29th ICFA Advanced Beam Dynamics Workshop: Beam Halo Dynamics, Diagnostics, and Collimation (HALO'03)

(in conjunction with the 3rd workshop on Beam-beam Interactions)

(Second Announcement)

General Information

The 29th ICFA Advanced Beam Dynamics Workshop on Beam Halo Dynamics, Diagnostics, and Collimation, in conjunction with the 3rd Workshop on Beam-Beam Interactions, will be held during the week of **May 19–23, 2003** (immediately following the week of the 2003 US Particle Accelerator Conference), at Gurney's Inn, located at the eastern end of Long Island, New York, approximately 100 km from Brookhaven National Laboratory. There will be three working groups: *halo dynamics* (e.g., space charge, magnetic nonlinearities, resonance excitation, beam-beam, intra-beam scattering, instabilities and electron cloud, noise and diffusion processes, analytical and simulation techniques), *halo diagnostics* (e.g., diagnostics requirements, instrumentation design and performance, machine protection, experimental machine studies), and *halo collimation* (e.g., lattice design, betatron and momentum collimation design, scraper and collimator design, material tests, machine tests). We intend to publish both the plenary and contributed papers as American Institute of Physics (AIP) Proceedings.

Details of the HALO'03 workshop appear on the web at
http://www.sns.bnl.gov/halo03
Details of the Beam-beam'03 workshop appear on the web at
http://www.rhichome.bnl.gov/AP/BeamBeam/Workshop03
Some general information of the Gurney's Inn is on the web at
http://www.gurneys-inn.com/Welcome.htm

Important Dates

March 10, 2003:	Abstract Submission Deadline
April 10, 2003:	Early Registration and Workshop Hotel Reservation Deadline
May 19 – 23, 2003:	HALO'03 workshop and Beam-Beam workshop
June 30, 2003:	Paper Submission Deadline

Workshop Organization

The four-day workshop is planned in 14 sessions. All three working groups of the HALO'03 workshop and the Beam-Beam workshop share five plenary sessions. Nine parallel sessions, organized independently by the chairs of each working group, also include joint sessions between various working groups.

Time	Monday	Tuesday	Wednesday	Thursday	Friday
Morning I		Plenary (A)	Plenary (E) WG Reports	Plenary (I) WG Reports	WG Discussion / Summary draft (M)
Morning II		Plenary (B)	Parallel (F)	Parallel (J)	Summary (N)
	Lunch	Lunch	Lunch	Lunch	Lunch
Afternoon I		Parallel (C)	Parallel (G)	Parallel (K)	Adjourn
Afternoon II		Parallel (D)	Parallel (H)	Parallel (L)	
Evening	Reception	Dinner	Dinner	Dinner	

The working group chairs are:

1) HALO'03 Beam dynamics: I. Hofmann (GSI), A. Fedotov (BNL)
2) HALO'03 Diagnostics: H. Schmickler (CERN), P. Cameron (BNL)
3) HALO'03 Collimation: N. Mokhov (FNAL), A. Drees (BNL)
4) Beam-Beam: Y. Cai (SLAC), T. Sen (FNAL)

Invited talks (tentative) and contributed talks

Workshop talks are grouped in three categories: invited plenary, invited parallel, and contributed talks. All potential speakers must submit their abstract by **March 10, 2003** to be considered by the program committee. The invited speakers are tentatively listed below.

Plenary:

C. Prior (RAL), Overview of space-charge simulations
A. Fedotov (BNL), Mechanisms of halo formation
(TBD)Experimental observation of emittance growth and beam loss at CERN
T. Shea (ORNL), Motivation and Requirements for Halo Diagnostics
(TBD) Overview of Halo Measurement and Prevention Diagnostics
N. Mokhov (FNAL), Beam collimation at hadron colliders
J. Wei (BNL), Collimation issues at high power proton machines
T. Raubenheimer (SLAC), Lepton linear collider halo and collimation issues
(TBD) Collimation at lepton-hadron and lepton-lepton circular colliders
F. Zimmermann (CERN), Halo formation from beam-beam interaction

HALO'03 Beam Dynamics (Parallel):

(TBD) Low halo design of accelerators
M. Giovannozzi (CERN), Dynamic aperture
Danilov/Holmes (ORNL), Transverse instability, halo theory & Simulation
G. Franchetti (GSI), Resonance diffusion halo and loss in rings – simulation and observations
N. Pichoff (CEA), Halo studies at CEA
R. Kishesk (UMCP), Halo studies at UMCP
I. Hofmann (GSI), Self-consistent space charge & halo issues
J.M. Lagniel (CEA), Equipartition and emittance exchange
J. Qiang (LBNL), Systematic mismatched induced halo study
D. Jeon (ORNL), Halo formation in SNS linac
S. Machida/Takayama (KEK), Simulations of beam halo at KEK

F. Gerik (RAL), Halo studies for CERN-SPL and ESS linacs
K. Yokoya (KEK), Beam-beam simulation
T. Wangler (LANL), Experimental Halo studies at LEDA
S. Ivanov (IHEP), RF noise and longitudinal halo
S. Igarashi (KEK), KEK halo observation

HALO'03 Beam Diagnostics (Parallel):

D. Gilpatrick (LANL), Transverse profile and halo measurements at LANL
E. Bravin (CERN), Dynamic range of transverse and longitudinal profile measurements for the LHC
K. Wittenburg (DESY), Beam tail measurements by wire scanners
M. Ross (SLAC), Transverse profile and tail measurements at SLAC
(TBD) NLC halo diagnostics
H. Burkhardt (CERN), Collimator wire scans at LEP
(TBD) Transverse profile and tail measurements at FNAL
A. Marchioni (?) (FNAL), NuMi tails measurement
P. Forck (?) (GSI) Scintillator-based Halo Detector
D. Gassner (BNL), Scintillator telescope in the AGS extracted beamline
Dave Gassner (BNL), SNS longitudinal and transverse halo measurement
R. Connolly (BNL), IPM measurement of beam halo
S. Assadi (ORNL), Laser wire measurements
(TBD) Vibrating wire halo measurements
(TBD) AP wish list for halo measurement and prevention diagnostics
Joint session of Beam dynamics WG and Diagnostics WG
(TBD) Diagnostics for resonance compensation
(TBD) Quadrupole BTF measurements in RHIC
(TBD) Schottky and BTF measurements
(TBD) Instabilities diagnostics – time and frequency domain
(TBD) Matching diagnostics
(TBD) Electron Cloud Diagnostics
(TBD, SLAC) The tilt BPM
F. Caspers (CERN), Halo cooling at LHC
A. Zholents (?) (LBNL), Halo confinement using optical stochastic cooling
C. Montag (BNL), RHIC beam tail shaping by tune modulation
Joint session of Beam-Beam and Diagnostics WG
(TBD) Beam-Beam Dynamics for Diagnosticians
(TBD) AP Wish List for Beam-Beam Diagnostics
Joint session of Collimation WG and Diagnostics WG

HALO'03 Beam Collimation (Parallel):

D. Kaltchev (TRIUMF), Betatron and momentum collimation (TBC)
P. Tenenbaum (SLAC), Collimator wakefields: theory and experiment
E. Prebys / R. Webber (FNAL), Fermilab Booster collimation
D. Still (FNAL), Tevatron experience (TBC soon)
R. Schmidt / R. Assmann, CERN experience (TBC in January)
A. Drees (BNL), RHIC experience
P. Colestock (LANL), Halo and collimation issues at proton linacs
N. Nakao (KEK), MARS14 collimation and shielding studies for the 3 GeV ring of J-PARC project

S. Machida / M. Tomizawa (KEK), J-PARC collimation at 50 GeV
C. Warsop (RAL), Beam loss control on the ISIS Synchrotron: simulations,
experiments and upgrades
N. Catalan-Lasheras (CERN), Collimation benchmarking studies at SPS and U-70
R. Assmann / J.B. Jeanneret (CERN), LHC collimation system (TBC in January)
I. Rakhno et al (FNAL), LHC machine and detector protection at beam accidents
M. Kostin (FNAL) Simulation aspects
A. Drozhdin (FNAL), Detailed analysis of collimation system
performance for NLC, TESLA and CLIC
F. Zimmermann (CERN), Collimation for CLIC
T. Maruyama (SLAC), GEANT3 simulation of the NLC collimation system
G. Blair (CERN), GEANT4 simulations
L. Keller (SLAC), Dealing with muons
H. Schlarb (DESY/SLAC), Design and Performance of the Tesla Test Facility
(TTF) Collimation System (TBC)
A. Seryi (SLAC), Nonlinear optics for collimation
R. Fliller (Stony Brook), Crystal collimation
J. Frish (SLAC), Renewable and consumable collimator technology
H. Ludewig (BNL), SNS collimator and shielding design
N. Simos (BNL), Thermal, stress, mechanical, alignment and control issues
G. Murdoch (ORNL), Shielding, hands-on maintenance and safety aspects
(TBD) Heavy-ion collimation
(TBD) B-factories
(TBD) Collimation issues at muon colliders

Beam-Beam (Parallel):

Y. Alexahin (FNAL), Coherent beam-beam effects, theory and observations
V. Shiltsev (FNAL), Beam-beam compensation with electron lenses
J.-P. Koutchouk (CERN), Beam-beam compensation with wires
K. Ohmi (KEK), Operation with large crossing angles
J. Rogers (Cornell), Beam-beam simulations for lepton machines
W. Herr (CERN), Beam-beam simulations for hadron machines

Registration and Hotel Reservation

Both HALO'03 and the Beam-Beam workshop will be held at Gurney's Inn, located on the oceanfront in Montauk at the eastern end of Long Island. In order to benefit from the low conference rate for accommodations, we recommend participants to register and reserve lodging at the same time at the web site
http://www.sns.bnl.gov/halo03
before **April 10, 2003.** The nominal registration fee of $495 (before the early-registration deadline) covers all conference sessions, hotel facility use, (additional fees for single occupancy), and a copy of workshop proceedings from the AIP publications. During the workshop,

the daily lodging rate is $171.10 per day, covering both the hotel room and three daily meals. Other options are available (see the web site for details).

Travel Information

• Airports serving Long Island. The closest is Islip McArthur Airport, however it tends not to be a direct route especially for visitors from outside of the United States. Both Kennedy and La Guardia International Airports are recommended. The Newark International Airport is not recommended due to its location and greater distance from the conference.
• Transportation to and from the airports may be booked through the following services:

"CRESTWOOD" Limousine Service - (631) 399-5196, (516) 457-6124, (631) 373-2820.

CD Limo is available by e-mailing CDLimo@aol.com or calling 1-800-357-4232.

Also available are Classic Transportation and Winston Transportation.

• Hotel information: +1 (631)-668-2345 (phone)
or http://www.gurneys-inn.com/Welcome.htm

Proceedings

Conference proceedings containing all invited and contributed papers will be published in book form with the American Institute of Physics (AIP). The deadline for receiving your written contribution at BNL is **June 30, 2003.**

Papers for plenary sessions have a page limit of 6 pages.

Papers for parallel sessions have a page limit of 4 pages.

Camera-ready manuscripts may be submitted either in Latex or MS-word. The instruction booklet for authors as well as Microsoft Word templates and LaTeX macros are available at the AIP web site at

http://proceedings.aip.org/proceedings.

They can be downloaded and will aid the authors the preparation of their papers in camera-ready form. Please be sure to select all templates and instructions for the correct format, which should be the 8 1/2 x 11 Double Column format.

We have attached here .pdf files of the AIP forms you will need.

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These have been customized for the HALO'03 Workshop.

Each paper must be submitted together with a signed Transfer of Copyright form.

In order to expedite our editing and potential problem solving, we appreciate your sending us the source files and figures (Latex (.tex and .eps) or MSWord (.doc) files).

The AIP has provided an MS Word template that foreign authors would use for A4 size paper.
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