

Title: Accelerators

Lecturer: Mr Simone Gilardoni

Date and Times: 5th July at 11:15
6th July at 11:15
9th July at 09:15
10th July at 09:15
11th July at 10:15

Summary of the proposed talk:

- 1a) Introduction and motivation
- 1b) History and accelerator types
- 2) Transverse beam dynamics
- 3a) Longitudinal beam dynamics
- 3b) Figure of merit of a synchrotron/collider
- 3c) Beam control
- 4) Main limiting factors
- 5) Technical challenges

Prerequisite knowledge: No prerequisite about accelerator physics.

References:

Wiedemann, Particle accelerator physics I,
Springer CAS CERN 85-19,
M. Martini CERN-ps 96-11,
P. Germain CERN 89-07 Wangler rf accelerators,
O. Bruning Summer Student Lecture 2005 Atlas web page for public,
CMS web page for public

Biography-

Brief CV:

Mr Simone Gilardoni

Since August 2004: CERN staff in the Accelerator and Beam Physics Group (ABP).

Main working subjects:

- Ions for the I-LHC project
- PS Machine Supervisor

- Responsible of the PS machine physics aspects
- New scheme for beam extraction from synchrotrons
- LHC commissioning

March-August 2004: CERN fellow in the ABP group.

Subject of study: New scheme for beam extraction from synchrotrons.

2004: PhD student at CERN and University of Geneva.

Study of particle production and capture for a Neutrino Factory

Thesis in the domain of accelerators and neutrino physics.

2000: Diploma in high energy physics. Paris 6 and Ecole Polytechnique of Paris.

Working in the domain of neutrino physics and electron positron / collider physics.

1999: Diploma in Nuclear Engineering. Politecnico of Milano.

Determination of the LEP center-of-mass energy from Z / events / using a fitting method at the ALEPH experiment.