

## CARE-HHH BEAM'07 draft programme

### Mini-Workshop on LHC+ Beam Performance, 1-2 October

Monday 1-Oct-07

#### session 1 introduction & overview

9:00 0:15 Welcome  
9:15 0:30 Scenarios for the LHC upgrade

chair: W. Scandale  
DG or Lyn Evans?  
F. Zimmermann

#### session 2 beam-beam & compensation schemes

9:45 0:20 Summary of SLAC beam-beam compensation workshop  
10:05 0:20 Head-on and PACMAN compensation with electron lenses  
10:25 0:20 Beam-beam and emittance growth with wire compensators  
10:45 0:30 *coffee break*  
11:15 0:20 Beam-beam and emittance growth with crab cavities  
11:35 0:20 Beam-beam with a few long-range encounters at short distance  
11:55 0:20 Beam-beam with long flat bunches and large Piwinski angle  
12:15 0:30 Discussion  
12:45 1:15 *lunch break*

chair: J.-P. Koutchouk  
W. Fischer  
V. Shiltsev  
U. Dorda  
R. Calaga  
W. Fischer  
K. Ohmi

#### session 3 luminosity performance

14:00 0:20 Leveling with angle  
14:20 0:20 Leveling with beta\*  
14:40 0:30 Noise issues  
15:10 0:30 Turnaround time in modern hadron colliders & store-length optimiz  
15:40 0:30 *coffee break*

chair: V. Shiltsev  
G. Sterbini  
V. Lebedev  
T. Sen  
O. Bruning

#### session 4 advanced collimation and INB

16:10 0:20 Safety issues for the two LHC+ scenarios  
16:30 0:20 SLAC contributions to the LHC phase-2 collimation  
16:50 0:20 Recent crystal experiments  
17:10 0:20 Collimation issues for the two LHC+ scenarios  
17:30 0:20 Collimation with e-lens  
17:50 0:50 Discussion

chair: R. Assmann  
G. Roy  
T. Markiewicz  
W. Scandale  
R. Assmann  
V. Shiltsev

Tuesday 2-Oct-07

#### session 5 LHC+ beam generation, injector upgrade & FAIR

9:00 0:30 LHC injector upgrade plan  
9:30 0:20 Ultimate LHC beam  
9:50 0:20 Options for the generation of long flat bunches  
9:50 0:20 Transverse stability of long flat bunches  
10:10 0:30 *coffee break*  
10:40 0:20 Slip stacking  
11:00 0:30 BNL upgrade plans  
11:30 0:30 FAIR challenges  
12:00 0:45 Discussion

chair: E. Shaposhnikova  
R. Garoby  
G. Arduini  
S. Hancock  
G. Rumolo  
I. Kourbanis?  
W. Fischer  
P. Spiller

### CERN-GSI Meeting on Collective Effects, 2-3 October

#### session 1 beam losses, halo generation, and collimation

14:00 0:30 Performance and beam losses in the SIS18 synchrotron  
Comparison of simulations and measurements for the PS losses  
14:30 0:30  
15:00 0:30 Prediction of BLM patterns at the SPS  
15:30 0:30 Simulation studies of incoherent 'electron heating' in cooler rings w  
16:00 0:30 *coffee break*  
16:30 0:30 Lattice and collimation concept for the FAIR synchrotrons  
17:00 0:30 Incoherent space charge and e-cloud effects  
17:30 0:30 Loss maps of CERN machines & LHC collimation  
18:00 0:30 Loss maps of RHIC?  
18:30 0:30 discussion

chair: G. Rumolo  
P. Spiller  
J. Barranco  
S. Gilardoni  
S. Sorge  
C. Omet, P. Spiller  
G. Franchetti  
R. Assmann or S. Redaelli  
G. Demolaize

Wednesda 3-Oct-07

#### session 2 space charge and instabilities

9:00 0:30 Modification of beam pipe impedances by electron clouds  
9:30 0:30 Transverse beam stability with space charge  
10:00 0:30 Stability of coherent synchrotron oscillations with space charge  
10:30 0:30 *coffee break*  
11:00 0:30 Measurement and simulation of transverse Schottky signals and B` S. Paret, V. Kornilov, O. Boine-F.  
11:30 0:20 Benchmark of ACCSIM-ORBIT codes for space charge & e-lens cc M. Aiba

chair: O. Boine-Frankenheim  
A. Al-khateeb, O. Boine-F., R. Hasse  
V. Kornilov  
O. Boine-Frankenheim, O. Chorniy

11:50	0:20 Space-charge measurements at the PSB	M. Chanel
12:10	0:20 TMCI studies with HEADTAIL & MOSES	B. Salvant
12:30	0:30 Discussion	

**Francesco Ruggiero Memorial Symposium, 3 October**

chair: W. Scandale

14:30	0:15 Francesco's early studies for LEP, CLIC etc	B. Zotter
14:45	0:15 Impedances?	L. Palumbo
15:00	0:15 Selected impedance topics	S. Petracca
15:15	0:15 Synchrobeam mapping	K. Hirata
15:30	0:15 Remarks from Weiren Chou	Q. Qing
15:45	0:15 Francesco's contributions to collective effects	S. Berg
16:00	0:30 <i>coffee break</i>	
16:30	0:15 Echoes, Zbase, e-cloud	O. Bruning
16:45	0:15 E-cloud crash programme & US-LARP	M. Furman
17:00	0:15 LHC beam-screen impedance	A. Mostacci
17:15	0:15 Luminosity optimization and nuclear collisions	F. Zimmermann
17:30	0:15 DAFNE upgrade & EPS-IGA	C. Biscari
17:45	0:15 CARE-HHH	W. Scandale
18:00	0:05 Francesco's international activities	C. Petit-Jean-Genaz

**Mini-Workshop on Upgrades of LHC Injector Complex, 4-5 October**

**Thursday 4-Oct-07**

**session 1 Superconducting Proton Linac**

chair: R. Garoby

9:00	0:30 Linac-4	M. Vretenar
9:30	0:30 "Low Power SPL"	F. Gerigk
10:00	0:30 SNS experience with a high-energy s.c. proton linac	John Galambos
10:30	0:30 <i>coffee break</i>	
11:00	0:30 ESS plans and synergies with CERN	Klaus Bongardt
11:30	0:30 Development for laser-based H- stripping at SNS	John Galambos
12:00	0:30 Reliability of a s.c. linac	ADS scientist??
12:30	0:20 Longitudinal painting in PSB and PS2	C. Carli

**session 2 PS2**

chair: M. Benedikt

14:00	0:30 PS2 optics	Y. Papaphilippou
14:30	0:30 Impedance estimates & requirements	V. Lebedev
15:00	0:30 Transition crossing in PS2	D. Trbojevic
12:30	0:30 <i>coffee break</i>	
13:00	0:30 Possible lattices with imaginary gamma <sub>t</sub> for PS2	Y. Senichev
13:30	0:30 Most critical instabilities for the PS2	E. Metral
14:00	0:30 E-cloud remedies and PS2 vacuum design	M. Jimenez
14:30	0:30 Discussion	

**Friday 5-Oct-07**

**session 3 SPS upgrade**

chair: G. Arduini

9:00	0:30 SPS challenges	E. Shaposhnikova
9:30	0:30 SPS impedance	E. Metral
10:00	0:30 Experimental studies of SPS e-cloud	G. Rumolo
10:30	0:30 SPS chamber upgrade: TiN coating	P. Chiggiato
11:00	0:30 <i>coffee break</i>	
11:30	0:30 SPS chamber upgrade: inserts	F. Caspers, T. Kroyer
12:00	0:30 Pulsed magnet options	L. Bottura
12:30	0:30 Discussion	

**BEAM'07 Summaries**

14:00	0:10 LHC upgrade scenarios	W. Scandale
14:10	0:20 beam-beam & compensation schemes	J.-P. Koutchouk
14:30	0:20 collimation, machine protection & INB	R. Assmann
14:50	0:20 luminosity performance	V. Shiltsev
15:10	0:20 beam generation	E. Shaposhnikova
15:30	0:30 <i>coffee break</i>	
16:00	0:20 losses, halo and collimation	G. Rumolo
16:20	0:20 space charge & instabilities	O. Boine-Frankenheim
16:40	0:20 SPL	R. Garoby
17:00	0:20 PS2	M. Benedikt
17:20	0:20 SPS upgrade	G. Arduini
17:40	0:05 Adjourn	W. Scandale