

52<sup>nd</sup> ICFA Advanced Beam Dynamics Workshop on  
High-Intensity and High-Brightness Hadron Beams

(HB2012)

September 17 to 21, 2012, Beijing

Agenda

Sunday (09-16)

14:00-19:00	Registration	Lobby
18:30-20:30	Welcome reception	Ballroom

**Monday (9-17)**

Venue: Ballroom

8:45-8:55	J.Y. Tang	Opening remarks
8:55-9:10	J.Q. Wang	Welcome address
MOI1A (Chair: J.Q. Wang, IHEP)		
	Speaker	Title
9:10-9:45	R. Schmidt, CERN	LHC - challenges in handling beams exceeding 100 MJ
9:45-10:20	K. Yamamoto, J-PARC	J-PARC Recovery Status
10:20-10:50	Coffee break	
MOI1B (Chair: W.T. Weng, BNL)		
10:50-11:25	O. Kester, GSI	High Intensity Issues at FAIR
11:25-12:00	Y. Yamazaki, MSU	Technological Challenges for High-Intensity Proton Rings
12:00-12:35	V. Lebedev, FNAL	Technical Challenges in Multi-MW Proton linacs
12:35-14:30	Lunch	Solid Dinning
MOI1C (Chair: W. Chou, FNAL)		
14:30-15:05	S.N. Fu, IHEP	Intense-Beam Issues in CSNS and C-ADS Accelerators
15:05-15:40	I. Hofmann, GSI	Challenges in Benchmarking of Simulation Codes against real High Intensity Accelerators
15:40-16:15	M. Plum, ORNL	Beam Loss Mechanisms in High Intensity Facilities
16:15-16:40	Coffee break	
MOP2		
16:40-18:00	Poster Session (~60)	Meeting Room 2

## Tuesday (9-18)

		Ballroom			Meeting Room 3
8:45-9:00		Announcement			Announcement
TU01A	WG-A (Chair: G. Franchetti, GSI)		TU03A	WG-B+C Joint Session (Chair: D. Raparia, BNL)	
9:00-9:20	S. Gilardoni, CERN	The high intensity/high brightness upgrade program at CERN: status and challenges		I. Hofmann, GSI	Dynamical aspects of emittance coupling in intense beams
9:20-9:40	O.Boine-Frankenheim, GSI	Status of collective effects at GSI		S. Montesano, CERN	Status and Results of the UA9 Crystal Collimation Experiment at the CERN-SPS
9:40-10:00	T. Planche, TRIUMF	Space charge effects in isochronous FFAGs and cyclotrons		J.M. Lagniel, GANIL (30 min)	Discussion oriented talk: Equipartition, reality or swindle ?
10:00-10:20	H. Okamoto, J-PARC	Plasma traps for space charge studies: Status and perspectives (only on Tuesday)			
10:20-10:50	Coffee break				
TU01B	WG-A+C Joint Session (Chair: H.W. Zhao, IMP)		TU03B	WG-B (Chair: S.N. Fu, IHEP)	
10:50-11:10	J. Holmes, SNS	Beam Loss Due to Foil Scattering in the SNS Accumulator Ring		M. Comunian, INFN	Beam Dynamics design of ESS Warm Linac
11:10-11:30	D. Johnson, FNAL	Injection design for Fermilab Project X		M. Eshraqi, ESS	Beam Dynamics of the ESS Superconducting Linac
11:30-11:50	Y.J. Yuan, IMP	Study of intense beam injection and extraction from ion synchrotrons		J.B. Lallement, CERN	Linac4 beam dynamics and commissioning strategy
11:50-12:10	B. Brown, FNAL	Beam Loss Control for the Fermilab Main Injector		J.Peng, IHEP	Beam dynamics of the CSNS Linac
12:10-12:30	X.-Y.Wu, MSU/FRIB	The Design and Commissioning of the Accelerator System of the Rare Isotope Reaccelerator - ReA3 at Michigan State University		Q. Xing, Tsinghua Uni.	Beam Dynamics of the 13MeV/50mA Proton Linac for the Compact Pulsed Hadron Source at Tsinghua University
12:30-14:00	Lunch	Solid Dinning			

TUO1C	<b>WG-E (Chair: R. Doelling, PSI)</b>		TUO3C	<b>WG-D (Chair: Y. Sato, J-PARC)</b>	
14:00-14:20	W. Blokland, ORNL	Recent developments on High Intensity Beam Diagnostics at SNS		L. Ponce, CERN	Beam losses at LHC and its injector
14:20-14:40	P.K. Saha, J-PARC	Online monitoring system for the waste beam in the 3-GeV RCS of J-PARC		F.G. Garcia, FNAL	FNAL Proton Source High Intensity Operations and Beam Loss Control
14:40-15:00	T.G. Xu, IHEP	The beam diagnostics of CSNS		L. Rybarecyk, LANL	Characterizing and Controlling Beam Losses at the LANSCE Facility
15:00-15:30	Coffee break				
	<b>WG-E (Chair: N. Hayashi, J-PARC)</b>			<b>WG-D (Chair: Y. Sato, J-PARC)</b>	
15:30-15:50	E. Nebot del Busto, CERN	Detection of 'unidentified falling objects' at LHC		M. Plum, ORNL	Beam Loss Mitigation in the Oak Ridge Spallation Neutron Source
15:50-16:10	O. Chorniy, GSI	Measurements and interpretation of the betatron tune spectra of high intensity bunched beam in the SIS 18		S. Wang, IHEP	Beam Commissioning Plan for CSNS Accelerators
16:10-16:30	V. Scarpine, FNAL	Instrumentation Developments and Beam Studies for the Fermilab Proton Improvement Plan Linac Upgrade and New RFQ Front-End		H. Harada, J-PARC	The result of beam commissioning in J-PARC 3-GeV RCS
16:40-18:00	WG-E discussions (Chair: R. Doelling, PSI)			WG-D discussions (Chair: R. Schmidt, CERN)	

### Wednesday (09-19)

		Ballroom			Meeting room 3
8:45-9:00		Announcement			Announcement
WEO1A	WG-A (Chair: E. Metral, CERN)		WEO3A	WG-C (Chair: H.W. Zhao, IMP)	
9:00-9:20	N. Biancacci, CERN	Impedance studies of 2D azimuthally uniform devices for low energy machines		V. Reva, BINP	High energy electron cooling
9:20-9:40	B. Salvant, CERN	LHC impedance model: experience with high intensity operation in the LHC		R. Miyamoto, ESS	Beam loss and collimation in the ESS Linac
9:40-10:00	L. S. Huang, IHEP	Resistive-wall Instability in the CSNS/RCS		D. Reggiani, PSI	Extraction, Transport and Collimation of the PSI 1.3 MW Proton Beam
10:00-10:20	E. Shaposhnikova, CERN	Review of longitudinal instabilities in the SPS and beam dynamics issues with high harmonic RF systems in accelerators		F.G. Garcia, FNAL	Current and Planned High Proton Flux Operations at the FNAL Booster
10:20-10:50	Coffee break				
WEO1B	WG-A (Chair: E. Metral, CERN)		WE03B	WG-B (Chair: P.A.P. Nghiem, CEA-Saclay)	
10:50-11:10	H. Bartosik, CERN	Low gamma transition optics for the SPS: simulation and experimental results for high brightness beams		Q. Zhao, MSU	FRIB Accelerator Beam Dynamics Design and Challenges
11:10-11:30	F. Antoniou, CERN	Optics design optimization for IBS dominated beams		D. Raparia, BNL	Acceleration and Transport of Multi-Charged Ions through EBIS Pre-injector
11:30-11:50	A. Burov, FNAL	Space charge suppression for flat beam		N. Solyak, FNAL	PXIE at FNAL
11:50-12:10	K.Y. Ng, FNAL	Scaling properties of resonance crossing in non-scaling FFAGs		C. Zhang, IAP, Frankfurt	RFQ Beam Dynamics Design for Large Science Facilities and Accelerator-Driven Systems
12:10-12:30	A. Molodtsov, KEK	PTC+ORBIT studies for the CERN LHC Injectors Upgrade project		Z. Yang, IHEP	Using step-like nonlinear magnets for beam uniformization at IFMIF target

12:30-14:00	Lunch	Solid Dinning			
WEO1C	WG-A (Chair: J. Holmes, ORNL)		WEO3C	WG-C (Chair: D. Li, LBNL)	
14:00-14:20	G. Franchetti, GSI	Effect of self-consistency on periodic resonance crossing		B.G. Pine, RAL	Injection and Stripping Foil Studies for a 180 MeV Injection Upgrade at ISIS
14:20-14:40	C. M. Warsop, RAL	Simulation and Measurement of Half Integer Resonance in Coasting Beams in the ISIS Ring, with a summary of some other important high intensity effects		I. Strasik, GSI	Collimation of Ion Beams
14:40-15:00	H. Timko, CERN	Longitudinal Beam Loss Studies of the CERN PS-to-SPS Transfer		G. Stancari, FNAL	Beam halo dynamics and control with hollow electron beams
15:00-15:30					
	WG-A (Chair: J. Holmes, ORNL)			WG-C (Chair: N. Mokhov, FNAL)	
15:30-15:50	M. Yoshii, J-PARC	Acceleration of high-intensity proton beams in the J-PARC synchrotrons		N. Simos, BNL	Long Baseline Neutrino Experiment (LBNE) Target Material Radiation Damage Studies Using Energetic Protons of the Brookhaven Linear Isotope Production (BLIP) Facility
15:50-16:10	R. Kishek, IEEE	Longitudinal Space Charge Phenomena in an Intense Beam in a Ring		N. Mokhov, FNAL	Radiation Effect Modeling at Intensity Frontier: Status and Uncertainties
16:10-16:30	S. Paret, LBNL	Observation and Simulation of Beam-Beam Effects in LHC		M. Tomut, GSI	Understanding Ion Induced Radiation Damage in Target Materials
16:30-18:00	WG-C discussions (Chair: N. Mokhov, FNAL)				
18:00	Leaving for banquet				
18:30	Grand Mansion (Beijing) Restaurant				

Thursday (09-20)

		Ballroom			Meeting room 3
8:45-9:00		Announcement			Announcement
THO1A	WG-A (Chair: G. Franchetti, GSI)		THO3A	WG-B (Chair: I. Hofmann, GSI)	
9:00-9:20	Y. Luo, BNL	Beam-beam effects in RHIC		M. Ikegami, KEK	High intensity aspects of J-PARC linac, including re-commissioning after earthquake
9:20-9:40	S. Yan Xu, IHEP	Effects of Magnetic Field Tracking Errors and Space Charge on Beam Dynamics at CSNS/RCS		Z. Li, IHEP	Beam dynamics of China ADS LINAC
9:40-10:00	J.F. Chen, IHEP	Dual-harmonic acceleration studies at CSNS RCS		N. Chauvin, CEA-Saclay	Simulations and measurements in high intensity LEBT with space charge compensation
10:00-10:20	R. Williamson, RAL	High Intensity Longitudinal Dynamics Studies for an ISIS Injection Upgrade	10:00-10:30	P.A.P. Nghiem, CEA-Saclay	Definition of the beam halo and its consequences
10:20-10:50	Coffee break				
THO1B	WG-A (Chair: G. Franchetti, GSI)		THO3B	WG-C (Chair: D. Li, LBNL)	
10:50-11:10	Y. Zhang, JLAB	A Quest for a Superior Ion Beam for a High Luminosity Electron-Ion Collider		E. Prebys, FNAL	Proton Beam Inter-Bunch Extinction and Extinction Monitoring for the Mu2e Experiment
11:10-11:30	V. Lebedev, FNAL	Test of Optical Stochastic Cooling in Fermilab		A. Facco, INFN/LNL	SRF technology challenge and development
11:30-11:50	K. Ohmi, J-PARC	Measurement of optics errors and space charge effect		R. Kephart, FNAL	SRF cavity research for Project X
11:50-12:10	O.Kozlov, JINR	Space charge effects in the NICA collider ring		Q. Ji, LBNL	Beam Dynamics Studies of H- Beam Chopping in a LEBT for Project X
12:10-12:30	C. Rivetta, SLAC	Broad-band transverse feedback against e-cloud or TMCI: status and plan		L.T. Sun, IMP	Intense High Charge State Heavy Ion Beam Production for the Advanced Accelerators

12:30-14:00	Lunch	Solid Dinning			
THO1C	WG-D (Chair: M. Plum, ORNL)		THO3C	<b>WG-E (Chair: V. Scarpine, FNAL)</b>	
14:00-14:20	M. Seidel, PSI	High Intensity Operation and Controlling Beam Losses in a Cyclotron Based Accelerator		B. Walasek-Hoehne, GSI	Optical Transition Radiation for non-relativistic ion beams
14:20-14:40	C. Warsop, RAL	Beam Loss Control in the ISIS Accelerator Facility		P. Kowina, GSI	Momentum spread determination of linac beams using incoherent components of the bunch signals
14:40-15:00	Stefano Redaelli, CERN	Collimation experience at the LHC		F. Becker, GSI	Profile Monitoring at Targets and in Transport Sections using Beam Induced Fluorescence
15:00-15:30	Coffee break				
	WG-D (Chair: M. Plum, ORNL)			<b>WG-E (Chair: N. Hayashi, J-PARC)</b>	
15:30-15:50	P. Baudrenghien, CERN	Performances and future plans of the LHC RF		T. Maruta, J-PARC	Longitudinal Beam Diagnosis with RF Chopper System
15:50-16:10	Ji-Ho Jang, KAERI	Status and Beam Commissioning Plan of PEFP 100-MeV Proton Linac		E. B. Holzer, CERN	Fiber Based BLM System R&D at CERN
16:10-16:30	Yoichi Sato, KEK	Recent Commissioning of High-Intensity Proton Beams in J-PARC Main Ring		P. A. Duperrex, PSI	On-line calibration schemes for RF-based beam diagnostics
THO1D					
16:50-18:00	WG-A talk & discussions (Chair: J. Holmes, ORNL) J.Qiang, LBNL: Fully 3D long-term simulation of the coupling resonance experiments at the CERN PS			WG-B discussions (Chair: D. Raparia, BNL)	



Friday (09-21)

			Ballroom
	08:45-09:00		Announcement
FRO1A		Chair: C. Zhang, IHEP	
	09:00-09:25		Working group summary WG-A
	09:25-09:50		Working group summary WG-B
	09:50-10:15		Working group summary WG-C
	10:15-10:45	Coffee break	
FRO1B		Chair: C. Zhang, IHEP	
	10:45-11:10		Working group summary WG-D
	11:10-11:35		Working group summary WG-E
	11:35-11:45	J.Y. Tang	Closing remarks
	11:45-13:30	Lunch	Solid Dinning
	13:35-13:50		Transport to IHEP
	14:00-16:00		IHEP tour
	16:00		Departure from IHEP