CAS Specialised Topic

Intensity Limitations in Particle Beams

http://indico.cern.ch/event/362960/other-view?view=standard

Programme of the school

- 36 Lectures on specific topics
- One free afternoon
- Two study sessions (to work on exercises, discussions, etc. wherever you like)
- Two tutorials: discuss exercises set by lecturers (not an exam, rather a discussion session)

  Tutorial 1 (6.11.): Impedances, wakefields, beam-beam

  Tutorial 2 (9.11.): Space charge, instabilities

Lecture Programme:

Draft Programme
Intensity Limitations in Particle Beams, CERN, Geneva, Switzerland, 2-11 November, 2015

Time	Monday 2 November	Tuesday 3 November	Wednesday 4 November	Thursday 5 November	Friday 6 November	Saturday 7 November	Sunday 8 November	Monday 9 November	Tuesday 10 November	Wednesday 11 November
8:30		Opening Talks	Bench Measurements and Simulations of Beam Coupling Impedance	Beam Instabilities in Linear Machines II	Observations and Diagnostics in High Brightness Beams	Space Charge in Linacs		Electron Cloud I	High Brightness Photo Injectors	
9:30	A		U. Niedermayer	M. Ferrario	A. Cianchi	I. Hofmann		G. Rumolo	E. Chiadroni	D
9:30	R	Introduction and Needs for High Intensity and High Brightness	Beam Dynamics with High Intensity II	Beam-Beam Effects in Hadron Colliders I	Sources and Low Energy Beam Transfer	Intrabeam Scattering	E	Beam-Beam Effects in Linear Colliders	Electron Cloud II	E
10:30	R I V A L	L. Rivkin	A. Chao	T. Pieloni	R. Scrivens	M. Martini	X C U R S I O N	D. Schulte	G. Rumolo	P A R T U R E
		COFFEE	COFFEE	COFFEE	COFFEE	COFFEE		COFFEE	COFFEE	
11:00		Overview of Limitations	Beam Based Impedance Measurements	Effects near Transition	Space Charge and Impedances	Space Charge in Circular Machines		Passive Mitigation	Active Mitigation	A
12:00		W. Herr	E. Shaposhnikova	E. Metral	O. Boine-Frankenheim	G. Franchetti		V. Kornilov	H. Schmickler	F T E R
12:00	D	Wakefields and Impedances I	Beam Instabilities in Circular Machines II	Beam-Beam Effects in Hadron Colliders II	Numerical Methods I			Machine Protection	Beam Loss Consequences	
13:00	A	R. Wanzenberg	A. Chao	T. Pieloni	K. Li			R. Schmidt	F. Cerutti	B
	Y	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH		LUNCH	LUNCH	R E A K F A S T
14:30		Beam Dynamics with High Intensity I	Beam Instabilities in Linear Machines I	F R E E	Coherent Beam-Beam Effects	C E R N		Study	Ions	
15:30		A. Chao	M. Ferrario		X. Buffat				R. Nagaoka	
		TEA	TEA		TEA	V I S I T		TEA	TEA	
16:00		Wakefields and Impedances II	Observations and Diagnostics in High Intensity Beams	A F T E R N O O N	Beam-Beam Effects in Circular Lepton Colliders			Vacuum Issues	Numerical Methods II	
17:00	**Registration**	M. Dohlus	V. Kornilov		C. Milardi			P. Chiggiato	K. Li	
17:00		Beam Instabilities in Circular Machines I	Study		Tutorial			Tutorial	Seminar Design Options for High Intensity Linacs	
18:00		A. Chao							D. McGinnis	
		Welcome Drink								
19:00	DINNER	DINNER	DINNER	DINNER	DINNER	DINNER	Special Dinner	DINNER	DINNER	

Other activities:

- CERN visit (Saturday afternoon, after the lectures):
  - Short ($\approx 2\times$ 40 minutes) visit to some CERN facilities (optional):

    Synchro-cyclotron and Leir (if sufficient interest)
  - Please let Barbara know whether you will join latest by Wednesday noon
- Excursion, Sunday 8.11., all day (including ”Special Dinner”):

Where things happen:

- All lectures in building 30, 7th floor

  Exception Saturday 7th: building 4, 3rd floor, room 006

- Tutorials in seminar rooms nearby (follow signs and/or tutor):
  - 30-7-010 (Surnames A to H)
  - 112-R-028 (Surnames I to O)
  - 112-R-034 (Surnames P to Z)

- CAS office next door (30-7-010)

Where important things happen:

- Coffee breaks next door (30-7-012) (except Saturday 7th)
- Breakfast in Restaurant 1
- Lunch in Restaurant 2 (except Saturday 7th)
- Dinner in Restaurant 1

Proceedings !

- Last school: 1990, Hilton Head Island

  in: Springer Lecture Notes 400

- Need:
  - To acknowledge progress in the field since the last 25 years
  - Opportunity to document work never published
- Published as yellow report - standard templates available (not JaCoW style !)

Feedback ..

- Please fill in the evaluation form !
- This is just the second CAS at CERN of this type:
  - We really need your feedback

    Important: your comments (be critical)
  - Was the scope of the school o.k. ?
  - Too long - too short ?
  - Most important: where can we improve (in particular the organization) ?

Others ...

- Tram number **18** to Geneva (cost 3.00 CHF), about 20 minutes
- CERN shuttle on site and to the Geneva Airport, see schedule
- CERN shuttle **1** : building 40 to building 30 every 20 minutes (starting 8:12)