Lawrence Berkeley National Laboratory)*

**WPPH079 Coherent Synchrotron Radiation in an X-Band Photoinjector**

*Frederic Hartemann (Lawrence Livermore National Laboratory), Neville C. Luhmann, Jr. (University of California, Davis)*

**WPPH080 Three-Dimensional Theory of Compton Scattering and Advanced Biomedical Applications**

*Frederic Hartemann, Hector A. Baldis, Bernhard Rupp (Lawrence Livermore National Laboratory), Arthur K. Kerman (Center for Theoretical Physics, MIT), Arnaud Le Foll (Ecole Polytechnique, France)*

**WPPH081 Generation of Tunable, Monochromatic X-rays in the Laser Synchrotron Source Experiment**

*R. Fischer, C.I. Moore, P. Sprangle, A. Ting (Naval Research Laboratory), M. Baine (NASA), S. Ride (UCSD), R. Elton (University of Maryland)*

**WPPH082 Possibility Study of Generating SR Pulse with Long Interval in HLS**

*Kuanjun Fan, Guangyao Feng, Yuanji Pei, Xiangqi Wang (National Synchrotron Radiation Lab)*

**WPPH083 Beam Lifetime of the Pohang Light Source**

*T.-Y. Lee, M. G. Kim, C. D. Park, E. S. Park (Pohang Accelerator Laboratory)*

**WPPH084 The Present Status of the Pohang Light Source**

*T.-Y. Lee, J. Choi, M. G. Kim, S. H. Nam, E. S. Park, M. Yoon (Pohang Accelerator Laboratory)*

**WPPH085 Femtosecond Pulses of Synchrotron Radiation at the SLS Storage Ring**

*Gerhard Ingold, Rafael Abela, Paul Beaud, Leonid Rivkin, Volker Schlott, Thomas Schmidt, Hans-Christi Sigg, Andreas Streun, Friso Van der Veen, Albin Wrulich (Paul Scherrer Institut), Beni Singh (CAT, Indore)*

**WPPH086 Study of a Low-Beta Straight Section in SPEAR 3**

*Yuri Nosochkov, Jeff Corbett, Tom Rabedeau (Stanford Linear Accelerator Center)*

**WPPH087 Spear2 RF Operation: A Bridge to Spear3**

*Sam Park (Stanford Linear Accelerator Center)*

**WPPH088 Low Emittance Operation of the SPring-8 Storage Ring by Damping Partition Control**

*Takeshi Nakamura, Mitsuhiro Masaki, Takashi Ohshima, Kouichi Soutome, Yoshio Suzuki, Shiro Takano, Masaru Takao, Hitoshi Tanaka, Hiroshi Yamazaki (Japan Synchrotron Radiation Research Institute), Toru Hara, Yoshiki Kohmura, Yoshihito Tanaka (RIKEN)*

**WPPH089 A Synchronized FEL-Synchrotron Radiation Facility at Jefferson Lab**

*Andrew Hutton, S. V. Benson, H. F. Dylla, O. Garza, R. R. Lauz, R. T. May, G. R. Neil, S. L. Prior, G. P. Williams, N. W. Wilson (Thomas Jefferson National Accelerator Facility)*

**WPPH090 Operation of Aladdin at Lowered Emittance**

*Joseph Bisognano, R.A. Bosch, D. Eisert, W. Trzeciak (Synchrotron Radiation Center, University of Wisconsin), K. Kleman (Synchrotron Radiation Center, University of Wisconsin)*

**WPPH091 Status of the SPEAR 3 Accelerator Upgrade**

*William Corbett*

**WPPH092 Local Transverse Coupling Control at the CLS**

*Leslie Dallin (Canadian Light Source)*

**WPPH093 The Canadian Light Source: An Update**

*Leslie Dallin (Canadian Light Source)*

**WPPH094 Commissioning Results of ANKA**

*Dieter Einfeld, Erhard Huttel, Gajendra Kumar Sahoo (FGS, Forschungszentrum Karlsruhe), Francisco Perez, Montserrat Pont (ANKA GmbH)*

**WPPH095 Spectral-Angular Distribution of Relativistic Electrons' Radiation in a Thin Layer of Matter**

*Serguei Fomin (Kharkov Institute of Physics & Technology), Serguei Shul'ga (Kharkov National University)*

**WPPH096 Landau Cavities in 3rd Generation Light Sources**

*Mattias Georgsson (MAX-lab)*

**WPPH097 Present Status of the Synchrotron Radiation Facility NewSUBARU**

*Satoshi Hashimoto, Ainosuke Ando, Yoshihiro Fukuda, Shuji Miyamoto, Yoshihiko Shoji (Himeji Institute of Technology (NewSUBARU))*

**WPPH098 Siberia - 2: Experience of the First Year of Regular Operation**

*Iouri Krylov, Iouri Ioupinov, Vladimir Leonov, Vladimir Ushkov, Aleksandre Valentinov (RRC Kurchatov Institute)*

**WPPH099 Short Pulse X-ray Generation by Laser-Thomson Scattering**

*Fumio Sakai (Sumitomo Heavy Industries, Ltd.)*

**WPPH100 Experimental Study of Edge Radiation at HiSOR**

*Nikolay Smolyakov, Atsunari Hiraya (Hiroshima University, HiSOR), Masaki Morita, Takayuki Muneyoshi, Katsutoshi Shirasawa (Hiroshima University)*

**WPPH101 Commissioning of the LNLS 500 MeV Booster Synchrotron**

*Pedro Tavares, Ruy H. A. Farias, Guilherme R.S. Franco, Marcelo Juni, Liu Lin, Antônio C. Lira, Claudio Pardine, Carlos Scorzato, Giancarlo Tosin (Laboratorio Nacional de Luz Sincrotron)*

**WPPH102 The Use of Harmonics to Achieve Coherent Short Wavelengths**

*Sandra Biedron, Z. Huang, K.-J. Kim, S.V. Milton (Argonne National Laboratory), H. P. Freund (Science Applications International Corporation)*

**WPPH103 Start-to-End Jitter Simulations of the Linac Coherent Light Source**

*Michael Borland, Yong-Chul Chae, Stephen Milton, Robert Soliday (Argonne National Laboratory), Vinod Bharadwaj, Paul Emma, Patrick Krejcik, Cecile Limborg, Mark Woodley (Stanford Linear Accelerator Center)*

**WPPH104 Development of SDDS-Compliant GENESIS and Its Application**

*Yong-Chul Chae, Robert Soliday (Argonne National Laboratory)*

**WPPH105 GINGER Simulations of Short-Pulse Effects in the LEUTL FEL**

*Zhirong Huang (Argonne National Laboratory), William Fawley (Lawrence Berkeley National Laboratory)*

**WPPH106 Commissioning Status of Source Development Laboratory at BNL**

*William Graves, L.F. DiMauro, A. Doyuran, K. Feng, W.S. Graves, R. Heese, S. Krinsky, J. Rose, J. Rothman, J. Rudati, T. Shaftan, B. Sheehy, J. Skaritka, X.J. Wang, L.-H. Yu (Brookhaven National Laboratory), C. Neuman (Duke University)*

**WPPH107 High Gain Harmonic Generation X-ray Free Electron Laser**

*Juhao Wu, Li-Hua Yu (Brookhaven National Laboratory)*

**WPPH108 High Gain Harmonic Generation DUV Free Electron Laser at the NSLS**

*Juhao Wu, Li-Hua Yu (Brookhaven National Laboratory)*

**WPPH109 Integrated Modeling of the TESLA X-FEL**

*Philippe Piot, Torsten Limberg (Deutsches Elektron Synchrotron)*

**WPPH110 Status of Mark III FEL**

*Igor Pinayev, James Gustavsson, Vladimir Litvinenko, Peter Morcombe, Owen Oakley, Vernon Rathbone, Gary Swift, Ping Wang (Duke University)*

**WPPH111 Giant Pulse Generation Using Gain Modulator**

*Igor Pinayev, Mark Emamian, Nelson Hower, Marty Johnson, Vladimir Litvinenko, Janet Patterson, Gary Swift (Duke University)*

**WPPH112 A Storage Ring based High Gain FEL**

*S.Y. Lee, Kaman Fung (Indiana University), K.Y. Ng (Fermi National Accelerator Laboratory)*

**WPPH113 Demonstration of a High-Power FEL Oscillator with High Extraction-Efficiency**

*Ryoichi Hajima, Nobuhiro Kikuzawa, Eisuke Minehara, Ryoji Nagai, Nobuyuki Nishimori, Masaru Sawamura, Toshiyuki Shizuma (Japan Atomic Energy Research Institute)*

**WPPH114 Energy-Recovery Option for a Future X-Ray Free-Electron Laser**

*Ryoichi Hajima, Eisuke Minehara (Japan Atomic Energy Research Institute)*

**WPPH115 Magnetron Driven Classical Microtron as an Injector for a Wide Band Tunable Compact Far Infrared Free Electron Laser**

*Grigori M. Kazakevitch, Sung Oh Cho, Young Uk Jeong, Byung Cheol Lee, Jongmin Lee (Korea Atomic Energy Research Institute), Victor P. Belov, Nikolai G. Gavrilov (Budker Institute of Nuclear Physics)*

**WPPH116 Electron Phase Slip in an Undulator with Dipole Field and BPM Errors**

*Paul Emma (Stanford Linear Accelerator Center)*

**WPPH117 Coherent Harmonics in the Super-Radiant Regime from an FEL**

*Stephen Benson, Michelle Shinn (Thomas Jefferson National Accelerator Facility)*

**WPPH118 Measuring Properties of FEL Radiation along the Length of the Undulator at VISA-FEL**

*Alex Murokh, James Rosenzweig, Aaron Tremaine (University of California, Los Angeles), Eric Johnson, John Skaritka, Xijie Wang (Brookhaven National Laboratory)*

**WPPH119 Start-to-End Simulation for the LCLS Xray-FEL**

*Sven Reiche, Claudio Pellegrini, James Rosenzweig (University of California, Los Angeles), Paul Emma, Patrik Krejcik (Stanford Linear Accelerator Center)*

**WPPH120 Proposal for a IR Waveguide SASE FEL at the PEGASUS Injector**

*Sven Reiche, James Rosenzweig, Soren Telfer (University of California, Los Angeles)*

**WPPH121 Two-Stage SASE-FEL for High Power Femtosecond X-ray Generation**

*Carl Schroeder, Claudio Pellegrini, Sven Reiche (University of California, Los Angeles)*

**WPPH122 Measurements of a 800nm SASE FEL**

*Aaron Tremaine, Pedro Frigola, Alex Murokh, Claudio Pellegrini, Sven Reiche, James Rosenzweig (University of California, Los Angeles), Marcus Babzien, Ilan Ben-Zvi, Erik Johnson, Robert Malone, George Rakowsky, John Skaritka, Xijie Wang (Brookhaven National Laboratory), Lou Bertolini, Jim Hill, Greg Le Sage, Marcus Libkind, Karl Van Bibber (Lawrence Livermore National Laboratory), Roger Carr, Max Cornacchia, Lowell Klaisner, Heinz-Dieter Nuhn, Robert Ruland (Stanford Linear Accelerator Center)*

**WPPH123 Harmonic Generation Using a 10 MeV Femtosecond Electron Bunch of a Table-Top Accelerator**

*J.I.M. Botman, C.A. Thomas (Eindhoven University of Technology), M.E. Couprie (French Atomic Energy Commission)*

**WPPH124 Beam Line Design at the Maryland Infrared Free Electron Laser**

*Jonathan Neumann, D. Feldman, R. Feldman, J. Harris, P.G. O'Shea, A. Shkvarunets, M. Virgo (Institute for Plasma Research), H. Bluem, A. Todd (Advanced Energy Systems), H. Freund (SAIC), C.C. Davis, E. Elson (University of Maryland)*

**WPPH125 A Report on the Analysis of the SRS Personnel Safety System**

*Mark Thomas Heron, John Alexander, Paul Quinn (Daresbury Laboratory)*

**WPPH126 Secondary Particle Production and Residual Activation for the MiniBooNE Target Area**

*Chandra Bhat (Fermi National Accelerator Laboratory)*

**WPPH301 5 T Non-Superconducting Wiggler**

*Evgeny Antokhin, Boris Goldenberg, Uriy Kolokolnikov, Gennady Kulipanov, Evgeny Levichev, Vladislav Mishnev, Vladislav Panchenko, Pavel Piminov, Pavel Vobly (Budker Institute of Nuclear Physics)*

**WPPH302 Pulsed Wire Magnetic Field Measurements on Undulator U10p**

*Tai-ching Fan (Synchrotron Radiation Research Center)*

**WPPH303 Automation of the Lebedev Physical Institute Synchrotron to the Energy 1.3 GeV as the First Stage of the Accelerator Upgrade**

*Vyacheslav Kurakin, Valeriy Alekseev, Valeriy Busygin, Alexander Koltsov, Gennadiy Subbotin, Evgeniy Tamm, Yulian Yanulis (Lebedev Physical Institute, Moscow), Pavel Kurakin (Keldysh Institute of applied mathematics, Moscow)*

**WPPH304 Field Distribution and Beam Dynamics in Planar Electromagnetic Undulator**

*Vyacheslav Kurakin (Lebedev Physical Institute)*

**WPPH305 Design and Test of Optical Klystron for FEL**

*Ge Li, Chao-Zheng Diao, Duohui He, Qi-ka Jia, Jin-ying Liu, Sheng-kuan Lu, Yong Wang, Hong-liang Xu (Univ. of Sci. & tech. Of China)*

**WPPH306 Upgrade of NSRL Optical Klystron for FEL**

*Ge Li (National Synchrotron Radiation Lab), Duohui He, Qi-ka Jia, Jin-ying Liu, Peng-fei Zhang, Shan-cai Zhang (University of Science and Technology of China)*

**WPPH307 The Application of the Closed Undulator in Hefei Light Source**

*Ge Li (National Synchrotron Radiation Lab), Yingui Zhou, Sai Dong, Duohui He, Yong Wang (Univ. of Sci. & Tech. of China)*

**WPPH308 The Closed Undulator**

*Ge Li (National Synchrotron Radiation Lab)*

**WPPH309 Permanent Magnets and Iron Material in Accelerators**

*Ge Li (National Synchrotron Radiation Laboratory), Sai Dong, Duohui He, Yong Wang (Univ. of Sci. & Tech. of China)*

**WPPH310 Three-Dimensional Magnetic Field Analysis of a Variably Polarizing Undulator**

*Norio Nakamura, Yukihide Kamiya, Tadashi Koseki, Takashi Shibuya, Hiroyuki Takaki (University of Tokyo)*

**WPPH311 Accelerator Based Neutron Source for the Neutron Capture Therapy at Hospital**

*Valeri Shirokov, Boris Bayanov, Yuri Belchenko, Victor Belov, Gennadii Dimov, Nikolai Kuksanov, Valerii Palchikov, Rustam Salimov, Gregori Silvestrov, Alexander Skrinsky, Igor Sorokin, Serguei Taskaev (Budker Institute of Nuclear Physics), Mikhail Bokhovko, Oleg Kononov, Victor Kononov, Nikolai Soloviev (Institute of Physics and Power Engineering, Obninsk), Petr Petrov, Gennadi Smirnov (Institute of Technical Physics, Snezhinsk), Alexei Sysoev (Medical Radiological Research Center, Obninsk)*

**WPPH312 The SW Accelerating Structure of Variable Energy Electron Linac for Medical Application**

*Satanislaw Kulinski, Jerzy Bigolas, Marian Pachan, Eugeniusz Plawski (A. Soltan Institute for Nuclear Studies)*

**WPPH313 Proton-Microwave Therapy**

*Garegin Oksuzyan, Michael Ivanyan (Yerevan Physics Institute)*

**WPPH314 Calculational Estimations of Neutron Yield from ADS Target**

*Degtyarev Igor, Olga Liashenko, Igor Yazynin (Institute of High Energy Physics, Protvino), Vladimir Belyakov-Bodin (Institute of Theoretical and Experimental Physics, Moscow)*

**WPPH315 Enhancement of IC Tray's Surface Conductivity Using by Accelerator Technology**

*Jae S. Lee, B.H. Choi, J.H. Ha, J.K. Kil, J.H. Lee (Korea Atomic Energy Research Institute)*

**WPPH316 R & D of an X-Band Linear Accelerator of 4 MeV for Industrial Applications**

*Y.J. Pei, S. Dong, G.R. Huang, D.M. Jiang, Kai Jin, Y.Z. Liu, H.D. Yin (National Synchrotron Radiation Lab)*

**WPPH317 Design Study on Standing-Wave Linear Accelerator**

*Neeraj Nepal, Y. S. Bae, M. H. Cho, Y. K. Kim, I. S. Ko, W. Namkung (Pohang Accelerator Laboratory)*

**WPPH318 High-Power Electron Linac for Irradiation Applications**

*Victor Mitrochenko (NSC ), Mikhail Krasnogolovets, Yury Volkulupov (Kharkov Technical University for Radioelectronics, Ukraine), Yury Akchurin, Konstantin Antipov, Mykola Ayzatsky, Vladimir Beloglasov, Efrem Biller, Victor Boriskin, Nikolay Demidov, Anatoliy Dovbnya, Vladimir Gurin, Igor Khodak, Aleksandr Kosoy, Volodymyr Kushnir, Leonid Myakushko, Tatyana Nikitina, Sergey Perezhogin, Genrikh Pugachev, Oleg Repikhov, Leonid Reprintzev, Valery Shendrik, Dmitry Stepin, Gordey Tarasov, Valery Tatanov, Anatoly Tolstoy, Yury Tur, Vyacheslav Uvarov, Valentin Zhiglo (NSC "Kharkov Institute of Physics & Technology", Ukraine)*

**WPPH319 3 Types of Linacs for Customs Large Container Inspection Application**

*Lin Yuzheng (Tsinghua University, Beijing)*

**WPPH320 Multi-Beam Pulsed Electron Accelerator for Radiation Processing**

*Gennady Dolbilov, Galina Dolbilova, Igor Ivanov, Alexander Mazhulin (Joint Institute for Nuclear Research), Todor Ruskov (Institute of Nuclear Research and Nuclear Energy)*

**WPPH321 RF Parameter Curves for a Proton Driver Synchrotron**

*James MacLachlan, James Griffin, Zubao Qian (Fermi National Accelerator Laboratory)*

**WPPH322 A Synchrotron with Combined Function Transmission Line Magnets**

*Oleg Kozlov, Svyatoslav Kozlov, Anatoly Smirnov (Joint Institute for Nuclear Research)*

**WPPH323 Prospects of Upgrading the Nuclotron Beam Intensities**

*Vladimir Mikhailov, Andrei Butenko, Dinio Dinev, Eugeny Donets, Igor Issinsky, Alexander Kovalenko, Igor Meshkov, Valeri Monchinsky, Valeri Volkov (Joint Institute for Nuclear Research)*

**WPPH324 Some R & D for the Update Project of Beijing Tandem Laboratory**

*Tianjue Zhang, Chengjie Chu, Fengping Guan, Chuanrong Jiao, Zhenguo Li, Gaofeng Pan, Tiaoqin Yu (China Institute of Atomic Energy)*

**WPPH325 Status Report on Duke Storage Ring**

*Ping Wang, Glenn Edwards, Mark Emamian, Joe Faircloth, Jim Gustavsson, Steve Hartman, Vladimir Litvinenko, Stepan Mikhailov, Peter Morcombe, Owen Oakeley, Janet Patterson, Maurice Pentico, Igor Pinayev, Gary Swift (Duke University)*

**WPPH326 Optics and Dynamic Aperture Studies for Synchrotron Radiation Source DELSY**

*Irina Titkova, Pavel Beloshitsky, Igor Meshkov (Joint Institute for Nuclear Research)*

**WPPH327 Operational Performance of the SPring-8 Storage Ring**

*Haruo Ohkuma, Schin Date, Kenji Fukami, Noritaka Kumagai, Mitsuhiro Masaki, Takeshi Nakamura, Takashi Ohshima, Kouichi Soutome, Shiro Takano, Masaru Takao, Kazuhiro Tamura, Hitoshi Tanaka (Japan Synchrotron Radiation Research Institute)*

**WPPH328 Current Status of the SSRF Project**

*Zhentang Zhao, Senyu Chen, Hongjie Xu (Shanghai National Synchrotron Radiation Center),*

**WPPH329 The DUV-FEL Development Program**

*Lihua Yu (American Physical Society), L. DiMauro, A. Doyuran, W. Graves, E. Johnson, S. Krinsky, G. Rackowsky, T. Shaftan, B. Sheehy, J. Skaritka, J.H. Wu, Li Hua Yu (Brookhaven National Laboratory)*

**WPPH330 The VUV/UV OK-5 Duke Storage Ring FEL with Variable Polarization**

*Oleg Shevchenko, Vladimir Litvinenko, Stepan Mikhailov (Duke University), Nikolai Gavrilov, Nikolai Vinokurov, Pavel Vobliy (Budker Institute of Nuclear Physics), Ying Wu (Lawrence Berkeley National Laboratory)*

**WPPH331 Simulation Study of Coherent High Harmonic Generation**

*Hongliang Xu, Duohui He, Jinying Liu (National Synchrotron Radiation Lab), Yamada Kawakatsu, Sei Norihiro, Yamazaki Tetsuo (Electrotechnical Laboratory)*

**WPPH332 Modified Maxwell-Klimontovich Equation and Its Application to the Analysis of FELs**

*Pengfei Zhang, Duohui He (National Synchrotron Radiation Lab)*

**Session ROAA: Radio-Frequency Systems  
(1 of 2)**

**Grand Ballroom (Session A) at 8:30**  
**Session Chairs: J. Delayen and P. Wilson**

**ROAA001 Superconducting RF, Toward Low Frequency and Other New Directions (Invited)**

*Hasan Padamsee (Cornell University)*

**ROAA002 Achieving Phase and Amplitude Stability in Pulsed Superconducting Cavities (Invited)**

*Stefan Simrock (Deutsches Elektron Synchrotron)*

**ROAA003 Processing Studies of X-Band Accelerator Structures at the NLCTA**

*Chris Adolphsen, William Baumgartner, Keith Jobe, Rod Loewen, Doug McCormick, Marc Ross, Tonee Smith, Juwen Wang (Stanford Linear Accelerator Center), Toshiyasu Higo (High Energy Accelerator Research Organization)*

**ROAA004 Measurements on the First LHC Acceleration Module**

*Trevor Linnecar (CERN)*

**ROAA005 Superconducting Prototype Cavities for the Spallation Neutron Source (SNS) Project**

*Peter Kneisel, John Brawley, Richard Bundy, Gianluigi Ciovati, Kurt Macha, Danny Machie, John Mammosser, Ron Sundelin, Larry Turlington, Katherine Wilson (Thomas Jefferson National Accelerator Facility), J. Sekutowicz (Deutsches Elektron Synchrotron), D. Barni, C. Pagani, R. Parodi, P. Pierini (Istituto Nazionale di Fisica Nucleare), D. Schrage (Los Alamos National Laboratory), M. Doleans, S.H. Kim, D. Mangra (Oak Ridge National Laboratory), P. Ylae-Oijala (Univ. Helsinki)*

**ROAA006 Progress in the Development of SRF Cavity Tuners Based on Magnetic Smart Materials**

*Chad Joshi, Alfred Pappo, Raymond Paulk (Energen, Inc.)*

**Session ROAA: Radio-Frequency Systems  
(2 of 2)**

**Grand Ballroom (Session A) at 10:40**  
**Session Chairs: J. Delayen and P. Wilson**

**ROAA007 RF System for the SNS Accumulator Ring (Invited)**

*Michael Blaskiewicz (Brookhaven National Laboratory)*

**ROAA008 RF Structures for Linear Acceleration of Radioactive Beams (Invited)**

*Ralf Eichhorn (Gesellschaft für Schwerionenforschung mbH)*

**ROAA009 High-Gradient Normal-Conducting RF Structures for Muon Cooling Channels**

*John Corlett, Neal Hartman, Derun Li, Robert MacGill, Ribert Rimmer, Michael Zisman (Lawrence Berkeley National Laboratory), Robert Palmer (Brookhaven National Laboratory), Steve Geer, Norbert Holtkamp, Tom Jurgens, Albert Moretti (Fermi National Accelerator Laboratory), Ed Black (Illinois Institute of Technology), Michael Boone, Don Summers (University of Mississippi)*

**ROAA010 Excess RF Power Required for RF Control of the Spallation Neutron Source (SNS) Linac, a Pulsed High-Intensity Superconducting Proton Accelerator**

*Michael Lynch, Sung-Il Kwon, Amy Regan, Yi-Ming Wang (Los Alamos National Laboratory)*

**ROAA011 Singly-Charged Heavy-Ion Beam Studies on a 12 MHz RFQ**

*Michael Kelly, Benny Clift, Mark Kedzie, Peter Ostroumov, Kenneth Shepard (Argonne National Laboratory)*

**ROAA012 The Design, Fabrication, and RF Measurements of the X-Band Photonic Band Gap (PBG) Constant Impedance Accelerating Structure**

*Dennis Palmer, Robert H. Siemann (Stanford Linear Accelerator Center), Norman Kroll, Shelly Schultz, David C. Vier (UCSD)*

**Session ROAB: Instrumentation (1 of 2)**

**Grand Ballroom (Session B) at 8:30**

**Session Chairs: J.-C. Denard and V. Chohan**

**ROAB001 SNS Beam Instrumentation and Challenges (Invited)**

*Thomas Shea (Oak Ridge National Laboratory)*

**ROAB002 Methods and Instrumentation for Bunch Shape Measurements (Invited)**

*Alexander Feschenko (Institute For Nuclear Research, Moscow)*

**ROAB003 Instrumentation for the Muon Based Neutrino Source**

*J. Norem (Argonne National Laboratory)*

**ROAB004 Beam-Profile Instrumentation for Beam-Halo Measurement: Overall Description and Operation**

*J. Gilpatrick, D. Barr, L. Day, M. Stettler, R. Valdiviez (Los Alamos National Laboratory), J. Kamperschroer, D. Martinez (General Atomics), M. Gruchalla, J. O'Hara (Honeywell Corporation)*

**ROAB005 A Non-Invasive Single-Bunch Matching and Emittance Monitor for the CERN PS based on Quadrupole Pick-Ups**

*Andreas Jansson, Lars Sjøby (CERN)*

**ROAB006 The Measurement of Q' and Q'' in the CERN-SPS by Head-Tail Phase Shift Analysis**

*Rhodri Jones, Hermann Schmickler (CERN)*

**Session ROAB: Instrumentation (2 of 2)**

**Grand Ballroom (Session B) at 10:40**

**Session Chairs: J.-C. Denard and V. Chohan**

**ROAB007 Electro-Optic Beam Position and Pulsed Power Monitors for the Second Axis of DARHT (Invited)**

*Michael Brubaker (Los Alamos National Laboratory)*

**ROAB008 Operational Experience with X-ray Beam Position Monitors at the Advanced Photon Source (Invited)**

*Om Singh, Glenn Decker (Argonne National Laboratory)*

**ROAB009 The Next Generation of Photon Beam Position Monitors for Undulator Beamlines**

*Andrea Galimberti, Roberto Borghes, Giorgio Paolucci, Roberto Presacco (Sincrotrone Trieste), Guido Paolicelli, Gianni Stefani (Universita' di Roma Tre)*

**ROAB010 Beam-Size Measurements on PEP-II Using Synchrotron-Light Interferometry**

*Alan Fisher, Eric Bong, Mark Petree (Stanford Linear Accelerator Center)*

**ROAB011 Investigations of Electron-Beam Micro-bunching and Beam Coalignment Using CTR in a High-Gain SASE FEL**

*Alex Lumpkin, W.J. Berg, Sandra Biedron, M. Borland, R. Dejus, John Lewellen, Steve Milton, E. Moog, Gil Travish, Bingxin Yang (Argonne National Laboratory)*

**ROAB012 Online Measurement and Tuning of Multi-Pass Recirculation Time in the CEBAF Linac**

*Michael Tiefenback (Thomas Jefferson National Accelerator Facility)*

**Session RPAH: High Current and Energy  
Accelerators**  
Poster Hall at 8:30

**RPAH001 Initial Characterization of Coherent  
Synchrotron Radiation Effects in the Advanced  
Photon Source Bunch Compressor**

*Michael Borland, John Lewellen (Argonne National  
Laboratory)*

**RPAH002 An Emittance Algorithm for a High-Intensity  
Low-Emittance Beam**

*Eliane Lessner, John Lewellen (Argonne National  
Laboratory)*

**RPAH003 Touschek Effect in Approximation of Two-  
Dimensional Collisions**

*Sergei Nikitin, Dimitry Golubenko (Budker Institute of  
Nuclear Physics)*

**RPAH004 Excitation of Resonances due to the Space  
Charge and Magnet Errors in the SNS Ring**

*Alexei Fedotov, Nikolay Malitsky, Ioannis Papaphilippou, Jie  
Wei (Brookhaven National Laboratory)*

**RPAH005 Effect of Space Charge on Stability of Beam  
Distribution in the SNS Ring**

*Alexei Fedotov, Jie Wei (Brookhaven National Laboratory),  
Robert Gluckstern (University of Maryland)*

**RPAH006 Beam-Based Measurements of Persistent  
Current Decay in RHIC**

*Wolfram Fischer, Animesh Jain, Steve Tepikian (Brookhaven  
National Laboratory)*

**RPAH007 Measurements of Intra-Beam Scattering  
Growth Times with Gold Beam below Transition in  
RHIC**

*Wolfram Fischer, Mai Bai, Mike Blaskiewicz, Mike Brennan,  
Peter Cameron, Roger Connolly, Andreas Lehrach, George  
Parzen, Steve Tepikian, Keith Zeno, Johannes van Zeijts  
(Brookhaven National Laboratory)*

**RPAH008 Measured Properties of the DUVFEL High  
Brightness, Ultrashort Electron Beam**

*William Graves, A. Doyuran, R. Heese, E.D. Johnson, J.  
Rose, J. Rudati, T. Shaftan, B. Sheehy, J. Skaritka, L.-H. Yu  
(Brookhaven National Laboratory), D.H. Dowell (Boeing  
Corp.), P. Emma (Stanford Linear Accelerator Center)*

**RPAH009 Effect of Orbit Distortions and Betatron  
Tune on the RHIC Polarized Proton Beam**

*Alfredo Luccio, Fulvia Pilat, Vadim Ptitsyn, Nicholas  
Tsoupas (Brookhaven National Laboratory)*

**RPAH010 Parallel Version of the Spin Tracking Code Spink**

*Alfredo Luccio (Brookhaven National Laboratory), Nicholas L. D'Imperio (State University of New York at Stony Brook)*

**RPAH011 Study of the Dynamics of Intense Proton Beams in the AGS and AGS Booster**

*Alfredo Luccio, Joanne Beebe-Wang, Shou-Yuan Zhang (Brookhaven National Laboratory), Nicholas L. D'Imperio (State University of New York at Stony Brook)*

**RPAH012 Coherent Synchrotron Radiation Analysis for the UVFEL and Photoinjected Energy Recovery Linac Projects at the NSLS**

*Juhao Wu, I. Ben-Zvi, W. Graves, E. Johnson, S. Krinsky, J.B. Murphy, G. Rakowsky, T. Shaftan, V. Yakimenko, Li-Hua Yu (Brookhaven National Laboratory)*

**RPAH013 Beam Dynamics through the CONCERT Linac**

*Nicolas Pichoff, Romuald Duperrier, Didier Uriot (CE Saclay)*

**RPAH014 Beam Dynamics of Non-Equipartitioned Beams in the Case of the SPL Project at CERN**

*Frank Gerigk (CERN), Ingo Hofmann (Gesellschaft für Schwerionenforschung mbH)*

**RPAH015 A Study of Fast Bunch Rotation in the Negative Mass Region**

*Giovanni Rumolo (CERN), Ingo Hofmann (Gesellschaft für Schwerionenforschung mbH)*

**RPAH016 Simulation of Beam Dynamics in the High Current Cornell Electron Linac**

*Michael Billing (Cornell University), V. Aleksandrov, N. Kazarinov, E. Perelstein, M. Sazonov (Joint Institute for Nuclear Research)*

**RPAH017 Differences in the Equilibrium Bunch Lengthening within the Bunch Train in CESR**

*Zipi Greenwald, Robert Holtzapple, David Rubin (Cornell University)*

**RPAH018 Optics Optimization for Multistage Bunch Compression**

*Torsten Limberg, Philippe Piot (Deutsches Elektron Synchrotron)*

**RPAH019 Transient Beam Loading Effects in Harmonic RF Systems for Light Sources**

*Vincent Serriere, Jorn Jacob (European Synchrotron Radiation Facility), John Byrd, Stefano De Santis (Lawrence Berkeley National Laboratory)*

**RPAH020 Space Charge and Beam Stability of the Proposed Fermilab Proton Driver**

*K.Y. Ng (Fermi National Accelerator Laboratory), B. Zotter (CERN)*

**RPAH021 Recent Experience with Inductive Inserts at PSR**

*K.Y. Ng, J.E. Griffin, M. Popovic, D. Wildman (Fermi National Accelerator Laboratory), A. Browman, B. Macek (Los Alamos National Laboratory)*

**RPAH022 Space Charge Effects on Bunch Rotation in the Longitudinal Phase Space**

*King Ng (Fermi National Accelerator Laboratory)*

**RPAH023 Space-Charge Compensation in High Intensity Proton Rings**

*Vladimir Shiltsev, Alexei Burov, William Foster (Fermi National Accelerator Laboratory)*

**RPAH024 Beam Dynamics Simulations for the GSI High Current Injector with the New Versatile Computer Code DYNAMION**

*Jürgen Dr. Klabunde, Winfried Barth (Gesellschaft für Schwerionenforschung mbH), Stepan Iaromychev, Andrej Kolomiets (Institute of Theoretical and Experimental Physics)*

**RPAH025 Emittance Coupling in High Intensity Beams**

*Ingo Hofmann, Oliver Boine-Frankenheim (Gesellschaft für Schwerionenforschung mbH), Ji Qiang (Los Alamos National Laboratory), Robert Ryne (Lawrence Berkeley National Laboratory)*

**RPAH026 Invariants for Time-Dependent Hamiltonian Systems**

*Jürgen Struckmeier, Claus Riedel (Gesellschaft für Schwerionenforschung mbH)*

**RPAH027 A Model to Describe the Space Charge Compensation Process for Pulsed Ion Beams**

*Ansgar Jakob, Juergen Pozimski (Institut für Angewandte Physik)*

**RPAH028 Space Charge Effect on Transverse Emittance**

*Sarah Cousineau, V.P. Derenchuk, M. Ball, C.M. Chu, D. Friesel, K.A. Fung, W. Guo, S.Y. Lee, S. Wang, Y. Zhang (Indiana University), K.Y. Ng (Fermi National Accelerator Laboratory), J. Holmes (Oak Ridge National Laboratory), S. Shastry (SUNY Plattsburgh)*

**RPAH029 Halo Containment through a Landau Damping Mechanism**

*Vincenzo Variale (Japan Atomic Energy Research Institute)*

**RPAH030 Longitudinal Emittance Control and Beam Loading Effects on Proton Synchrotrons in JAERI-KEK Joint Project**

*Masanobu Yamamoto (Japan Atomic Energy Research Institute), Eiji Ezura, Yoshinori Hashimoto, Yoshiharu Mori, Chihiro Ohmori, Masahito Yoshii (High Energy Accelerator Research Organization)*

**RPAH031 Optimization of an Operating Point in High Intensity Synchrotrons**

*Shinji Machida (High Energy Accelerator Research Organization)*

**RPAH032 Experimental Study of Proton-Beam Halo Induced by Beam Mismatch in LEDA**

*Thomas Wangler, C.K. Allen, K.C.D. Chan, P.L. Colestock, R.W. Garnett, J.D. Gilpatrick, W.P. Lysenko, J.D. Schneider, R.L. Sheffield, H.V. Smith (Los Alamos National Laboratory), M.E. Schulze (General Atomics), K.R. Crandall (TechSource)*

**RPAH033 PIC Simulations of Beam Dynamics Experiments on the High Current Experiment**

*C. M. Celata (Lawrence Berkeley National Laboratory), D. P. Grote (Lawrence Livermore National Laboratory), I. Haber (Naval Research Laboratory)*

**RPAH034 Neutralized Final Focus System for High Intensity Beam**

*Enrique Henestroza, Simon Yu, Michiel de Hoon (Lawrence Berkeley National Laboratory), John Barnard (Lawrence Livermore National Laboratory)*

**RPAH035 Beam Dynamics Studies of the Injector and Matching Section for HCX**

*Enrique Henestroza, Frank Bieniosek, Joe Kwan (Lawrence Berkeley National Laboratory), Alex Friedman, Dave Grote (Lawrence Livermore National Laboratory)*

**RPAH036 Design Considerations for Final Pulse Compression with Bending for Heavy Ion Fusion Drivers**

*Edward Lee (Lawrence Berkeley National Laboratory), John Barnard (Lawrence Livermore National Laboratory)*

**RPAH037 Overview of the Scientific Objectives of the High Current Experiment for Heavy-Ion Fusion**

*Steven Lund, Roger Bangerter, Christine Celata, Andris Faltns, Victor Karpenko, Edward Lee (Lawrence Berkeley National Laboratory), Irving Haber (Naval Research Laboratory)*

**RPAH038 A Large Bore Pulsed Quadrupole for Transport of High Current Beams at Low Energies**

*Derek Shuman, Enrique Henestroza, Simon Yu (Lawrence Berkeley National Laboratory)*

**RPAH039 Intra-Beam Scattering and Minimum Achievable Emittance in the Advanced Light Source**

*Christoph Steier, Dennis Atkinson, John Byrd, John Corlett, Hiroshi Nishimura, David Robin, Andrej Wolski, Ying Wu, Stefano de Santis (Lawrence Berkeley National Laboratory), Karl Bane, Tor Raubenheimer, Marc Ross, John Sheppard, Tonee Smith (Stanford Linear Accelerator Center)*

**RPAH040 Beam Loading and Phase Motion of Particles in the Self-Consistent RF Field of Linac**

*Eduard Masunov (Moscow Engineering Physics Institute)*

**RPAH041 Stability of the Envelope Evolution of a Cold-Fluid Corkscrewing Elliptic Beam in a Uniform-Focusing Magnetic Field**

*Vadim Roytershteyn, Chiping Chen (MIT Plasma Science and Fusion Center), Renato Pakter (IF-UFRGS)*

**RPAH042 The LIDOS.RFQ.Designer Development**

*Boris Bondarev, Alexander Durkin, Yurii Ivanov, Igor Shumakov, Stanislav Vinogradov (Moscow Radiotechnical Institute), Alexander Ovsyannikov, Dmitrii Ovsyannikov (Petersburg University)*

**RPAH043 Core-Halo Formation in Ion Beam**

*Boris Bondarev, Alexander Durkin, Igor Korenev, Igor Shumakov, Stanislav Vinogradov (Moscow Radiotechnical Institute)*

**RPAH044 Threshold Radius of Budker-Bhirikov Instability in Electron and Ion Beams with Strongly Different Radii**

*Yurii Golub (Moscow Radiotechnical Institute)*

**RPAH045 Computer Simulation of the UMER Injector**

*Irving Haber (Naval Research Laboratory), S. Bernal, R. A. Kishek, P. G. O'Shea, M. Reiser, A. Valfells (University of Maryland)*

**RPAH046 Intrabeam Scattering Analysis of ATF Beam Measurements**

*Karl Bane (Stanford Linear Accelerator Center), Hitoshi Hayano, Kyoshi Kubo, Takashi Naito, Toshiyuki Okugi, Junji Urakawa (High Energy Accelerator Research Organization)*

**RPAH047 Intrabeam Scattering and Wake Field Forces in Low Emittance Electron Rings**

*Marco Venturini (Stanford Linear Accelerator Center)*

**RPAH048 Parameter Study of Intrabeam Scattering Effects in a Low-Emittance Small-Size Electron Ring**

*Marco Venturini (Stanford Linear Accelerator Center)*

**RPAH049 Simulation of the CSR Induced Emittance Growth Measured at CTF II**

*Rui Li (Thomas Jefferson National Accelerator Facility)*

**RPAH050 Scaling of Wakefield Effects in Recirculating Linacs**

*Lia Merminga, George Neil (Thomas Jefferson National Accelerator Facility), Joseph Bisognano (Synchrotron Radiation Center, University of Wisconsin)*

**RPAH051 New Potential Function for the RFQ Accelerator**

*Shane Koscielniak (TRIUMF)*

**RPAH052 Soliton-like Longitudinal Holes in Debunched Beams Perpetuated by Space-Charge Forces**

*Shane Koscielniak (TRIUMF), Steven Hancock, Mats Lindroos (CERN)*

**RPAH053 Longitudinal Space-Charge Geometric Factor for an Elliptical Beam in a Confocal Vacuum Pipe**

*Shane Koscielniak (TRIUMF)*

**RPAH054 Dynamics Peculiarities of Space-Charge Dominated Electron Beams Interacting with a Surface in Crossed Fields**

*Alexey Agafonov (Lebedev Physical Institute)*

**RPAH055 Studies of Energy Spread Growth in a Drifting Space-Charge Dominated Beam**

*Yupeng Cui (Institute for Plasma Research), S. Bernal, Y. Cui, R.A. Kishek, P.G. O'Shea, N. Rahimi, M. Reiser, V. Yun (University of Maryland)*

**RPAH056 Paul Trap Experiment for Simulating Intense Beam Propagation Through a Quadrupole Focusing Field**

*Ronald Davidson, Philip Efthimion, Richard Majeski, Hong Qin (Plasma Physics Laboratory, Princeton University)*

**RPAH057 Mathematical Model of Optimization of Charged Particle Beam Dynamics in RFQ Channel**

*Oleg Drivotin (St.Petersburg State University)*

**RPAH058 Space-Charge Dominated Beam Transport via Multiresolution**

*Antonina Fedorova, Michael Zeitlin (IPME RAS)*

**RPAH059 Analytical Calculations of the Wakefields Induced by Nonrelativistic Particles in rf Cavities**

*Jie Gao (LAL)*

**RPAH060 Semi-Analytical Approach to Minimizing Emittance Growth Due to Coherent Synchrotron Radiation**

*Andreas Kabel*

**RPAH061 Collective Refraction of a Beam of Electrons at a Plasma-Gas Interface**

*Tom Katsouleas, Seung Lee, Patrick Muggli (University of Southern California), Ralph Assmann, Franz-Josef Decker, Mark Hogan, Rick Iverson, Pantaleo Raimondi, Robert Siemann, Dieter Walz (Stanford Linear Accelerator Center), Brent Blue, Chris Clayton, Evan Dodd, R.A. Fonseca, R. Hemker, Chan Joshi, Ken Marsh, Warren Mori, Shoquin Wang (University of California, Los Angeles)*

**RPAH062 Transverse Emittance Blow-up in Compact Proton Synchrotrons Caused by the Space Charge Effects**

*Alexandre Molodjontsev (Tsukuba University, Proton Medical Research Center)*

**RPAH063 Stability of Periodically Focused Intense Particle Beams**

*Renato Pakter, Felipe Rizzato (Instituto de Fisica - Universidade Federal do Rio Grande do Sul)*

**RPAH064 Diffraction Models for Short-Range Wakefields in Planar Structures**

*Alexei Smirnov, David Yu (DULY Research Inc.)*

**RPAH065 The Effect of Nonlinear Transport on Beam Halo Formation**

*Kiran Sonnad, John Cary (Center for Integrated Plasma Studies)*

**RPAH066 Cluster Analysis of Halo Particles Dynamics in High Power Linac**

*I.A. Vorobyov*

**RPAH067 Simulation of Self-Pinched Chamber Transport of Ions for Heavy Ion Fusion**

*Dale Welch (Mission Research Corporation), Simon Yu (Lawrence Berkeley National Laboratory), Robert Clark, Bryan Oliver, Dave Rose (Mission Research Corporation), Craig Olson (Sandia National Laboratories)*

**RPAH068 Beam Neutralization in the Scaled Final Focus Experiment**

*Dale Welch, David Rose (Mission Research Corporation), Steven MacLaren (Lawrence Livermore National Laboratory)*

**RPAH069 Halo Formation and Equilibrium in High Intensity Hadron Rings**

*Shimosaki Yoshito (Kyushu University), Ken Takayama (High Energy Accelerator Research Organization)*

**RPAH070 Nonlinear Dynamics of High-Brightness Beams**

*Michael Zeitlin, Antonina Fedorova (IPME RAS)*

**RPAH071 Thermoelastic Response of Suddenly Heated Liquid and Solid Targets for High Power Colliders**

*Ahmed Hassanein, Isak Konkashbaev, Jim Norem (Argonne National Laboratory)*

**RPAH072 Design of a Magnetic Optical System for Transport and Matching of Multiple-Charge-State Heavy-Ion Beams**

*Mauricio Portillo, Vladislav N. Aseev, Jerry A. Nolen, Jr., Petre N. Ostroumov (Argonne National Laboratory)*

**RPAH073 Design Layout of an Isobar Separator Based on 5th Order Calculations**

*Mauricio Portillo, Teresa A. Barlow, Jerry A. Jr Nolen, (National Laboratory)*

**RPAH074 Symplectic Integration Algorithm for Stepwise Magnetic Field Representation**

*Eugeni Levichev (Budker Institute of Nuclear Physics)*

**RPAH075 A Prototype of the UAL 2.0 Accelerator Model**

*Nikolay Malitsky, John Smith, Jie Wei (Brookhaven National Laboratory)*

**RPAH076 Thermodynamic Interaction of the Primary Proton Beam with a Mercury Jet Target at a Neutrino Factory Source**

*Nikolaos Simos, Harold Kirk, Hans Ludewig, Peter Thieberger (Brookhaven National Laboratory), Kirk McDonald (Princeton University)*

**RPAH077 A Computer Code for the Longitudinal Integration of the Vlasov-Fokker-Planck Equation: Simulation of Stretched Bunches**

*Nathan Towne (Brookhaven National Laboratory)*

**RPAH078 Short-Range Wakefields in a Flat Pillbox Cavity Generated by a Sub-Relativistic Beam Bunch**

*Haipeng Wang, Juan Gallardo, Robert Palmer (Brookhaven National Laboratory)*

**RPAH079 Recent Developments in the Linear Accelerator Research Code (LIAR)**

*Ralph Assmann (CERN), Francois Ostiguy (Fermi National Accelerator Laboratory), Linda Hendrickson, Brian McCandless, Tor Raubenheimer, Gennady Stupakov, Peter Tenenbaum, Mike Zelazny (Stanford Linear Accelerator Center)*

**RPAH080 Network Representation of Multi-Cell Accelerating Structures**

*Jean-Yves Raguin (CERN)*

**RPAH081 Symplectic Map Tracking for the LHC**

*Frank Schmidt (CERN), Dan Abell (Brookhaven National Laboratory)*

**RPAH082 Simulation Package based on PLACET**

*Daniel Schulte, Tommaso D'Amico, Gilbert Guignard, Nicolas Leros (CERN)*

**RPAH083 Developments in TURTLE**

*David C. Carey (Fermi National Accelerator Laboratory)*

**RPAH084 Lex-Based MAD Parser and Its Applications**

*Oleg Krivosheev, Elliot S. McCrory, Leo P. Michelotti, Nikolai V. Mokhov, Jean-Francois Ostiguy (Fermi National Accelerator Laboratory), Dmitri N. Mokhov (University of Illinois at Urbana-Champaign)*

**RPAH085 New Multithreaded Code for Calculating Longitudinal Collective Instabilities Using Computers with Multiprocessors**

*Cheng-Yang Tan (Fermi National Accelerator Laboratory)*

**RPAH086 Modeling of the Beam Transmission Efficiency Dependent on the Charge Exchange with the Residual Gas for the CI-100 Cyclotron**

*Alexander Tikhomirov, Mohamed El-Shazly, George Gulbekian, Ruben Oganessian (Joint Institute for Nuclear Research)*

**RPAH087 High Accuracy Analysis of Arbitrary Modes in Tapered Disk-Loaded Structures**

*Wang Lanfa, Takata Koji, Higo Toshiyasu (High Energy Accelerator Research Organization), Lin Yuzheng (Tsinghua University)*

**RPAH088 Adaptive Electromagnetic Field Analysis for Axisymmetric Structure and Uniform Waveguide Using the Finite Element Method**

*Wang Lanfa, Fukuma Hitoshi (High Energy Accelerator Research Organization)*

**RPAH089 Characterizing Proton Beam of 6.7 MeV LEDA RFQ by Fitting Wire-Scanner Profiles to 3-D Nonlinear Simulations**

*Walter Lysenko, Douglas Gilpatrick, Ji Qiang, Lawrence Rybarczyk, David Schneider, Vernon Smith, Lloyd Young (Los Alamos National Laboratory), Martin Schulze (General Atomics), Robert Ryne (Lawrence Berkeley National Laboratory)*

**RPAH090 The MICHELLE Electron Gun and Collector Modeling Tool**

*John Petillo, Baruch Levush (Naval Research Laboratory)*

**RPAH091 Particle Tracking on Unstructured Grids**

*Eric Nelson (Los Alamos National Laboratory), Baruch Levush (Naval Research Laboratory), Ken Eppley, John Petillo (Science Applications International Corporation)*

**RPAH092 A Layer-Based Object-Oriented Parallel Code for Beam Dynamics Study**

*Ji Qiang (Los Alamos National Laboratory), Robert Ryne (Lawrence Berkeley National Laboratory)*

**RPAH093 A New Pre- and Post-Processor for the ICOOL Muon Transport Code**

*William Fawley (Lawrence Berkeley National Laboratory)*

**RPAH094 Goemon, A C++ Library for Accelerator Modeling and Analysis**

*Hiroshi Nishimura (Lawrence Berkeley National Laboratory)*

**RPAH095 Simulations of the Interaction of Backstreaming Ions and Backscattered Electrons at the Focus of Radiographic Accelerators**

*James McCarrick (Lawrence Livermore National Laboratory)*

**RPAH096 Electrodynamic Calculations of the 4-Rod-RFQ Resonator Structure for the Heidelberg High Current Injector**

*Holger Podlech (National Superconducting Cyclotron Laboratory), Robert von Hahn (Max-Planck-Institut for Nuclear Physics), Manfred Grieser, Michael Madert, Roland Repnow, Dirk Schwalm (Max-Planck-Institute for Nuclear Physics)*

**RPAH097 Beam Dynamics Modeling by Sub-Three-Dimensional Particle-in-Cell Code**

*Leonid Vorobiev, Richard York (National Superconducting Cyclotron Laboratory)*

**RPAH098 Method of Template Potentials to Find Space Charge Forces for High-Current Beam Dynamics Simulation**

*Leonid Vorobiev, Richard York (National Superconducting Cyclotron Laboratory)*

**RPAH099 Space Charge Beam Dynamics Studies of the Injection Line and the Main Ring for the University of Maryland Electron Ring Project**

*Leonid Vorobiev, Xiaoyu Wu, Richard York (National Superconducting Cyclotron Laboratory)*

**RPAH100  $\delta$  F Simulation Studies of the Stability Properties of Intense Charged Particle Beams with Pressure Anisotropy**

*Edward Startsev, Ronald Davidson, Hong Qin (Princeton University)*

**RPAH101 Stationary Relativistic Bunch in Space-Charged-Dominated Regime**

*Yuri Batygin (Stanford Linear Accelerator Center)*

**RPAH102 Spectral Method for 3-Dimensional Poisson's Equation in Cylindrical Coordinates with Regular Boundaries**

*Yuri Batygin (Stanford Linear Accelerator Center)*

**RPAH103 Effect of Numerical Noise on Beam Emittance Growth in PIC Code**

*Yuri Batygin (Stanford Linear Accelerator Center)*

**RPAH104 LIBXSIF, A Standalone Library for Parsing the Standard Input Format**

*Peter Tenenbaum (Stanford Linear Accelerator Center)*

**RPAH105 Investigation of TTF Injector Alignment with the Simulation Code V**

*Rainer Cee, Wolfgang Beinhauer, Wigand Koch, Mikhail Krassilnikov, Sebastian Ratschow, Thomas Weiland (Technische U. Darmstadt), Pedro Castro, Siegfried Schreiber (Deutsches Elektron Synchrotron), Alexandre Novokhatski (Stanford Linear Accelerator Center)*

**RPAH106 Beam-Based Alignment of TTF RF-Gun Using V-Code**

*Mikhail Krassilnikov, Wolfgang Beinhauer, Rainer Cee, Wigand Koch, Sebastian Ratschow, Thomas Weiland (Technische U. Darmstadt), Pedro Castro, Siegfried Schreiber (Deutsches Elektron Synchrotron), Alexandre Novokhatski (Stanford Linear Accelerator Center)*

**RPAH107 Phase Space Analysis of Space Charge Dominated Electron Beams**

*Joachim Staats, Thomas Weiland (Technische U. Darmstadt)*

**RPAH108 Parallel and Distributed Computing in Circular Accelerators**

*Serge Andrianov, Andrew Dvoeglazov, Nick Edamenko (Saint-Petersburg State University)*

**RPAH109 Studies of the SNS MEBT Beam Dynamics Design Using the New Optimization Tool of the PBO Lab Software**

*George Gillespie (G. H. Gillespie Associates, Inc.), John Staples (Lawrence Berkeley National Laboratory)*

**RPAH110 VPIC - A Multidimensional Code for Simulating Advanced Acceleration Concepts**

*Chet Nieter, John Cary (University of Colorado)*

**RPAH111 Study of Surface Wave Propagation in a Coaxial Waveguide with a Periodic Slot Array**

*Luigi Palumbo, Mauro Migliorati (Università La Sapienza, Roma and INFN-LNF), David Alesini (INFN-LNF), Cesare Garganese, Fausto Iannazzo (Università La Sapienza, Roma)*

**RPAH112 Theory of One-Dimensional Bragg Lattices of Planar Geometry**

*Peter Petrov (All-Russia Research Institute of Technical Physics, Russian Federal Nuclear Center)*

**RPAH113 Calculation of HOMs in TESLA-Cavities Using the Coupled S-Parameter Calculation Method**

*Karsten Rothemund, Hans-Walter Glock, Ursula van Rienen (Institut fuer Allgemeine Elektrotechnik, Rostock)*

**RPAH114 Automated Design of Coupled RF Cavities Using 2-D and 3-D Codes**

*Peter Smith, David Christiansen, Paul Greninger, George Spalek (General Atomics)*

**RPAH115 Very High-Field, Short-Pulse Dipole Magnet for Compact Proton Synchrotron**

*Susumu Tokura, Atsushi Hirata, Yasuyuki Miyauchi, Seishiro Nakajima, Kouichi Shouji (Ishikawajima-Harima Heavy Industries Co. Ltd.), Kuninori Endo (High Energy Accelerator Research Organization), Yoshihisa Iwashita, Akira Noda, Toshiyuki Shirai (Kyoto University)*

**RPAH116 Results from Luminosity Scans during the RHIC 2000 Run**

*Angelika Drees (Brookhaven National Laboratory), Zhangbu Xu (Yale University)*

**RPAH117 Transverse Injection Damping at RHIC**

*Angelika Drees, Peter Cameron, Chris Degen, Joseph Mead (Brookhaven National Laboratory)*

**RPAH118 Polarized Proton Acceleration at the Brookhaven AGS-- An Update**

*Haixin Huang, Leif Ahrens, James Alessi, Mei Bai, Kevin A. Brown, Gerry Bunce, Woody Glenn, Andreas Lehrach, Alfredo U. Luccio, Waldo W. MacKay, Yousef I. Makdisi, Thomas Roser, Nick Tsoupas, Neville Williams, Anatoly Zelenski, Keith Zeno, Willem van Asselt (Brookhaven National Laboratory), Chris Allgower, Keith Krueger, Hal Spinka, Dave Underwood, Aki Yokosawa (Argonne National Laboratory), S.Y. Lee, Vahid Ranjbar (Indiana University), Masahiro Okamura (RIKEN Accelerator Research Facility)*

**RPAH119 Spin Resonance Crossing in the Relativistic Heavy Ion Collider (RHIC)**

*Andreas Lehrach, Alfredo Luccio, William MacKay, Thomas Roser (Brookhaven National Laboratory)*

**RPAH120 Upgrading RHIC for Higher Luminosity**

*William MacKay, Ilan Ben-Zvi, Mike Brennan, Mike Harrison, Steven Peggs, Thomas Roser, Dejan Trbojevic (Brookhaven National Laboratory), Vasily Parkhomchuk (Budker Institute of Nuclear Physics)*

**RPAH121 Feasibility of Increasing the Energy of RHIC**

*William MacKay, George Ganetis, Mike Harrison, Animesh Jain, Steven Peggs, Fulvia Pilat, Thomas Roser, Steven Tepikian, Dejan Trbojevic (Brookhaven National Laboratory)*

**RPAH122 Measurement and Correction of Linear Effects in the RHIC Interaction Regions**

*Vadim Ptitsyn, Javier Cardona, Fulvia Pilat (Brookhaven National Laboratory), Jean-Pierre Koutchouk (CERN)*

**RPAH123 Measurements of the Betatron Functions in RHIC**

*Dejan Trbojevic (Brookhaven National Laboratory)*

**RPAH124 Commissioning of the Relativistic Heavy Ion Collider**

*Dejan Trbojevic (Brookhaven National Laboratory)*

**RPAH125 Beam Lifetime Dependence on the Beam-Gas Interaction in RHIC**

*Dejan Trbojevic (Brookhaven National Laboratory)*

**RPAH126 Analysis and Measurements of Coupling Effects in the Transfer Line from PS to SPS for the Future LHC Proton Beam**

*Gianluigi Arduini, Yu-Chiu Chao, Massimo Giovannozzi, Jukka Klem, Django Manglunki, Michel Martini (CERN)*

**RPAH127 Optimization of Orbit Correction Systems Using Generalized Response Matrices and its Application to the LHC Injection Transfer Lines**

*Yu-Chiu Chao, Malika Meddahi, Volker Mertens (CERN)*

**RPAH128 The SPS as LHC Injector**

*Paul Collier, Brennan Goddard (CERN)*

**RPAH129 Vacuum Calculations for the LHC Experimental Beam Chambers**

*Adriana Rossi (CERN)*

**RPAH130 Synchrotron Radiation Issues in the Very Large Hadron Collider**

*Pierre Bauer, Christine Darve, Peter Limon, Tom Peterson, Jean-Michel Rey, Iouri Terechkine (Fermi National Accelerator Laboratory), Mauro Pivi, William Turner (Lawrence Berkeley National Laboratory)*

**RPAH131 Measured Optical Properties of the Fermilab Main Injector to Accumulator Transport Line**

*David Johnson (Fermi National Accelerator Laboratory)*

**RPAH132 Commissioning of the Fermilab Antiproton Transport Line Between the Main Injector and Tevatron**

*David Johnson (Fermi National Accelerator Laboratory)*

**RPAH133 BTeV Low-Beta Optics in the Tevatron**

*John Johnstone (Fermi National Accelerator Laboratory)*

**RPAH134 Lattice Design of the VLHC Rings**

*John Johnstone, Mike Syphers (Fermi National Accelerator Laboratory), Steven Peggs, Steve Tepikian (Brookhaven National Laboratory)*

**RPAH135 Protecting LHC Components against Radiation Resulting from Colliding Beam Interactions**

*Nikolai Mokhov, Igor L. Rakhno (Fermi National Accelerator Laboratory)*

**RPAH136 Protecting LHC Components against Radiation Resulting from an Unsynchronized Beam Abort**

*Nikolai Mokhov, Alexandr I. Drozhdin, Igor L. Rakhno (Fermi National Accelerator Laboratory), Marcel Gyr, Eberhard Weisse (CERN)*

**RPAH137 Beam-Induced Energy Deposition Issues in the Very Large Hadron Collider**

*Nikolai Mokhov, Alexandr I. Drozhdin, G. William Foster (Fermi National Accelerator Laboratory)*

**RPAH138 50 TeV Center of Mass Hadron Collider with Superbunch Beams**

*Ryuji Yamada (Fermi National Accelerator Laboratory), Ken Takayama, Masayoshi Wake (High Energy Accelerator Research Organization)*

**RPAH139 Mapping out the Full Spin Resonance Structure of RHIC**

*Vahid Ranjbar (Indiana University), William MacKay (Brookhaven National Laboratory)*

**RPAH140 Induction Synchrotron (4): Superbunch Hadron Colliders**

*Ken Takayama, Susumu Igarashi, Junichi Kishiro, Makoto Sakuda, Masayoshi Wake (High Energy Accelerator Research Organization)*

**RPAH141 Hadronic Shower Simulations for Development of a Bunch by Bunch Luminosity Monitor for the LHC**

*William Turner (Lawrence Berkeley National Laboratory)*

**RPAH142 The Tevatron Tripler**

*Peter McIntyre, Richard Arnowitt, Bhaskar Dutta, Teruki Kamon, Akhdior Sattarov (Texas A&M University)*

**RPAH301 Application of Scaling Properties of the Vlasov and Fokker Planck Equations to Improved Macroparticle Models**

*James MacLachlan (Fermi National Accelerator Laboratory)*

**RPAH302 Particle Dynamics Investigations for a High Current D+ DTL**

*Andreas Sauer, Horst Deitinghoff, Horst Klein, Ulrich Ratzinger, Rudolf Tiede (Institut für Angewandte Physik)*

**RPAH303 Intensity Dependent Emittance-Exchange in a High Intensity Proton Synchrotron**

*Izumi Sakai, Toshikazu Adachi, Yoshio Arakida, Yoshiro Irie, Kiyoshi Kitagawa, Shinji Machida, Yoshiharu Mori, Yoshito Shimosaki, Hirohiko Someya, Masahiro Yoshimoto (High Energy Accelerator Research Organization)*

**RPAH304 Simulation of Chamber Transport for Heavy-Ion Fusion**

*William Sharp (Lawrence Livermore National Laboratory), J.-L. Vay, S. S. Yu (Lawrence Berkeley National Laboratory)*

**RPAH305 Resonant Beam Response in the PSR Accumulator Ring**

*Jeffrey Holmes, Viatcheslav Danilov, John Galambos (Oak Ridge National Laboratory), Alexei Fedotov (Brookhaven National Laboratory), Robert Gluckstern (University of Maryland)*

**RPAH306 A Method of Benchmarking Space Charge Codes for Rings**

*Dong-o Jeon (Oak Ridge National Laboratory)*

**RPAH307 Unusual Fourth Order Deformation of Beam due to Space Charge**

*Dong-o Jeon (Oak Ridge National Laboratory)*

**RPAH308 The Analytical Treatment of Resistive Wake in Round Pipe**

*Michael Ivanyan (Yerevan Physics Institute), Vasili Tsakanov (Yerevan Physics Institute)*

**RPAH309 Details of Beam Halo Heating through the Mechanism of non Linear Cumulative Interaction in Multi Cavity Linac**

*Vyacheslav Kurakin, Pavel Kurakin (Keldysh Institute of Applied Mathematics, Moscow)*

**RPAH310 Effect of Temperature on the Dispersion Relation for Electromagnetic Waves in a Cylindrical Inhomogeneous Plasma**

*Alfonso Devia (American Physical Society), Jaime Hoyos (Colombia Physics Society)*

**RPAH311 A Parallel Extension of the UAL Environment**

*Andrei Shishlo, Nikolay Malitsky (Brookhaven National Laboratory)*

**RPAH312 Particle Trapping and Beam Transport Issues in Laser Driven Accelerators**

*Gwenael Fubiani, Eric Esarey, Wim Leemans, Brad Shadwick  
(Lawrence Berkeley National Laboratory)*

**RPAH313 The Calculation of Leaked Electromagnetic Field in Gallery of Klystron of NSRL**

*Tao Xiaoping (National Synchrotron Radiation Lab)*

**RPAH314 Accelerator Modeling with MATLAB Accelerator Toolbox**

*Terebilo Andrei*

**RPAH315 Simulation Code of Beam Instability with Object Oriented Technology**

*Gang Huang (Tsinghua University), Zhentang Zhao (Shanghai Synchrotron Radiation Center)*

**RPAH316 Simulation of Beam Dynamic in Laser Electron Storage Ring**

*Andrey Zelinsky (Karkov Institute of Physics & Technology),  
Peter Gladkikh, Ivan Karnaukhov (Kharkov Institute of  
Physics & Technology), Yuriy Telegin (Kharkov Institute of  
Physics & Technology)*

**RPAH317 Coupling Correction in Electron Storage Ring UNK Kharkov**

*Andrey Zelinsky (Kharkov Institute of Physics &  
Technology)*

**RPAH318 Overview of Beam Studies at RHIC during the Year 2000 Run**

*Fulvia Pilat, Mei Bai, K. Angelika Drees, Wolfram Fischer  
(Brookhaven National Laboratory)*

**RPAH319 Measurement of Resonance Driving Terms and Interaction Region Error Correction in RHIC**

*Fulvia Pilat, Wolfram Fischer (Brookhaven National  
Laboratory), Frank Schmidt (CERN)*

**RPAH320 The Coupling Correction System at RHIC: Results for Run 2000 and Plans for 2001**

*Fulvia Pilat, Wolfram Fischer, Stephen Peggs, Vadim Ptitsyn,  
Steven Tepikian (Brookhaven National Laboratory)*

**Session ROPA: Low and Medium-Energy  
Accelerators and Rings (1 of 2)**

**Grand Ballroom (Session A) at 13:30**

**Session Chairs: H. Blosser and K. Jacobs**

**ROPA001 Completion and Operation of ISAC-I and  
Extension to ISAC-II (Invited)**

*Robert Laxdal (TRIUMF)*

**ROPA002 The US RIA Project (Invited)**

*Guy Savard (Argonne National Laboratory)*

**ROPA003 Commissioning of the REX-ISOLDE Linac**

*Stephan Emhofer, Henning Bongers, Dieter Habs, Oliver Kester, Klaus Rudolph, Thomas Sieber (Ludwig-Maximilians-Universitaet Muenchen), Ulrich Ratzinger, Alwin Schempp (IAP Frankfurt), Robert von Hahn (MPI-K Heidelberg)*

**ROPA004 Planned New Cooler/Storage Ring Complex  
for Radioactive Beams and Antiprotons at GSI**

*Fritz Nolden, Karl Beckert, Peter Beller, Oliver Boine-Frankenheim, Alexei Dolinskii, Bernhard Franzke, Markus Steck (Gesellschaft für Schwerionenforschung mbH)*

**ROPA005 A Procedure to Set Phase and Amplitude of  
the RF in the SNS Linac's Superconducting Cavities**

*Lloyd Young (Los Alamos National Laboratory)*

**ROPA006 The Design of the SNS Ring and Transport  
System**

*W.T. Weng, M. Blaskiewicz, Y.Y. Lee, D. Raparia, J. Wei (Brookhaven National Laboratory)*

**Session ROPA: Low and Medium-Energy  
Accelerators and Rings (2 of 2)**

**Grand Ballroom (Session A) at 15:40**

**Session Chairs: H. Blosser and K. Jacobs**

**ROPA007 RIKEN RI Beam Factory Project: Progress  
Report (Invited)**

*Yasushige Yano (RIKEN Accelerator Research Facility)*

**ROPA008 Commissioning and Operation of the  
Antiproton Decelerator at CERN (Invited)**

*Stephan Maury (CERN)*

**ROPA009 First Operating Experience with the CERN  
Decelerating RFQ for Antiprotons**

*Werner Pirkel, Alessandra Maria Lombardi (CERN), Yuri Bylinsky (Institute for Nuclear Research [INR], Moscow)*

**ROPA010 Multi-Beam Acceleration in FFAG Synchrotron**

*Yoshiharu Mori, Akira Takagi (High Energy Accelerator Research Organization), Kiyomi Koba (Fermi National Accelerator Laboratory)*

**ROPA011 Characterization of the Proton Beam from the 6.7 MeV LEDA RFQ**

*Martin Schulze (General Atomics), Chris Allen, Dominic Chan, Patrick Colestock, Robert Garnett, Doug Gilpatrick, Walter Lysenko, J. David Schneider, Richard Sheffield, H. Vernon Smith, Thomas Wangler (Los Alamos National Laboratory), Ken Crandall (TechSource)*

**ROPA012 Summary of the Fermilab Proton Driver Design Study**

*Weiren Chou, Charles Ankenbrandt (Fermi National Accelerator Laboratory)*

**Session ROPB: Accelerator Technology (1 of 2)**

**Grand Ballroom (Session B) at 13:30**

**Session Chairs: A. Hutton and J. Noonan**

**ROPB001 Vacuum Performance and Beam Lifetimes at the PEP-II B-Factory (Invited)**

*Uli Wienands (Stanford Linear Accelerator Center)*

**ROPB002 Extreme High Vacuum Technology for Particle Accelerators (Invited)**

*Cristoforo Benvenuti*

**ROPB003 Vacuum System of the APS: Operation Experience and Status Report**

*Patric Den Hartog, Joseph Gagliano, George Goepfner, John Noonan, Greg Wiemerslage (Argonne National Laboratory)*

**ROPB004 Dramatic Reduction of DC Field Emission from Large Area Electrodes by Plasma-Source Ion Implantation**

*Charles Sinclair, H. Dylla, Timothy Siggins (Thomas Jefferson National Accelerator Facility), Dennis Manos, Thomas Venhaus, Lingling Wu (College of William and Mary)*

**ROPB005 Beam Tube Vacuum in the Very Large Hadron Colliders**

*Mauro Pivi, Miguel A. Furman, William C. Turner (Lawrence Berkeley National Laboratory)*

**ROPB006 The Interconnections of the LHC Cryomagnets**

*Jean-Philippe Tock, Andre Jacquemod, Alain Poncet, Blazej Skoczen (CERN)*

**Session ROPB: Accelerator Technology (2 of 2)**

**Grand Ballroom (Session B) at 15:40**

**Session Chairs: A. Hutton and J. Noonan**

**ROPB007 Tunneling Issues at Future Machines (Invited)**

*G. William Foster (Fermi National Accelerator Laboratory)*

**ROPB008 The SNS Cryogenic System (Invited)**

*Claus Rode (Thomas Jefferson National Accelerator Facility)*

**ROPB009 Dynamics of Liquid Metal Jets Penetrating a Strong Magnetic Field**

*Ahmed Hassanein, Isak Konkashbaev (Argonne National Laboratory)*

**ROPB010 Calculations for a Mercury Jet Target in a Solenoid Magnet Capture System**

*Stephen Kahn, Juan Gallardo, Robert Palmer, Peter Thieberger, Robert Weggel (Brookhaven National Laboratory), Kirk McDonald (Princeton University)*

**ROPB011 Environment, Safety, and Health Considerations for New Accelerators at Fermilab**

*J. Cossairt, William J. Griffing, Mary K. Logue, Rodney L. Walton (Fermi National Accelerator Laboratory)*

**ROPB012 LHC Inner Triplet Powering Strategy**

*Frederick Bordry, Hugues Thiesen (CERN)*

**Session RPPH: Accelerator Technology**

Poster Hall at 13:30

**RPPH001 Time Evolution of Fields in Strontium Ferrite Permanent Magnets**

*James Volk, B.C. Brown, G.W. Foster, W. Fowler, H. Glass, G.P. Jackson (Fermi National Accelerator Laboratory)*

**RPPH002 Design of an In-Vacuum Wiggler for the BSRF**

*Hongliang Lu, Caitu Shi, Dingchang Xian, Yonglian Yan (Institute of High Energy Physics, Beijing)*

**RPPH003 Permanent Magnet Optics for Coherent-Synchrotron-Radiation-Compensated Compact Bends**

*Stephen Gottschalk (STI Optronics Inc), David Dowell (Boeing Physical Sciences Research, Seattle, WA), Wayne Kimura (STI Optronics Inc, Bellevue, WA)*

**RPPH004 Development of 4 Tesla Permanent Magnet**

*Masayuki Kumada, T. Fujisawa, Y. Hirao (National Institute of Radiological Sciences), I. Bolshakova, R. Holyaka (Lviv Polytechnic National University), M. Aoki, M. Endo, T. Kohda (Sumitomo Special Metals Co., Ltd.)*

**RPPH005 Permanent Magnet Dipoles for Synchrotron Radiation**

*Ge Li, Yibin An, Sai Dong, Yong Wang, Yin-gui Zhou (Univ. of Sci. & Tech. of China)*

**RPPH006 Large Permanent Magnet Dipole Performance**

*Vasily Shvedunov, G.A. Novikov, N.I. Pakhomov, V.S. Skachkov, W.P. Trower (World Physics Technologies)*

**RPPH007 New Synchrotron Injection Septum Magnet at the APS**

*Mark Jaski, Chuck Doose, Jim Humbert, Ken Thompson, Rob Wright (Argonne National Laboratory)*

**RPPH008 Direct-Drive and Eddy Current Septum Magnets**

*SukHong Kim (Argonne National Laboratory)*

**RPPH009 Separators for SLAC B-Factory**

*Mikhail Petrichenkov, Alexander Chernyakin, Victor Eschenko, Vladimir Karasyuk, Yuri Kolokolnikov, Gregory Silvestrov, Gennadiy Villevald, Victor Volokhov (Budker Institute of Nuclear Physics), David MacNair, Jerry Minister, Valery Nesterov, Uli Wienands, Zach Wolf (Stanford Linear Accelerator Center)*

**RPPH010 Design of a Wedge Shaped Bending Magnet**

*Stephen Kahn (Brookhaven National Laboratory)*

**RPPH011 Magnetic Field Measurements Analysis of the SNS Ring Prototype Dipoles and Quadrupoles**

*Yannis Papaphilippou, John Jackson, Charles Spataro, Peter Wanderer, Jie Wei (Brookhaven National Laboratory)*

**RPPH012 Enhancement of NSLS Sextupoles Using Permanent Magnets**

*George Rakowsky (Brookhaven National Laboratory)*

**RPPH013 Design of Beam-Extraction Septum Magnet for the SNS Accumulator Ring**

*Nicholaos Tsoupas, Yung Lee, James Rank, Joseph Tuozzolo (Brookhaven National Laboratory)*

**RPPH014 Large Aperture Magnets for a Future High Power Proton Synchrotron**

*Jean-Francois Ostiguy, Frederick Mills (Fermi National Accelerator Laboratory)*

**RPPH015 Measurement of Small Radius Gradient Magnets Using Ion Beams**

*Charles W. Schmidt, Vadim Dudnikov, James MacLachlan (Fermi National Accelerator Laboratory)*

**RPPH016 A 150MeV FFAG Synchrotron with "Return-Yoke Free Magnet"**

*Masamitsu Aiba, Toshikazu Adachi, Kiyomi Koba, Shinji Machida, Yoshiharu Mori, Chihiro Ohmori, Izumi Sakai, Yasuo Sato, Masahiro Sugaya, Akira Takagi, Ryuichi Ueno, Takeichiro Yokoi, Masato Yoshii, Masahiro Yoshimoto, Yoshimasa Yuasa (High Energy Accelerator Research Organization)*

**RPPH017 The LNSL Booster Synchrotron Dipole Magnets**

*Pedro Tavares, Flavio A.P. Leite, Liu Lin, Giancarlo Tosin (Laboratorio Nacional de Luz Sincrotron)*

**RPPH018 Impact of a Lower Energy Linac on SNS Transfer Lines and Accumulator Ring**

*D. Raparia, Y.Y. Lee, J. Wei, W.T. Weng (Brookhaven National Laboratory)*

**RPPH019 The Collimation System of the SNS Transfer Lines**

*Nuria Catalan-Lasheras, Deepak Raparia (Brookhaven National Laboratory)*

**RPPH020 Upgrading the AGS to 1 MW Proton Beam Power**

*Thomas Roser, J.M. Brennan, Ioannis Marneris, Alessandro G. Ruggiero, Dejan Trbojevic, S.Y. Zhang (Brookhaven National Laboratory)*

**RPPH021 SC Proton Linac Design for the CONCERT Multi-Users Facility**

*Alban Mosnier, Bernard Aune, Aline Curtoni, Michel Desmons, Jean-Louis Laclare, Jean-Michel Lagniel, Michel Luong, Nicolas Pichoff, Henri Safa, Christian Travier, Didier Uriot (CE Saclay), Klaus Bongardt, Rudolf Maier, Sig Martin (Forschungszentrum Jülich)*

**RPPH022 Low Energy Part of the CONCERT High-Power Proton Linac**

*Robin Ferdinand, Bernard Aune, Pierre-Yves Beauvais, Michel Desmons, Romuald Duperrier, Raphael Gobin, Pascal Gros, Jean-Louis Laclare, Jean-Michel Lagniel, Nicolas Pichoff, Didier Uriot (French Atomic Energy Commission), Klaus Bongardt, Rudolf Maier, Sig Martin, Yuriy Senichev (Forschungszentrum Jülich), Jean-Louis Coacolo, Guillaume Olry (Institut de Physique Nucl-aire d'Orsay), Horst Klein, Alvin Schempp (Institut für Angewandte Physik), Michele Comunian, Andrea Pisent (Istituto Nazionale di Fisica Nucleare), Christopher Bailey, Alan Letchford, J. Thomason (Rutherford Appleton Laboratory)*

**RPPH023 New Layout of the Rings for the 0.5 MW / 10 Hz AUSTRON Spallation Source**

*Horst Schoenauer, Michael Benedikt, Philip Bryant (CERN), Meinhard Regler (Institut für Hochenergiephysik, Austrian Academy of Sciences)*

**RPPH024 A New High-Intensity Synchrotron with Strong Bunch Compression at GSI**

*Oliver Boine-Frankenheim, Klaus Blasche, Bernhard Franczak, Gebhard Moritz, Petra Schuett, Peter Spiller (Gesellschaft für Schwerionenforschung mbH)*

**RPPH025 Beam Measurements at the GSI High Current Injector**

*Jürgen Dr. Klabunde, Winfried Barth, Ludwig Dahl, Peter Forck, Jörg Glatz (Gesellschaft für Schwerionenforschung mbH)*

**RPPH026 Increase of Positrons by High-Intensity Two Bunches at the KEKB Linac**

*Satoshi Ohsawa, Atsushi Emonoto, Kazuro Furukawa, Naoko Iida, Mitsuo Ikeda, Norihiko Kamikubota, Takuya Kamitani, Hitoshi Kobayashi, Haruyo Koiso, Toshihiro Matsumoto, Yujiro Ogawa, Yukiyoshi Ohnishi, Katsunobu Oide, Tsuyoshi Suwada (High Energy Accelerator Research Organization)*

**RPPH027 Induction Synchrotron (1): Principle**

*Ken Takayama, Junichi Kishiro (High Energy Accelerator Research Organization)*

**RPPH028 Induction Synchrotron (3): Rapid Cycle Synchrotron and Slow Cycle**

*K. Takayama, K. Arakida, K. Egawa, S. Igarashi, T. Kawakubo, J. Kishiro, E. Nakamura, M. Sakuda, M. Shirakata, T. Toyama, M. Uota (High Energy Accelerator Research Organization)*

**RPPH029 The Impact of Particle Desorption on DARHT II Electron Beam Dynamics**

*Harold Davis, Frank Merrill, David Moir, David Oro, Christophe Vermare, W. Monty Wood (Los Alamos National Laboratory), Juan Elizondo (Honeywell, FM&T, NM), Thomas Hughes (Mission Research Corporation)*

**RPPH030 Conceptual Design of a Low- $\beta$  Superconducting Proton Linac**

*Robert Garnett, Frank Krawczyk, Thomas Wangler (Los Alamos National Laboratory), Kenneth Crandall (TechSource)*

**RPPH031 Low-Energy Demonstration Accelerator (LEDA) Test Results and Plans**

*H. Smith, J. David Schneider (Los Alamos National Laboratory)*

**RPPH032 Beam-Plasma Interactions for e-Beam Radiography**

*Darwin Ho, Yu-Jiuan Chen (Lawrence Livermore National Laboratory), Tom Hughes (Mission Research Corporation)*

**RPPH033 Modified Target Configurations for Multi-Pulse e-Beam Radiography**

*Darwin Ho, Yu-Jiuan Chen (Lawrence Livermore National Laboratory)*

**RPPH034 Particle Simulations of DARHT-II Transport System**

*Brian Poole, Yu-Jiuan Chen (Lawrence Livermore National Laboratory)*

**RPPH035 Confinement of High-Intensity Bunched Beams in High-Power Periodic Permanent Magnet Focusing Klystrons**

*Mark Hess, Chiping Chen (MIT Plasma Science and Fusion Center)*

**RPPH036 H- Injection Studies for the Fermilab Proton Driver**

*Christopher Prior (Rutherford Appleton Laboratory)*

**RPPH037 Ion-Hose Instability in a Long-Pulse Accelerator**

*Thomas Hughes, Thomas Genoni (Mission Research Corp.)*

**RPPH038 Design of Beam Cleanup Zone for DARHT-2**

*Thomas Hughes (Mission Research Corp.), Daniel Prono, Walter Tuzel, John Vananne (Los Alamos National Laboratory)*

**RPPH039 Cost and Performance of Rapid-Cycling Proton Synchrotrons**

*Rolland Johnson (Illinois Institute of Technology), Charles Ankenbrandt (Fermi National Accelerator Laboratory)*

**RPPH040 Development of a Compact Rotating-Wave Accelerator for Medical and Industrial Applications**

*Jose Velazco (American Physical Society), Peter Ceperley (George Mason University)*

**RPPH041 Development of Resonance Depolarization Method at VEPP-4 for High Precision Measurement of Tau Lepton Mass**

*Sergei Nikitin, Vladimir Blinov, Sergei Karnaev, Vladimir Kiselev, Svyatoslav Mishnev, Ivan Nikolaev, Dimitry Nikolenko, Igor Protopopov, Yury Tikhonov, Dimitry Toporkov, German Tumaikin, Viktor Zhilich, Nikolai Zinevich (Budker Institute of Nuclear Physics)*

**RPPH042 Conceptual Design Study of the Electron-Proton Storage Ring Collider with Polarized Beams**

*Alexei Otboev, Ivan Koop, Maxim Korostelev, Igor Nesterenko, Vasily Parkhomchuk, Evgueni Perevedentsev, Vladimir Reva, Vitaly Shamovsky, Dmitry Shatilov, Peter Shatunov, Yuri Shatunov, Alexandr Skrinsky (Budker Institute of Nuclear Physics), Richard Milner, Chris Tschalaer (MIT Bates)*

**RPPH043 Concept for a Polarised Electron-Proton Collider with 15-30 GeV c.m. Energy and 1033cm-2s-1 Luminosity**

*Yuri Shatunov, I. A. Koop, M. S. Korostelev, I. N. Nesterenko, A. V. Otboev, V. V. Parkhomchuk, E. A. Perevedentsev, V. B. Reva, V. G. Shamovsky, D. N. Shatilov, P. Yu. Shatunov, A. N. Skrinsky (Budker Institute of Nuclear Physics), K. D. Jacobs, R. G. Milner, C. Tschalaer, F. Wang, A. Zolfaghari, G. T. Zwart (MIT-Bates Linear Accelerator Center)*

**RPPH044 Dogbone Geometry for Recirculating Accelerators**

*J. Berg (Brookhaven National Laboratory), Carol Johnstone (Fermi National Accelerator Laboratory), Don Summers (University of Mississippi)*

**RPPH045 Status and Recent Performance of the Chain of Accelerators that Serve as Injector for RHIC**

*Chris Gardner, L. Ahrens, J. Alessi, J. Benjamin, M. Blaskiewicz, J.M. Brennan, K.A. Brown, C. Carlson, J. DeLong, J.W. Glenn, T. Hayes, T. Roser, K.S. Smith, D. Steski, N. Tsoupas, K. Zeno, S.Y. Zhang, W. van Asselt (Brookhaven National Laboratory)*

**RPPH046 HEBT Momentum Scraper, H+ Ray Trace Simulation and Vacuum Chamber Design**

*Ping He (Brookhaven National Laboratory)*

**RPPH047 Summary of the Six-Month Study on High Energy Muon Colliders**

*Bruce King (Brookhaven National Laboratory)*

**RPPH048 Neutrino Factory based on Muon-Storage-Rings to Muon Collider**

*Zohreh Parsa (Brookhaven National Laboratory)*

**RPPH049 Higgs Factory and Potentials**

*Zohreh Parsa (Brookhaven National Laboratory)*

**RPPH050 Effect of Magnetic Fields on the Dose Estimates due to Beam Halo Loss in the Ring Collimation Straight of the SNS**

*Nikolaos Simos, Nuria Catalan-Lasheras, Al Mallen, Michael Todosow, Jie Wei (Brookhaven National Laboratory)*

**RPPH051 Optics for a Photoinjected Energy Recovery Linac at the NSLS**

*Vitaly Yakimenko, Ilan Ben-Zvi, Steve Kramer, James Murphy, Sal Pjerov, Juhao Wu (Brookhaven National Laboratory)*

**RPPH052 Design of a Bow-Tie Shaped 50 GeV Muon Storage Ring**

*Eberhard Keil (CERN)*

**RPPH053 Linac Optics for Energy Recovery Linac**

*Ivan Bazarov (Cornell University), Geoffrey Krafft, Lia Merminga (Thomas Jefferson National Accelerator Facility)*

**RPPH054 Status of the Cooler Synchrotron COSY Jülich**

*Dieter Prasuhn (Forschungszentrum Juelich)*

**RPPH055 Recycler Ring Beam Life Time**

*Krishnaswamy Gounder, John Marriner (Fermi National Accelerator Laboratory)*

**RPPH056 Emittance Growth in the Recycler Ring**

*Krishnaswamy Gounder, John Marriner, Shekhar Mishra (Fermi National Accelerator Laboratory)*

**RPPH057 Comparison of the Measured and Calculated Linear Lattice Properties of the Fermilab Recycler Ring**

*David Johnson (Fermi National Accelerator Laboratory)*

**RPPH058 Fringe-Field Effects in Muon Storage Rings**

*Carol Johnstone (Fermi National Accelerator Laboratory), Francois Meot (CE Saclay), Erdelyi Bela, Martin Berz, Kyoko Makino (National Superconducting Cyclotron Laboratory)*

**RPPH059 A 50-GeV Muon Storage Ring for a Neutrino Factory at FNAL**

*Carol Johnstone (Fermi National Accelerator Laboratory), Brett Parker (Brookhaven National Laboratory), Francois Meot (CE Saclay), Martin Berz, Bela Erdelyi, Kyoko Makino (National Superconducting Cyclotron Laboratory)*

**RPPH060 Compact Arc Design for a Recirculating Dogbone Linac**

*Carol Johnstone (Fermi National Accelerator Laboratory),  
Scott Berg (Brookhaven National Laboratory)*

**RPPH061 A 3-11 GeV Recirculating Linac for Muon Acceleration**

*Carol Johnstone, David Neuffer (Fermi National Accelerator Laboratory),  
Etienne Forest (High Energy Accelerator Research Organization)*

**RPPH062 Experience with Magnetic Shielding of a Large Scale Accelerator**

*Sergei Nagaitsev, Consolato Gattuso, Stanley Pruss, James Volk (Fermi National Accelerator Laboratory)*

**RPPH063 Recycler Ring Lattice Function Measurement Using TBT BPM Data**

*Ming-Jen Yang (Fermi National Accelerator Laboratory)*

**RPPH064 Recycler Ring Lattice Measurement Using 1-Bump Orbit Data**

*Ming-Jen Yang (Fermi National Accelerator Laboratory)*

**RPPH065 Beam-Distribution System for Multi-Axis Imaging at the Advanced Hydrotest Facility**

*Andrew Jason, David B. Barlow, Barbara Blind, John P. Kelley, C. Thomas Mottershead, Filippo Neri, Peter L. Walstrom, Joseph Waynert (Los Alamos National Laboratory), Schulze Martin (General Atomics)*

**RPPH066 The Conventional Facilities Requirements for the SNS Linac**

*Paul Tallerico, Martin Crow, Arthur Guthrie (Los Alamos National Laboratory)*

**RPPH067 Issues in Acceleration of a Muon Beam for a Neutrino Factory**

*Leigh Harwood, Jean Delayen, David Douglas, Valeri Lebedev, Christoph Leemann, Lia Merminga (Thomas Jefferson National Accelerator Facility)*

**RPPH068 The ITP Powerful Heavy Ion Accumulator (ITP-TWAC) Project - Recent Development and Prospects**

*Nikolay Alexeev, Boris Sharkov (Institute for Theoretical and Experimental Physics), Dmitry Koshkarev (Institute for Theoretical and Experimental Physics)*

**RPPH069 The Storage Ring for Low Energy Tritons and Its Possible Application**

*Ivan Guk, Yuriy Grigor'ev, Peter Gladkikh, Evgenij Inopin, Stanislav Kononenko, Andrey Mytsykov, Anatoly Pashchenko, Yuriy Peresunko, Ivan Shapoval, Alexandr Shcherbakov, Alexandr Tarasenko, Andrey Zelinsky (National Science Center "Kharkov Institute of Physics and Technology")*

**RPPH070 Simulation Study of Multi-Stage Cyclotron Resonance Proton Accelerator**

*Changbiao Wang (Yale University), Jay Hirshfield (Omega-P, Inc. and Yale University)*

**RPPH071 Geometric and Magnetic Axes of the LHC Dipole**

*M. Bajko, J. Billan, M. Buzio, G. Deferne, J. Garcia-Perez, O. Pagano, W. Scandale, E. Todesco (CERN)*

**RPPH072 Test Results in Helical Dipoles for Snakes in RHIC**

*Animesh Jain, M. Anerella, J. Escallier, G. Ganetis, A. Ghosh, M. Harrison, E. Kelly, A. Marone, G. Morgan, J. Muratore, S. Plate, A. Prodell, P. Wanderer, E. Willen (Brookhaven National Laboratory), M. Okamura (RIKEN Accelerator Research Facility)*

**RPPH073 Skew-Quadrupole Combined-Function Magnets for a Muon Storage Ring**

*Brett Parker, Michael Anerella, Arup Ghosh, Ramesh Gupta, Michael Harrison, Jesse Schmalzle, John Sondericker, Erich Willen (Brookhaven National Laboratory)*

**RPPH074 Design Study for 20 T, 15 cm Bore Hybrid Magnet with Radiation-Resistant Insert for Pion Capture**

*Robert Weggel (Brookhaven National Laboratory), John Miller (National High Magnetic Field Laboratory)*

**RPPH075 Design and Test of Spool Pieces Containing HTS Power Leads for the Tevatron**

*Sandor Feher, Jeffrey Brandt, Darryl Orris, Thomas Peterson, William Soyars, Cosmore Sylvester, Michael Tartaglia, John Tompkins (Fermi National Accelerator Laboratory)*

**RPPH076 Beam-Induced Energy Deposition in Muon Storage Rings**

*Nikolai Mokhov, Carol J. Johnstone (Fermi National Accelerator Laboratory), Brett Parker (Brookhaven National Laboratory)*

**RPPH077 Fitting Helical Snake and Rotator Field Strength Measurements in RHIC**

*Vahid Ranjbar (Indiana University), Alfredo Luccio, William MacKay (Brookhaven National Laboratory)*

**RPPH078 Characterization of the Tevatron Electron Lens Magnetic System**

*Kip Bishofberger, V Shiltsev (Fermi National Accelerator Laboratory), A Andriischin, A Baluyev, S Kozub, N Krotov, V Sytnik, A Tikhov, L Tkachenko (Institute of High Energy Physics, Protvino), N Solyak (Institute of Nuclear Physics, Protvino)*

**RPPH079 Development of Common Coil Nb<sub>3</sub>Sn Dipole Magnet for VLHC**

*Giorgio Ambrosio, Nicolai Andreev, Emanuela Barzi, Pierre Bauer, Deepak Chichili, Kerry Ewald, Linda Imbasciati, Peter Limon, Alexander Zlobin (Fermi National Accelerator Laboratory), Ronald Scanlan (Lawrence Berkeley National Laboratory)*

**RPPH080 Nb<sub>3</sub>Sn Arc Quadrupole Magnets for VLHC**

*Vadim Kashikhin, Alexander V. Zlobin (Fermi National Accelerator Laboratory)*

**RPPH081 Single-Layer High Field Dipole Magnets**

*Vadim Kashikhin, Alexander V. Zlobin (Fermi National Accelerator Laboratory)*

**RPPH082 Field Quality of the Fermilab Nb<sub>3</sub>Sn High Field Dipole Model**

*Philip Schlabach (Fermi National Accelerator Laboratory)*

**RPPH083 Second Generation High Gradient Quadrupoles for the LHC Interaction Regions**

*Tanaji Sen, Alexander Zlobin (Fermi National Accelerator Laboratory)*

**RPPH084 Optimization of Coil Parameters for Long Nb<sub>3</sub>Sn 10 Tesla Magnets for Hadron Colliders**

*Ryuji Yamada, Seog-Whan Kim, Ang Lee, Jean-Michel Rey, Robert H. Wands (Fermi National Accelerator Laboratory), Masayoshi Wake (High Energy Accelerator Research Organization)*

**RPPH085 Development of Cos-theta Nb<sub>3</sub>Sn Dipole Magnets for VLHC**

*Alexander Zlobin, Giorgio Ambrosio, Nicolai Andreev, Emanuela Barzi, Deepak Chichili, Vadim Kashikhin, Ioury Terechkine, Sunil Yadav, Ryuji Yamada (Fermi National Accelerator Laboratory)*

**RPPH086 Performance of Prototypes and Start up of Series Fabrication of the LHC Arc Quadrupoles**

*J. Billan, V. Redmondio, A. Siemko, N. Smirnov, T. Tortschanoff (CERN), M. Peyrot, J.M. Rifflet, F. Simon (CE Saclay)*

**RPPH087 The Preparation of the Cryomagnets and the Assembly of the LHC Test String 2**

*Roberto Saban, Oscar Andujar, Davide Bozzini, Camilo Calzas-Rodriguez, Paul Cruikshank, Olivier Desebe, Tobias Dobers, Andre Jacquemod, Nicolaas Kos, Patrick Lepeule, Willemjan Maan, Dominique Missiaen, Vittorio Parma, Germana Riddone, Felix Rodriguez-Mateos, Peter Rohmig, Roberto Saban, Gerhard Schneider, Luigi Serio, Blazej Skoczen, Jean-Philippe Tock, Raymond Veness, Christophe Vuitton (CERN)*

**RPPH088 Development of Superconducting Quadrupoles for Heavy Ion Fusion**

*GianLuca Sabbi, Alan Lietzke, Peter Seidl (Lawrence Berkeley National Laboratory), Rainer Meinke (Advanced Magnet Laboratory), Steve Lund, Nicolai Martovetsky (Lawrence Livermore National Laboratory), Chen-Yu Gung, Joe Minervini, Leonard Myatt, Joel Schultz (MIT Plasma Science and Fusion Center)*

**RPPH089 Multi-Cylinder Quadrupoles with Square Cross Section**

*Rainer Meinke, Carl Goodzeit, William Hinson (Advanced Magnet Lab, Inc.), Chen-yu Gung, Joseph Minervini, Alexey Radovinsky, Joel Schultz, Bradford Smith (MIT Plasma Science and Fusion Center), Richard Camille (MTechnology, Inc.), Leonard Myatt (Myatt Consulting, Inc.)*

**RPPH090 Cost-Effective High-Field Magnets for Future Accelerators**

*Rainer Meinke (Advanced Magnet Lab, Inc.), M.J. (Penny) Ball, Carl Goodzeit (M J B Plus Inc.)*

**RPPH091 Commissioning of the RHIC DX Magnet Active Quench Protection System**

*George Ganetis, Wing Louie, Thomas Wild (Brookhaven National Laboratory)*

**RPPH092 Detection of Resistive Transitions in LHC Superconducting Components**

*Reiner Denz, Felix Rodriguez-Mateos (CERN)*

**RPPH093 Energy Extraction for the LHC Superconducting Circuits**

*Florian Sonnemann, Knud Dahlerup-Petersen, Felix Rodriguez-Mateos, Ruediger Schmidt (CERN)*

**RPPH094 Quench Heater Strips for the LHC Main Magnets**

*Florian Sonnemann, Felix Rodriguez-Mateos, Florian Sonnemann (CERN)*

**RPPH095 Quench Protection of High Field Nb<sub>3</sub>Sn Accelerator Magnets**

*Pierre Bauer, Giorgio Ambrosio, Linda Imbasciati, Alexander Zlobin (Fermi National Accelerator Laboratory)*

**RPPH096 Quench Simulation Program for Superconducting Accelerator Magnets**

*Seog-Whan Kim (Fermi National Accelerator Laboratory)*

**RPPH097 Architecture of a Software Quench Management System**

*Jerzy Nogiec, Frank Burzynski, Eugene Desavouret, Michael Lamm, Darryl Orris, Sergei Sharonov, James Sim (Fermi National Accelerator Laboratory)*

**RPPH098 A Modular and Extensible Data Acquisition and Control System for Testing Superconducting Magnets**

*Darryl Orris, Ruben Carcagno (Fermi National Accelerator Laboratory)*

**RPPH099 The CESR Horizontal Electrostatic Separators Impedance Study**

*Alexander Temnykh (Cornell University)*

**RPPH100 The Use of Vibrating Wire Technique for Precise Positioning of CESR Phase III Superconducting Quadrupoles at Room Temperature**

*Alexander Temnykh (Cornell University)*

**RPPH101 Tests and Measurements of Superconducting Interaction Region Magnets in CESR**

*James Welch (Cornell University)*

**RPPH102 Magnetic Field Fluctuations in Dipole Magnets**

*Vladimir Shiltsev (Fermi National Accelerator Laboratory), Boris Baklakov, Shavkat Singatulin (Budker Institute of Nuclear Physics)*

**RPPH103 Accelerator Magnets with HTS Coils**

*Ramesh Gupta, M. Anerella, J. Cozzolino, J. Escallier, G. Ganetis, A. Ghosh, M. Harrison, J. Muratore, B. Parker, W. Sampson, P. Wanderer (Brookhaven National Laboratory)*

**RPPH104 Automatic Analysis and Classification of the AIRIX Single Shot Accelerator Defaults**

*Jean Christophe Ribes, Georges Delaunay (Universite de reims), Jacques Delvaux, Eric Merle, Marc Mouillet (French Atomic Energy Commission)*

**RPPH105 Transport of the 2-3.1 kA AIRIX Electron Beam**

*Eric Merle, Jacques Bardy, Raynald Boivinet, Florent Bombardier, Andr e Devin, Marc Mouillet, Olivier Pierret (French Atomic Energy Commission), Jean Christophe Ribes (University of Reims)*

**RPPH106 Acceleration Gap for the Relativistic Klystron Two-Beam Accelerator**

*Ernest Zaidman, Scott Douglass, Terry Godlove (FM Technologies)*

**RPPH107 The DARHT-II Downstream Beam Transport Line**

*Glen Westenskow, Louis Bertolini, Patrick Duffy, Arthur Paul (Lawrence Livermore National Laboratory)*

**RPPH108 BBU and Corkscrew Growth Predictions for the DARHT Second Axis Accelerator**

*Yu-Jiuan Chen (Lawrence Livermore National Laboratory),  
William Fawley (Lawrence Berkeley National Laboratory)*

**RPPH109 Downstream Beamline for the 2- $\mu$ s, 2-kA and 20-MeV DARHT-II Electron Beam**

*Yu-Jiuan Chen, Louis Bertolini, George Caporaso, Arthur Paul, Brian Poole, Li-Fang Wang, Glen Westenskow (Lawrence Livermore National Laboratory)*

**RPPH110 The Input Beam Requirements for the DARHT-II Downstream Beamline**

*Yu-Jiuan Chen, George Caporaso, Arthur Paul (Lawrence Livermore National Laboratory)*

**RPPH111 The Project of Designing a Kharkov State Technical University of Radioelectronics (KhSTURE) - Based Multiampere Accelerator of Relativistic Electron Beams**

*Yuri Volkolupov, Vladimir Chumakov, Mikhail Krasnogolovets, Mikhail Ostrizhnoy (Kharkov State Technical University of Radioelectronics)*

**RPPH112 A Very Large Circular e<sup>+</sup>e<sup>-</sup> Collider**

*J. Norem (Argonne National Laboratory), T. Sen (Fermi National Accelerator Laboratory)*

**RPPH113 Radiative Polarization in the BATES South Hall Ring**

*Maxim Korostelev, Yuri Shatunov (Budker Institute of Nuclear Physics)*

**RPPH114 12 years of LEP**

*Mike Lamont (CERN)*

**RPPH115 A Critical Review of LEP Operations: Lessons for the LHC**

*Mike Lamont (CERN)*

**RPPH116 Beam Energy Increase with Horizontal Correctors at LEP**

*Jorg Wenninger, Andre Beuret, Serge Bidon, Roger Genand, Gijs de Rijk (CERN), Pantaleo Raimondi (Stanford Linear Accelerator Center)*

**RPPH117 Improvements to the CESR Injector and Injection Process**

*Stuart Henderson, G. Codner, M. Forster, M. Giannella, S. Greenwald, R. Holtzapple, J. Hylas, R. Littauer, R. Meller, S. Peck, D. Rubin, J. Sikora (Cornell University)*

**RPPH118 Single Bunch Longitudinal Measurements of the Cornell Electron-Positron Storage Ring with the Superconducting RF Cavities**

*Robert Holtzapple (Cornell University)*

**RPPH119 Coherent High-Order Mode Heating in CESR Sliding Joints from Multi-Bunched Stored Electron & Positron Beams**

*Yulin Li, Mike Billing, Yun He, Nariman Mistry, Dave Rice, Dave Rubin (Cornell University)*

**RPPH120 A Novel Differentially Pumped UHV Flange in the CESR Interaction Region**

*Yulin Li, Jeff Cherwinka, Yun He, Nariman Mistry (Cornell University)*

**RPPH121 CESR Beam-Beam Limit**

*David Rubin, Sergey Belomestnykh, Michael Billing, Gerald Codner, Zipi Greenwald, Donald Hartill, Stuart Henderson, John Hylas, Robert Meller, Mark Palmer, Stuart Peck, David Rice, David Sagan, John Sikora, Sasha Temnykh, Vadim Veshcherevich, James Welch (Cornell University)*

**RPPH122 CESR Status**

*David Rubin, Sergey Belomestnykh, Michael Billing, Gerald Codner, Michael Forster, Shlomo Greenwald, Zipi Greenwald, Donald Hartill, Yun He, Stuart Henderson, Robert Holtzapple, John Hylas, Yulin Li, Raphael Littauer, Robert Meller, Alexander Mikhailichenko, Mark Palmer, Stuart Peck, David Rice, David Sagan, John Sikora, Sasha Temnykh, Vadim Veshcherevich, Dong Wang, James Welch (Cornell University)*

**RPPH123 Longitudinal Polarization Schemes in the Existing CESR Tunnel**

*Dong Wang (Cornell University)*

**RPPH124 Project of Booster Synchrotron for Duke FEL Storage Ring**

*Stepan Mikhailov, Vladimir Litvinenko, Peter Morcombe, Igor Pinaev, Gary Swift (Duke University), Nikolai Gavrilov, Yuri Matveev, Dmitry Shvedov, Nikolai Vinokurov (Budker Institute of Nuclear Physics)*

**RPPH125 Low Emittance Lattices for the Duke FEL Storage Ring**

*Stepan Mikhailov, Vladimir Litvinenko (Duke University), Ying Wu (Lawrence Berkeley National Laboratory)*

**RPPH126 Impact of Resistive-Wall Wake Fields Generated by Low-Gap Chambers on the Beam at the ESRF**

*Ryutaro Nagaoka (European Synchrotron Radiation Facility)*

**RPPH127 Analysis of Quadrupole and Skew Quadrupole Errors at the ESRF**

*Ryutaro Nagaoka, Laurent Farvacque (European Synchrotron Radiation Facility)*

**RPPH128 A Very Low Energy Ring Lattice Design for the PEP-N Project**

*Maria Biagini (Istituto Nazionale di Fisica Nucleare), Massimo Placidi (CERN), John Seeman, Michael Sullivan, Ulrich (Uli) Wienands (Stanford Linear Accelerator Center)*

**RPPH129 Beam-Beam Experience at DAFNE**

*Mikhail Zobov, David Alesini, Sergio Bertolucci, Caterina Biscari, Manuela Boscolo, Giampiero Di Pirro, Alessandro Drago, Alessandro Gallo, Andrea Ghigo, Susanna Guiducci, Fabio Marcellini, Giovanni Mazzitelli, Catia Milardi, Miro Preger, Fernando Sannibale, Mario Serio, Alessandro Stecchi, Angelo Stella, Cristina Vaccarezza (Istituto Nazionale di Fisica Nucleare), Pantaleo Raimondi (Stanford Linear Accelerator Center)*

**RPPH130 High Current Multibunch Operation at DAFNE**

*Alessandro Drago, David Alesini, Alessandro Gallo, Andrea Ghigo, Fabio Marcellini, Mario Serio, Angelo Stella, Gaetano Vignola, Mikhail Zobov (Istituto Nazionale di Fisica Nucleare), John D. Fox, Dmitry Teytelman (Stanford Linear Accelerator Center)*

**RPPH131 KEKB Performance**

*Funakoshi Yoshihiro (High Energy Accelerator Research Organization)*

**RPPH132 A Small Storage Ring for Study of the Longitudinal Space Charge Effect in Isochronous Cyclotrons**

*Eduard Pozdeyev (National Superconducting Cyclotron Laboratory)*

**RPPH133 A Method of Closed Orbit Correction under Constraint Conditions**

*K. H. Kim, M. H. Cho, J. Choi, C. Kim, Yujung Kim, I. S. Ko, T.-Y. Lee, W. Namkung (Pohang Accelerator Laboratory), Guinyun Kim (Center of High Energy Physics, Kyungpook National University, Daegu, Korea)*

**RPPH134 Application of Model Independent Analysis to PEP-II Rings**

*Yunhai Cai, John Irwin, Mike Sullivan, Yiton Yan (Stanford Linear Accelerator Center)*

**RPPH135 Local Chromatic Compensatoin in a Linearly Coupled Region in PEP-II**

*Yunhai Cai, Yuri Nosochkov, Yiton Yan (Stanford Linear Accelerator Center)*

**RPPH136 Tune Feed-Forward for PEP-II**

*Franz-Josef Decker, A. Fischer, L. Hendrickson, K. Krauter, B. Murphy, U. Wienands (Stanford Linear Accelerator Center)*

**RPPH137 Status and Future Plans of the PEP-II B-Factory**

*John Seeman, Michael Sullivan, Uli Wienands (Stanford Linear Accelerator Center)*

**RPPH138 PEP-N: A 1 GeV X 3.1 GeV e+e- Collider at SLAC**

*John Seeman, Yunhai Cai, Michael Sullivan, Uli Wienands (Stanford Linear Accelerator Center), Massimo Placidi (CERN), Marica Biagini (Istituto Nazionale di Fisica Nucleare)*

**RPPH139 The PEP-N Interaction Region**

*Michael Sullivan, John Seeman, Ulrich (Uli) Wienands (Stanford Linear Accelerator Center), Massimo Placidi (CERN), Marica Biagini (Istituto Nazionale di Fisica Nucleare)*

**RPPH140 The Center-of-Mass Energy of PEP-II**

*Michael Sullivan, Martin Donald (Stanford Linear Accelerator Center)*

**RPPH141 The Hourglass Effect and the Measurement of the Transverse Size of Colliding Beams Using Luminosity Scans**

*Marco Venturini (Stanford Linear Accelerator Center), Witold Kozanecki (CE Saclay)*

**RPPH142 High Order Mode Heating Observations in the PEP-II Interaction Region**

*Stan Ecklund (Synchrotron Radiation Center, University of Wisconsin), Franz-Josef Decker, Alan Fisher, Mike Sullivan (Stanford Linear Accelerator Center)*

**RPPH143 A Muon Collider as a Higgs Factory**

*David Cline (University of California, Los Angeles), Gail Hanson (Indiana University)*

**RPPH144 Energy Analyzer Experiments for the University of Maryland Electron Ring**

*Agust Valfells, S. Bernal, R. A. Kishek, P. G. O'Shea, M. Reiser, M. Virgo, V. Yun (University of Maryland), M. Nishiura (National Institute for Fusion Science)*

**RPPH145 The Next Linear Collider Damping Ring Complex**

*John Corlett, Dennis Atkinson, Stefano DeSantis, Neal Hartman, Kurt Kennedy, Derun Li, Steve Marks, Hiroshi Nishimura, Robert Rimmer, Ross Schlueter, Andrej Wolski (Lawrence Berkeley National Laboratory), Keith Jobe, Bobby McKee, Tor Raubenheimer, Marc Ross, John Sheppard (Stanford Linear Accelerator Center)*

**RPPH146 Mini Beta Structure for ANKA**

*Dieter Einfeld, Erhard Huttel, Gajendra Kumar Sahoo (FGS, Forschungszentrum Karlsruhe), Francisco Perez, Montserrat Pont (ANKA GmbH)*

**RPPH147 Spin-Orbital Motion in Generalized Coherent States Representations**

*Antonina Fedorova, Michael Zeitlin (IPME RAS)*

**RPPH148 Slow Extraction of Electron Beam with Combination of the Third Order Resonance and RFKO**

*Akira Noda, Hirokazu Fujita, Yoshihisa Iwashita, Akio Morita, Toshiyuki Shirai, Takashi Sugimura, Hiromu Tonguu (Institute for Chemical Research, Kyoto University)*

**RPPH149 Luminosity and Energy Resolution in e<sup>+</sup>e<sup>-</sup> Colliders**

*Stefania Petracca (University of Sannio at Benevento (ITA)), Kohji Hirata (High Energy Accelerator Research Organization)*

**RPPH150 Longitudinal Measurements and Simulations of Stretched Bunches in the NSLS VUV Ring**

*Nathan Towne*

**RPPH151 Polarized Beams in the MIT Bates South Hall Ring**

*Townsend Zwart (MIT Bates Linac)*

**RPPH301 RHIC AC Dipole Design and Construction**

*Mei Bai, M. Meth, C. Pai, B. Parker, S. Peggs, T. Roser, R. Sanders, D. Trbojevic (Brookhaven National Laboratory)*

**RPPH302 The Design of Kicker Magnets for HLS Storage Ring**

*Wang Lin (National Synchrotron Radiation Lab)*

**RPPH303 Design and Measurements of Prototype Magnets for the High-Brilliance Synchrotron Light Source in the University of Tokyo**

*Tadashi Koseki, Yukihide Kamiya, Hirofumi Kudo, Norio Nakamura, Takashi Shibuya, Kenji Shinoe, Hiroyuki Takaki, Youichi Takiyama (ISSP, the University of Tokyo), Hiromitsu Inoue, Kazuo Kuno (Mitsubishi Electric Corporation)*

**RPPH304 Status of the High Energy SC Linac for the TRASCO Program**

*Carlo Pagani (Istituto Nazionale di Fisica Nucleare)*

**RPPH305 Beam Collimator Design for the 3GeV Synchrotron at the JAERI-KEK Joint Project**

*Kazami Yamamoto, Michikazu Kinsho, Fumiaki Noda (Japan Atomic Energy Research Institute), Yoshiro Irie, Masashi Shirakata (High Energy Accelerator Research Organization)*

**RPPH306 Research on Beam Breakup Instability of Induction Linac**

*Zhang Kaizhi, Wang Huacen (Chinese Academy of Engineering Physics), Lin Yuzheng (Tsinghua University)*

**RPPH307 SNS Ring Optics Tuning**

*Jeffrey Holmes, Weishi Wan (Oak Ridge National Laboratory), Nuria Catalan-Lasheras, Alexei Fedotov, Yannis Papaphilippou, Jie Wei (Brookhaven National Laboratory)*

**RPPH308 Design and Implementation of the Medium-Beta Insert of the Fermilab Recycler Ring**

*Weishi Wan (Oak Ridge National Laboratory), Consolato Gattuso, David E. Johnson, C. Shekhar Mishra, James T. Volk, Meiqin Xiao (Fermi National Accelerator Laboratory)*

**RPPH309 Dipole with Coil Based on High Temperature Superconductor**

*Leonid Tkachenko, Igor Bogdanov, Sergey Kozub, Kirill Myznikov, Alexander Seletsky, Petr Shcherbakov, Pavel Slabodchikov, Veniamin Sytnik, Alexander Tikhov, Vasily Zubko (Institute of High Energy Physics, Protvino), Igor Akimov, Alexander Shikov (All-Russian Scientific-Research Institute of Inorganic Materials, Moscow)*

**RPPH310 Muon Transport Channels with Longitudinal Magnetic Field**

*Leonid Tkachenko, Igor Bogdanov, Sergey Kozub, Victor Pleskach, Petr Shcherbakov, Veniamin Sytnik, Vasily Zubko (Institute of High Energy Physics, Protvino), Norbert Holtkamp, Iouri Terechkine (Fermi National Accelerator Laboratory)*

**RPPH311 Tevatron Electron Lens Magnetic System**

*Leonid Tkachenko, Igor Bogdanov, Evgeny Kashtanov, Sergey Kozub, Victor Pleskach, Veniamin Sytnik, Sergey Zintchenko, Vasily Zubko (Institute of High Energy Physics, Protvino), Gennady Kuznetsov (Budker Institute of Nuclear Physics), Vladimir Shiltsev (Fermi National Accelerator Laboratory), Andrey Sery (Stanford Linear Accelerator Center)*

**RPPH312 Development of a  $\cos\theta$  Nb<sub>3</sub>Sn Dipole Model at Fermilab**

*Yuri Terechkine, Giorgio Ambrosio, Nicolai Andreev, Emanuela Barzi, Pierre Bauer, Deepak Chichili, Sandor Feher, Vadim Kashikhin, Peter Limon, Jean-Michel Rey, John Tompkins, Sunil Yadav, Ryuji Yamada, Victor Yarba, Alexander Zlobin (Fermi National Accelerator Laboratory), Masayoshi Wake (High Energy Accelerator Research Organization), Shlomo Caspi, Ronald Scanlan (Lawrence Berkeley National Laboratory)*

**RPPH313 Development of LHC Low-Beta Quadrupole Magnets at KEK**

*Akira Yamamoto, Yasuo Ajima, Earle Burkhardt, Norio Higashi, Nobuhiro Kimura, Tatsushi Nakamoto, Toru Ogitsu, Norihito Ohuchi, Takakazu Shintomi, Ken'ichi Tanaka, Akio Terashima, Kiyosumi Tsuchiya (High Energy Accelerator Research Organization), Asafumi Orikasa (Toshiba Corp.)*

**RPPH314 Dynamics of Decay Electrons and  
Synchrotron Radiation in a TeV Muon Collider**

*Peter McIntyre, Akhdior Sattarov (Texas A&M University)*

**RPPH315 13 Tesla Dipole for Tevatron Tripler**

*Peter McIntyre, Akhdior Sattarov (Texas A&M University)*

**RPPH316 Block-Coil Dipole Development for VLHC**

*Peter McIntyre, Raymond Blackburn, Nikolai Diaczenko,  
Tim Elliott, William Henchel, Ed Hill, Alfred McInturff,  
Akhdior Sattarov (Texas A&M University)*

**RPPH317 Testing of TAMU1: A Single-Aperture Block  
Dipole**

*Peter McIntyre, Chris Battle, Raymond Blackburn, Nikolai  
Diaczenko, Tim Elliott, William Henchel, Ed Hill, Hans  
Kautzky, Alfred McInturff, Akhdior Sattarov (Texas A&M  
University), Mark Johnson (Agilent Corporation), Jana  
McIntyre (Austin College), Robert Benjegerdes, Paul Bish,  
Doyle Byford, Roy Hannaford, Alan Lietzke (Lawrence  
Berkeley National Laboratory), Rudolph Gaedke (Trinity  
University)*

**RPPH318 CESR Phase-III Interaction Region Beam  
Pipe**

*Yun He, Shlomo Greenwald, Yulin Li, Nariman Mistry  
(Cornell University)*

**RPPH319 Simple Procedure for Superconducting Coil  
Winding**

*Alexander Mikhailichenko, Tobey Moore (Cornell  
University)*

**RPPH320 Optimized Wiggler Magnet for CESR**

*Alexander Mikhailichenko (Cornell University)*

**RPPH321 Quadrupole and Sextupole for Dual Bore  
Ring**

*Alexander Mikhailichenko (Cornell University)*

**Session FOAA: Applications of Accelerators  
(1 of 2)**

Grand Ballroom (Session A) at 8:30

Session Chairs: J. Cameron and S. Scriber

**FOAA001 Space Radiation Effects with Protons and Heavy Ions - Ground-Based Measurements (Invited)**

*Kenneth LaBel, Janet Barth, Cheryl Marshall, Robert Reed (NASA Goddard Space Flight Center) Paul Marshall (Consultant)*

**FOAA002 The Microwave Electron Linac in the Treatment of Cancer (Invited)**

*John Ford (Varian Medical Systems)*

**FOAA003 Successful High Power Test on a Proton Linac Booster (LIBO) Prototype for Hadrontherapy**

*Mario Weiss, Ugo Amaldi, Kenneth Crandall, Riccardo Zennaro (TERA Foundation, Novara, Italy), Paolo Berra, Ettore Rosso, Balazs Szeless, Maurizio Vretenar (CERN), Dario Giove, Maria Rosaria Masullo (Istituto Nazionale di Fisica Nucleare), Carlo Cicardi, Carlo De Martinis (University of Milan, Italy), Daniele Davino, Vittorio Giorgio Vaccaro (University of Naples, Italy)*

**FOAA004 Progress on the Midwest Proton Radiation Institute at Indiana University**

*Dennis Friesel, Vladimir Anferov, Mark Ball, George Berg, Brian Broderick, John Collins, Gary East, Dave Jenner, William Jones, Susan Klein, Jeffery Self, William Starks (Indiana University)*

**FOAA005 Beam Commissioning of New Proton Therapy System of University of Tsukuba**

*Masumi Umezawa, Kazuo Hiramoto, Kouji Matsuda, Hideaki Nishiuchi, Kazuyoshi Saitou, Hiroaki Sakurabata (Hitachi, Ltd.), Akira Maruhashi, Yshiharu Mori, Akihiro Nohtomi, Takeji Sakae, Yoshihisa Takada, Kiyoshi Yasuoka (University of Tsukuba)*

**FOAA006 Two Beam Proton Accelerator for Neutron Generators and Electronuclear Industry**

*Gennady Dolbilov (Joint Institute for Nuclear Research)*

**Session FOAA: Applications of Accelerators  
(2 of 2)**

**Grand Ballroom (Session A) at 10:40**

**Session Chairs: J. Cameron and S. Scriber**

**FOAA007 Low Energy Spin Polarized Radioactive Nuclei: A New Instrument for Condensed Matter Research (Invited)**

*Robert Kiefl, Jess Brewer, Jacques Chakhalian, Roger Miller (Department of Physics and Astronomy, University of B.C.), Sarah Dunsiger (Los Alamos National Laboratory), Pierre Amaudruz, Zelenski Anatoli, Richard Baartman, John Behr, Suzannah Daviel, Jaap Doornbos, Syd Kreitzman, Thomas Kuo, C.D.P. Levy, Gerald Morris, Miguel Olivo, Rene Poutissou, Geoff Wight (TRIUMF)*

**FOAA008 Industrial Applications of Ion Implantation for Doping and Modification of Semiconductor Materials (Invited)**

*John Poate (Axcelis Technologies, Inc.), Michael I. Current (Silicon Genesis Corporation)*

**FOAA009 Extreme Ultraviolet (EUV) Sources for Lithography based on Synchrotron Radiation**

*Robert Rossmann, Klaus Hesch, Eric Pellegrin, Volker Saile, Ralf Steininger, Juergen Wuest (Forschungszentrum Karlsruhe), Giuseppe Dattoli, Andrea Doria, Gian Piero Gallerano, Luca Giannessi, Pier Luigi Ottaviani (ENEA Frascati), Herbert O. Moser (Singapore Synchrotron Light Source, National University of Singapore)*

**FOAA010 Performance of High Intensity G-Rays Source (HIGS) Driven by the Duke Storage Ring FEL**

*Vladimir Litvinenko, Igor V. Pinayev, Werner Tornow, Henry Weller (Duke University), Seong Hee Park (Korea Atomic Energy Research Institute)*

**FOAA011 A Low Cost and High Efficient Facility for Removal of SO<sub>2</sub> and NO<sub>x</sub> in the Flue Gas from Coal Fired Power Plant**

*Yuan Ji Pei, Sai Dong, Xiaoli Dong, Guang Yao Feng, Shaojun Fu, Hui Gao, Yilin Hong, Ge Li, Yu Xiong Li, Lei Shang, Liu Si Sheng, Yang Cao Tian, Xiang Qi Wang, Yong Wang, Wei Wei, Yun Wu Zhang, Hong Jun Zhou (National Synchrotron Radiation Lab)*

**FOAA012 Compact 200-KeV Electron Beam Systems**

*Vitaly Pirozhenko (BioSterile Technology, Inc.), Alexandre N. Korolev, Karl G. Simonov (Istok, Frjazino, Russia)*

**Session FOAB: Two-Stream Instabilities and  
Collective Processes (1 of 2)**  
Grand Ballroom (Session B) at 8:30  
Session Chairs: P. Colestock and T. Raubenheimer

**FOAB001 The Electron Cloud Instability: Summary of  
Measurements and Understanding (Invited)**

*Frank Zimmermann (CERN)*

**FOAB002 Survey of Recent Results on Electron Cloud  
Effects in Photon Machines (Invited)**

*Katherine Harkay (Argonne National Laboratory)*

**FOAB003 Experiment on Measuring the Photoelectron  
Cloud at BEPC**

*Zhiyuan Guo, Hong Huang, Li Ma, Qing Qin, Jiuqing Wang,  
Jun Xing, Gang Xu, Chuang Zhang, Zheng Zhao (Institute of  
High Energy Physics, Beijing), Katherine C. Harkay, Richard  
Rosenberg (Argonne National Laboratory), E. Kikutani, M.  
Tejima (High Energy Accelerator Research Organization)*

**FOAB004 Electron-Cloud Measurements and  
Simulations for the APS**

*Miguel Furman, Mauro Pivi (Lawrence Berkeley National  
Laboratory), Katherine Harkay, Richard Rosenberg (Argonne  
National Laboratory)*

**FOAB005 Electron Cloud Effects in the CERN PS**

*Elias Metral, Roberto Cappi, Massimo Giovannozzi, Gabriel  
Metral, Frank Zimmermann (CERN)*

**FOAB006 The SPS as a Vacuum Test Bench for  
Electron Cloud Studies with LHC Type Beams**

*Jose Miguel Jimenez, Arduini Gianluigi, Weiss Kurt (CERN)*

**Session FOAB: Two-Stream Instabilities and  
Collective Processes (2 of 2)**  
Grand Ballroom (Session B) at 10:40  
Session Chairs: P. Colestock and T. Raubenheimer

**FOAB007 Electron-Proton Two-Stream Instability at  
the PSR (Invited)**

*Robert Macek (Los Alamos National Laboratory)*

**FOAB008 3D Simulation Studies of the Two-Stream  
Instability in Intense Particle Beams Based on the  
Vlasov-Maxwell Equations (Invited)**

*Hong Qin, Ronald C. Davidson, W Wei-li Lee, Edward  
Startsev (Plasma Physics Laboratory, Princeton University)*

**FOAB009 New Results for the Electron-Cloud Effect at the PEP-II Positron Ring**

*Miguel Furman, Mauro Pivi (Lawrence Berkeley National Laboratory), Yunhai Cai, Sam Heifets, John Seeman (Stanford Linear Accelerator Center)*

**FOAB010 3D Simulation of Photoelectron Cloud Instability**

*Wang Lanfa, Fukuma Hitoshi, Ohmi Kazuhito (High Energy Accelerator Research Organization)*

**FOAB011 On Bunched Beam Transverse Electron-Proton Instability**

*Tai-Sen Wang, Paul Channell, Robert Macek (Los Alamos National Laboratory), Ronald Davidson (Princeton University)*

**FOAB012 Simulation Results for the Electron-Cloud Effect at the PSR**

*Miguel Furman, Mauro Pivi (Lawrence Berkeley National Laboratory)*

<p><b>Session FOAC: Extreme Beams</b> <b>Grand Ballroom (Session C) at 8:30</b> <b>Session Chairs: I. Ben-Zvi and J. Nolen</b></p>
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**FOAC001 Production of High Brightness Proton Bunches (Invited)**

*Thomas Roser (Brookhaven National Laboratory)*

**FOAC002 Progress Toward High Energy Electron Cooling (Invited)**

*Sergei Nagaitsev (Fermi National Accelerator Laboratory)*

**FOAC003 The Photoinjector Option for CLIC: Past Experiments and Future Developments**

*Heiko Trautner, Hans Heinrich Braun, Eric Chevallay, Steve Hutchins, Philippe Legros, Guy Suberluq (CERN), Ian N. Ross (Rutherford Appleton Laboratory), Erwin Bente (University of Strathclyde)*

**FOAC004 Generation of Attosecond Electron Bunches**

*Alexander Zholents, Max Zolotarev (Lawrence Berkeley National Laboratory), Weishi Wan (Oak Ridge National Laboratory)*

**FOAC005 Initial Experiments of RF Gas Plasma Source for Heavy Ion Fusion**

*Ahle Larry, Robert Hall, Art Molvik (Lawrence Livermore National Laboratory), Edwin Chacon-Golcher, Joe Kwan, Ka-Ngo Leung, Jani Reijonen (Lawrence Berkeley National Laboratory)*

**FOAC006 Drift Compression of Space Charge Dominated Beams**

*Michiel De Hoon, Edward Lee (Lawrence Berkeley National Laboratory), John Barnard (Lawrence Livermore National Laboratory)*

**Session FOAC: Secondary Beam Factories**

**Grand Ballroom (Session C) at 10:40**

**Session Chairs: M. Craddock and W.-T. Weng**

**FOAC007 A Second Feasibility Study of a Muon Storage Ring Neutrino Factory (Invited)**

*Robert Palmer, Satoshi Ozaki (Brookhaven National Laboratory), Mike Zisman (Lawrence Berkeley National Laboratory)*

**FOAC008 Targets for High-Intensity Particle Production (Invited)**

*Tony Gabriel, John Haines, Tom McManamy, Phil Spampinato (Oak Ridge National Laboratory)*

**FOAC009 Feasibility Study of a Combined Neutron Centre for European Research and Technology**

*Alban Mosnier, Etienne Klein (CE Saclay)*

**FOAC010 Particle Production and Radiation Environment at a Neutrino Factory Target Station**

*Nikolai Mokhov (Fermi National Accelerator Laboratory)*

**FOAC011 Studies of the Front End of a Neutrino Factory**

*William Fawley, Gregory Penn, Andrew Sessler, Jonathan Wurtele (Lawrence Berkeley National Laboratory)*

**FOAC012 Muon Phase-Rotation Using an Induction Linac**

*Lou Reginato, M.A. Green, Simon Yu (Lawrence Berkeley National Laboratory)*

**Session FPAH: Power Supplies, Linacs, Beam  
Cooling and Acceleration**  
Poster Hall at 8:30

**FPAH001 A Method of Measuring Noise and Detecting  
Glitches in Magnet Power Supplies at the APS  
Storage Ring**

*Thomas Fors, John Carwardine, Al Hillman, John Maclean  
(Argonne National Laboratory), Surajit Sarkar (Northeast  
Proton Therapy Center)*

**FPAH002 Magnet Power Supply Reliability at the  
Advanced Photon Source**

*Al Hillman, John Carwardine, Gary Sprau (Argonne National  
Laboratory)*

**FPAH003 RHIC Insertion Region Shunt Power Supply  
Current Errors**

*Donald Bruno, George Ganetis, Robert F. Lambiase, Jon  
Sandberg (Brookhaven National Laboratory)*

**FPAH004 Overview of the RHIC Insertion Region,  
Sextupole, and Snake Power Supply Systems**

*Donald Bruno, Wahfun Eng, George Ganetis, Robert F.  
Lambiase, Jon Sandberg (Brookhaven National Laboratory)*

**FPAH005 Power Supply Control and Monitoring for  
the SNS Ring and Transport System**

*Robert Lambiase, Brian Oerter, Sheng Peng, John Smith  
(Brookhaven National Laboratory)*

**FPAH006 Running the AGS MMPS at 5 HZ, 24 GEV**

*Joannis Marneris, Thomas Roser, Alessandro G. Ruggiero,  
Jon Sandberg (Brookhaven National Laboratory)*

**FPAH007 Optimising the Start-up of a 10Hz Booster  
Power Supply**

*Stephen Griffiths, Paul Dickenson, Robert Smith (Daresbury  
Laboratory)*

**FPAH008 Upgrade of the SRS Klystron Power Supply**

*Andrew Moss, Joseph Counsell, Peter E Gibbins, Robert J  
Smith (Daresbury Laboratory)*

**FPAH009 Proton Driver Power Supply System**

*Cezary Jach, Daniel Wolff (Fermi National Accelerator  
Laboratory)*

**FPAH010 Digitally Controlled SLS Magnet Power  
Supplies**

*Felix Jenni (RIKEN Accelerator Research Facility), Hans  
Ulrich Boksberger, Martin Emmenegger, Mat Horvat,  
Gottfried Irminger, Lukas Tanner (Paul Scherrer Institut)*

**FPAH011 B-Factory Intermediate DC Magnet Power Systems Reliability Modelling and Results**

*Paul Bellomo, Anthony Donaldson, Dave MacNair (Stanford Linear Accelerator Center)*

**FPAH012 The High Performance Switched Mode AC Power Supply**

*Justin Chiou, Yuan-Chen Chien, Chen-Yao Liu, Jeng-Tzong Sheu (Synchrotron Radiation Research Center)*

**FPAH013 Precision Current Monitor System for the Power Supplies at SRRC**

*Justin Chiou, Yuan-Chen Chien, Chen-Yao Liu, Jeng Tzong Sheu (Synchrotron Radiation Research Center)*

**FPAH014 Power Factor Simulation Of Focus Quadrupole DC Power Supply Of White Circuit System With Matlab Simulink**

*Kuo-Bin Liu, Jeng-Tzong Sheu (Synchrotron Radiation Research Center)*

**FPAH015 A 250kW, Four Quadrant Switch Mode Power Converter for the 1.4 GeV PS-Booster Beam Transfer Line at CERN**

*Shashi Dewan (Digital Predictive Systems Inc.), Friedrich Voelker (CERN), Robert Holmes (IE Power Inc.), Klaus Reiniger (TRIUMF), Jiaqi Zeng (University of Toronto)*

**FPAH016 Septa and Kicker Pulsers for the LNL5 500 MeV Booster Synchrotron**

*Antonio Lira, Fábio Arroyo, Eduardo Hayashi (Brazilian Synchrotron Light Laboratory)*

**FPAH017 Power-Supplies for the LNL5 500 MeV Booster Synchrotron**

*Antonio Lira, Glauber Monteiro, Luis Oliveira, Ângelo Silva (Brazilian Synchrotron Light Laboratory)*

**FPAH018 Test Results on a Resonant Power Supply for Synchrotron Ring Magnets**

*Yunxiang Zhang*

**FPAH019 All-Ferrite RHIC Injection Kickers**

*H. Hahn, W. Fischer, J. Tuozzolo (Brookhaven National Laboratory)*

**FPAH020 Beam Coupling Phenomina in Fast Kicker Systems**

*Wu Zhang, Leif Ahrens, Woody Glenn, Jon Sandberg, Nicholaos Tsoupas (Brookhaven National Laboratory)*

**FPAH021 RHIC Beam Abort Kicker Power Supply System Commissioning Experience and Remaining Issues**

*Wu Zhang, Leif Ahrens, Jianlin Mi, Brian Oerter, Jon Sandberg, Ralph Sanders (Brookhaven National Laboratory)*

**FPAH022 A New Conceptual Design of the SNS Full Turn Fast Extraction Kicker Power Supply System**

*Wu Zhang, Robert Lambiase, Jianlin Mi, Chien-IH Pai, Jon Sandberg, Nicholas Tsoupas (Brookhaven National Laboratory)*

**FPAH023 An Efficient Induction Modulator for the Relativistic-Klystron Two-Beam Accelerator**

*Scott Douglass, Terry Godlove, Ernest Zaidman (FM Technologies)*

**FPAH024 A Fast Injection Kicker Magnet for the Tevatron**

*Chris Jensen, Bruce Hanna, Robert Reilly (Fermi National Accelerator Laboratory)*

**FPAH025 A Fast Injection Kicker System for the Tevatron**

*Chris Jensen, Bruce Hanna, Robert Reilly (Fermi National Accelerator Laboratory)*

**FPAH026 A Trio of Modulators for the Fermilab Tevatron Electron Lens Project**

*David Wildman, Vladimir Shiltsev, Nikolay Solyak (Fermi National Accelerator Laboratory), V. Efanov (FID Technology, St. Petersburg, Russia)*

**FPAH027 Pulsed Power System of Linear Induction Accelerator for FNAL Neutrino Factory**

*Vladimir Kazacha, Alexey Sidorov (Joint Institute for Nuclear Research), Yuri Terechkine (Fermi National Accelerator Laboratory)*

**FPAH028 Solid State Klystron Modulator for JLC**

*Mitsuo Akemoto (High Energy Accelerator Research Organization)*

**FPAH029 Induction Synchrotron (2): Induction Accelerating Devices**

*J. Kishiro, K. Takayama (High Energy Accelerator Research Organization), K. Horioka, M. Watanabe (Department of Energy Sciences, Tokyo Institute of Technology)*

**FPAH030 Extraction Kickers and Modulators for the Advanced Hydrodynamic Facility**

*Peter Walstrom (Los Alamos National Laboratory), Edward Cook (Lawrence Livermore National Laboratory)*

**FPAH031 A Solid-State Modulator for High Speed Kickers**

*Jim Watson (Lawrence Livermore National Laboratory)*

**FPAH032 Septum and Kicker Systems for the SLS**

*Christopher Gough, Marco Mailand (Paul Scherrer Institut)*

**FPAH033 The Prototype Solid State Induction Modulator for SLAC NLC**

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*Chris Pappas, Richard Cassel (Stanford Linear Accelerator Center)*

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*Alexey Agafonov (Lebedev Physical Institute [LPI])*

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*Anatoly Dovbnaya, Nikolay Reshetnyak, Victor Romasko, Yury Tur, Valery Zakutin (National Science Centre Kharkov Institute Physics and Technology), Michail Krasnogolovets, Yury Volkolupov (Kharkov Technical University of Radioelectronics)*

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*Ralph Assmann, Willame Coosemans, Gilbert Guignard, Nicholas Leros, Michel Mayoud, Stefano Redaelli, Francesco Ruggiero, Daniel Schulte, Andre Verdier, Ian Wilson, Frank Zimmermann (CERN)*

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*Philippe Royer, Roberto Corsini, Arnaud Ferrari, Louis Rinolfi, Thys Risselada, Frank Tecker (CERN)*

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*Masakazu Yoshioka, H. Matsumoto, Shigeru Takeda, Yasunori Takeuchi (High Energy Accelerator Research Organization)*

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*Andrzej Wolski, John Corlett, Hiroshi Nishimura (Lawrence Berkeley National Laboratory), Tor Raubenheimer, Marc Ross (Stanford Linear Accelerator Center)*

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*Jeff Gronberg, David Asner, Steve Boege, Jim Early, Ken Skulina, Karl van Bibber (Lawrence Livermore National Laboratory), Tom Markiewicz (Stanford Linear Accelerator Center)*

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*Yuri Batygin, Vinod Bharadwaj, David Schultz, John Sheppard (Stanford Linear Accelerator Center)*

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*Valery Dolgashev, Sami Tantawi (Stanford Linear Accelerator Center)*

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*Roger Jones, Zhenghai Li, Roger Miller, Tor Raubenheimer, Juwen Wang (Stanford Linear Accelerator Center), Toshiyasu Higo (High Energy Accelerator Research Organization), Norman Kroll (UCSD & SLAC)*

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*Roger Jones, Roger Miller, Juwen Wang (Stanford Linear Accelerator Center), Toshiyasu Higo (High Energy Accelerator Research Organization), Norman Kroll (UCSD & SLAC)*

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*Zenghai Li, Karl L. Bane, Roger H. Miller, Tor O. Raubenheimer, Ronald D. Ruth, Juwen Wang (Stanford Linear Accelerator Center)*

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*Roger Miller, C. Adolphsen, G. Bowden, V. Dolgashev, R.M. Jones, N. Kroll, Z. Li, R. Loewen, C. Ng, C. Pearson, T.O. Raubenheimer, R. Ruth, S. Tantawi, J.W. Wang (Stanford Linear Accelerator Center)*

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*Christopher Nantista (Stanford Linear Accelerator Center)*

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*Yuri Nosochkov, Tor Raubenheimer (Stanford Linear Accelerator Center)*

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*Yuri Nosochkov, Kathy Thompson (Stanford Linear Accelerator Center)*

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*John Sheppard, S. D. Anderson, Y. Batygin, V. Bharadwaj, J. E. Clendenin, P. Emma, K. S. Fant, Z. Li, B. McKee, M. H. Munro, C. D. Nantista, N. Phinney, C. E. Rago, T. O. Raubenheimer, M. C. Ross, C. M. Spencer, M. D. Woodley (Stanford Linear Accelerator Center), J. N. Corlett, A. Wolski (Lawrence Berkeley National Laboratory), D. P. Atkinson, W. Stein, A. Sunwoo, K. van Bibber (Lawrence Livermore National Laboratory)*

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*Peter Tenenbaum, Linda Hendrickson (Stanford Linear Accelerator Center)*

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*Peter Tenenbaum, Paul Emma, Lew Keller, Yuri Nosochkov, Tor O. Raubenheimer, Mark Woodley (Stanford Linear Accelerator Center)*

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*Oleg Nezhevenko, Jay L. Hirshfield, Sergey V. Schelkunoff, Vyacheslav P. Yakovlev (Omega-P, Inc.), Boris Z. Persov, Gennady V. Serdobintsev (Budker Institute of Nuclear Physics)*

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*Alan Todd, Hans Bluem (Advanced Energy Systems), Courtlandt Bohn (Fermi National Accelerator Laboratory)*

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*Alexei Smirnov, Luo Yan, David Yu (DULY Research Inc.)*

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*David Yu (DULY Research Inc.), Hans Braun, Steffen Doebert (CERN), Heino Henke (Technical University of Berlin)*

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*Chun-xi Wang, Kwang-Je Kim (Argonne National Laboratory)*

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*Juan Gallardo, Richard Fernow, Robert Palmer (Brookhaven National Laboratory), Paul Lebrun (Fermi National Accelerator Laboratory)*

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*Ming Xie (Lawrence Berkeley National Laboratory)*

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*Ming Xie (Lawrence Berkeley National Laboratory)*

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*Yasuo Fukui (University of California, Los Angeles), Robert Palmer (Brookhaven National Laboratory)*

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*Gerald D. Alton, J. R. Beene, J. Liang (Oak Ridge National Laboratory)*

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*Eugene Bulyak (Kharkov Institute of Physics and Technology)*

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*Daniel Kaplan, Edgar Black, Kevin Cassel (Illinois Institute of Technology), Mary Anne Cummings (Northern Illinois University), Yoshitaka Kuno (Osaka University), Donald Summers (University of Mississippi)*

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*Jinhyung Lee, John Cary (Center for Integrated Plasma Studies, University of Colorado at Boulder)*

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*Gregg Penn, Jonathan Wurtele (University of California, Berkeley)*

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*Masao Takanaka (The Institute of Physical and Chemical Research [RIKEN])*

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*Nicolas Pichoff, Didier Uriot (CE Saclay), Yourij Senichev (Forschungszentrum Jülich)*

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*Donald Young, Vadim Dudnikov, Milorad Popovic, Charles W. Schmidt, Ding Sun (Fermi National Accelerator Laboratory)*

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*Yujiro Ogawa (High Energy Accelerator Research Organization)*

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*Lawrence Rybarcyk, Paul Leslie, Richard Wood (Los Alamos National Laboratory), Michael Cole (Advanced Energy Systems), James Potter (JP Accelerator Works)*

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*John Staples, R. Gough, M. Hoff, R. Keller, K. Kennedy, R. MacGill, J. Staples, S. Virostek, R. Yourd (Lawrence Berkeley National Laboratory)*

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*Holger Podlech, Dimitri Gorelov, Jong-Won Kim, Felix Marti, Richard York (National Superconducting Cyclotron Laboratory), Oliver Engels (LMU Munich)*

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*Franz-Josef Decker, Z. D. Farkas, T. Fieguth, R. Iverson, H. Smith, M. Stanek, J. Turner, M. Woodley, M. Woods (Stanford Linear Accelerator Center)*

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*Robert Laxdal, Gerardo Dutto, Ken Fong, George Mackenzie, Matteo Pasini, Roger Poirier, Roman Ruegg (TRIUMF)*

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*Henning Bongers, Stephan Emhofer, Dietrich Habs, Oliver Kester, Thomas Sieber (LMU München), Ulrich Ratzinger, Alwin Schempp (IAP Frankfurt/Main)*

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*Alain France, François Simoens (CEA-Saclay, DSM-DAPNIA-SEA)*

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*Jacob Haimson, Beverly Mecklenburg, Glenn Stowell (Haimson Research Corporation)*

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*Anatoly Pashenkov (Institute for Nuclear Research, Moscow)*

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*Robert von Hahn, Manfred Grieser, Roland Repnow, Dirk Schwalm (Max-Planck-Institut für Kernphysik), Holger Podlech (Michigan State University)*

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*Manoel Conde, Wei Gai, Richard Konecny, John Power, Paul Schoessow, Xiang Sun (Argonne National Laboratory)*

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*Wei Gai, J. G. Power (Argonne National Laboratory)*

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*Wei Gai, Xiang Sun (Argonne National Laboratory)*

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*Wei Gai, Xiang Sun, Liling Xiao (Argonne National Laboratory)*

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*Nasr Hafz (American Physical Society), Roy Hemker (University of California, Los Angeles), Tetsuya Kobayashi, Kei Nakamura, Hiroyuki Okuda, Tohru Ueda, Mitsuru Uesaka, Takahiro Watanabe, Koji Yoshii (University of Tokyo)*

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*Ronald Williams (American Physical Society)*

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*Steven Russell, Bruce E. Carlsten, Jeffrey D. Goettee (Los Alamos National Laboratory)*

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*B.A. Shadwick, E. H. Esarey, Gwenael J Fubiani, W. P. Leemans (Lawrence Berkeley National Laboratory), G. M. Tarkenton (Institute for Advanced Physics)*

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*Frederic Hartemann (Lawrence Livermore National Laboratory)*

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*Adolf Dzergatch (Moscow Radiotechnical Institute)*

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*Steven Gold (Naval Research Laboratory), Wei Gai (Argonne National Laboratory)*

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*Daniel Gordon, Bahman Hafizi, Richard Hubbard, Joe Penano, Phillip Sprangle (Naval Research Laboratory)*

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*Richard Hubbard, Ted Jones, Christopher Moore, Phillip Sprangle, Antonio Ting (Naval Research Laboratory), P. Mora (Ecole Polytechnique), Dmitri Kaganovich, Arie Zigler (Hebrew University), Bahman Hafizi (Icarus Research, Inc.), Joseph Penano (Leading Edge Technologies), Daniel Gordon (NRC/NRL Research Associate), Thomas Antonsen (University of Maryland)*

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*Chan Joshi, Chris Clayton, Catalin Filip, Chan Joshi, Ken Marsh, Ritesh Narang, Sergei Tochitsky (University of California, Los Angeles)*

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*Chan Joshi, Brent Blue, Chris Clayton, Evan Dodd, Chan Joshi, Ken Marsh, Warren Mori (University of California, Los Angeles), Ralph Assmann (CERN), F-J. Decker, M. J. Hogan, R. H. Iverson, P. Raimondi, R. H. Siemann, D. Walz (Stanford Linear Accelerator Center), Thomas Katsouleas, Seung Lee, Patrick Muggli (University of Southern California)*

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*Warren Mori, Viktor Decyk, Evan S. Dodd, Warren B. Mori, Chuang Ren (University of California, Los Angeles), Tom Katsouleas (University of Southern California)*

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*Pietro Musumeci, Claudio Pellegrini, James Rosenzweig (University of California, Los Angeles), Alexander Varfolomeev (Kurchatov Institute)*

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*Chuang Ren, Viktor Decyk, Evan Dodd, Chengkun Huang, Warren Mori (University of California, Los Angeles), Tom Katsouleas, Seung Lee (University of Southern California), Roy Hemker (University of Tokyo)*

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*Hyyong Suk, N. Barov, J. England, J. Rosenzweig, M. Thompson (University of California, Los Angeles), E. Esarey (Lawrence Berkeley National Laboratory)*

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*Matthew Thompson, Chris Clayton, Joel England, James Rosenzweig, Hyyong Suk (University of California, Los Angeles)*

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*Yuri Alekseev, A.M. Gorokhov, D.S. Kulida, V.I. Shvedunov, A. Vetrov, D.A. Zayarniy (World Physics Technologies)*

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*Jyan-Min Fang, Tom Marshall (Columbia University), Jay Hirshfield, Michael LaPointe (Omega-P, Inc. and Yale University)*

**FPAH149 Simulations of Electron Injection into Plasma Wake Fields by Colliding Laser Pulses Using XOOPIC**

*Rodolfo Giacone, John Cary (CIPS - University of Colorado), Eric Esarey, Wim Leemans (Lawrence Berkeley National Laboratory), David Bruhwiler (Tech X Corporation), Peter Mardahl, John Verboncoeur (University of California at Berkeley)*

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*Bahman Hafizi (Icarus Research, Inc.)*

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*Jerzy Hoffman, Brent Blue, Matt Espiau, Chan Joshi, Ken Marsh, Patric Muggli (Betadot)*

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*Vyacheslav Karas, V.A. Balakirev, I.V. Karas (National Science Center)*

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*Tom Katsouleas, Seung Lee (University of Southern California), Roy Hemker, Warren Mori (University of California, Los Angeles)*

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*Tom Katsouleas, Seung Lee (University of Southern California), Warren Mori, Frank Tsung (University of California, Los Angeles)*

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*Raul Mainardi (University of Córdoba)*

**FPAH156 Propagation of Laser Pulses in Gases Undergoing Ionization**

*Joseph Penano (Leading Edge Technologies), Bahman Hafizi (Icarus Research Inc.), Dan Gordon (National Research Council), Richard Hubbard, Phillip Sprangle (Naval Research Laboratory)*

**FPAH157 High-Gradient Accelerator Based on a Superlight Source of Radiation**

*Peter Petrov, Yuri Lazarev (All-Russia Research Institute of Technical Physics, Russian Federal Nuclear Center)*

**FPAH158 Low-Divergence Laser-Plasma-Based Electron Beams**

*N. Saleh, S.-Y. Chen, A. Maksimchuk, D. Umstadter, X. Wang, P. Zhang (University of Michigan), R. Crowell (Argonne National Laboratory), K. Assamagan, P. Gueye, C. Keppel (Hampton University)*

**FPAH159 New Regime of TeV-Range Laser Ponderomotive Acceleration**

*Igor Smetanin (P. N. Lebedev Physics Institute & High Energy Accelerator Research Organization (KEK)), K. Nakajima (High Energy Accelerator Research Organization), C. Barnes (Stanford Linear Accelerator Center)*

**FPAH160 Laser Acceleration in a Striped Mirror Waveguide**

*Alexei Smirnov, David Yu (DULY Research Inc.)*

**FPAH161 Optimization of Photon Colliders by Self-Modulated Relativistic Electron Beam and a Running 1D Electron Quasicrystal During Coherent Non-Stationary Electron Interference**

*Vysotskii Vladimir (Kiev Shevchenko University)*

**FPAH162 The Phenomenon of Collective Instability and Surface Super-Absorption During Motion of Subrelativistic Oscillating Electrons Produced and Accelerated on Oriented Crystal Surface by Laser Impulse**

*Vysotskii Vladimir (Radiophysical Faculty, Kiev Shevchenko University)*

**FPAH163 The Problem of Creation and Application of Focussing Traveling Electron Micro-Accelerator in Gas Jet by Action an Annular Femtosecond Laser Pulse**

*Vysotskii Vladimir (Radiophysical Faculty, Kiev Shevchenko University)*

**FPAH164 Creation of Narrow Femtosecond Sheet-Like Bunches for Optical-Scale Dielectric-Slab Accelerator Structures**

*Changbiao Wang (Yale University), Tom Marshall (Columbia University), Jay Hirshfield (Omega-P, Inc. and Yale University)*

**FPAH301 Study of the White Circuit Tracking Performance in the Booster Synchrotron of SRRC**

*Chin-Shen Chen, Jenny Chen, Kuo-Tung Hsu, Chang-Hor Kuo, Chii-Chung Wang (Synchrotron Radiation Research Center)*

**FPAH302 Ferrite PFN Nanosecond Pulse Generators**

*Yuri Matveev, Vladimir Korchuganov, Dmitriy Shvedov (Budker Institute of Nuclear Physics)*

**FPAH303 Construction of Traveling Wave Type Kicker Magnet and Pulse Power Supply for the KEK- Photon Factory Storage Ring**

*Akira Ueda, Toshiyuki Mitsuhashi (High Energy Accelerator Research Organization), Toshiro Ushiku (IDXcorporation)*

**FPAH304 High Repetition Beam Kicker with IGBT Switching Modules**

*Shirakabe Yoshihisa, Yoshihiro Ishi, Yoshiharu Mori, Masayuki Muto, Akira Takagi (High Energy Accelerator Research Organization)*

**FPAH305 Test Results of a Fast Beam Chopper with MA Cores**

*Shirakabe Yoshihisa, Yoshiharu Mori, Masayuki Muto, Chihiro Ohmori, Akira Takagi, Satoshi Yamaguchi (High Energy Accelerator Research Organization)*

**FPAH306 New Injection Kicker Modulators for HLS Ring**

*Lei Shang (National Synchrotron Radiation Lab)*

**FPAH307 Modulator Systems for the ESS 2.5 MeV Fast Chopper**

*Michael Clarke-Gayther (Rutherford Appleton Laboratory)*

**FPAH308 Damping Rings for CLIC**

*John Jowett, Thys Risselada, Frank Zimmermann (CERN), Hywel Owen (Daresbury Laboratory)*

**FPAH309 Failure Modes at CLIC**

*Frank Zimmermann, Daniel Schulte (CERN)*

**FPAH310 Overview of the CLIC Collimation Design**

*Frank Zimmermann, Helmut Burkhardt, Stephane Fartoukh, Jean Bernard Jeanneret, Julien Pancin (CERN), Heinz-Juergen Schreiber (Deutsches Elektron Synchrotron)*

**FPAH311 Beam Dynamics Studies for a CTF3 Injector Proposal**

*Feng Zhou, David Cline (University of California, Los Angeles)*

**FPAH312 Holographic Cooling of Muons**

*Alexander Mikhailichenko (Cornell University)*

**FPAH313 New Concept for Acceleration of Slow, Low-Charge-State Heavy Ion Beams**

*Petr Ostroumov (Argonne National Laboratory), Andrei Kolomiets (Institute for Theoretical and Experimental Physics, Moscow)*

**FPAH314 Design of a Post Accelerator for Rare Isotope Accelerator Facility**

*Petr Ostroumov, Jerry Nolen, Richard Pardo, Kenneth Shepard (Argonne National Laboratory), Andrei Kolomiets (Institute for Theoretical and Experimental Physics, Moscow)*

**FPAH315 Beam Orbit Tuning at KEKB Linac**

*Yukiyoshi Ohnishi, Takuya Kamitani (High Energy Accelerator Research Organization)*

**FPAH316 Present Status and Beam Stability Issues of the KEKB Injector Linac**

*Tsuyoshi Suwada, Nobumasa Akasaka, Atsushi Enomoto, John Flanagan, Hitoshi Fukuma, Yoshihiro Funakoshi, Kazuro Furukawa, Takao Ieiri, Naoko Iida, Takuya Kamitani, Mitsuo Kikuchi, Haruyo Koiso, Toshihiro Matsumoto, Tatsuro Nakamura, Yujiro Ogawa, Yukiyoshi Ohnishi, Satoshi Ohsawa, Katsunobu Oide, Kotaro Satoh, Masaaki Suetake (High Energy Accelerator Research Organization)*

**FPAH317 Superconducting Driver Linac Beam Dynamic Optimization for RIA**

*Dmitry Gorelov, Jong-Won Kim, Felix Marti, Holger Podlech, Richard York (National Superconducting Cyclotron Laboratory)*

**FPAH318 X-Band Travelling Wave Accelerator Structure R&D at NSRL**

*Kai Jin, Sai Dong, Guirong Huang, Dachun Jia, Daoman Jiang, Yuzhu Liu, Yanji Pei, Houdong Yin (National Synchrotron Radiation Lab)*

**FPAH319 Longitudinal Tune-up of SNS Normal Conducting Linac**

*Dong-o Jeon (Oak Ridge National Laboratory), Subrata Nath, James Stovall, Harunori Takeda (Los Alamos National Laboratory)*

**FPAH320 Electromagnetic Properties of Transformer Storage Accelerator Structure**

*Edmond Gazazyan, Michael Ivanyan, Vasili Tsakanov (Yerevan Physics Institute), Marianna Khachatryan (Yerevan State University)*

**FPAH321 Linear Ion Accelerator of Medium Energy with a Ballistic Anode**

*Vladimir Gorev (RRC)*

**FPAH322 Coherent Interaction of the Relativistic Electron Beam with the Plasma and High-Gradient Accelerating Fields Generation**

*Garegin Oksuzyan (Yerevan Physics Institute), Michael Ivanyan, Ashot Vardanyan (Yerevan Physics Institute)*

**FPAH323 Cherenkov Radiation Intensity in the Waveguide Taking into Account Dielectric Losses**

*Ashot Vardanyan (Yerevan Physics Institute), Amalia Ter-Pogossyan (Yerevan Physics Institute)*

**Session FOPL: Closing Plenary Session**  
**Grand Ballroom at 13:30**  
**Session Chair: Y. Cho**

**FOPL001 Particle Physics - Future Directions (Invited)**

*Chris Quigg (Fermi National Accelerator Laboratory)*

**FOPL002 Nuclear Physics - Future Directions (Invited)**

*Walter Henning (Gesellschaft für Schwerionenforschung mbH)*

**FOPL003 Terascale Computing for 21st Century  
Accelerator Science and Technology (Invited)**

*Robert Ryne (Lawrence Berkeley National Laboratory)*