
# Particle Accelerator Lab

Dottorato di Ricerca

33° CICLO - A.A. 2017/2018

| Date | Activity | Coordinator (Tutors) | Notes |
|---|---|---|---|
| 12/04/2018<br>14.00 – 18.00 | RF Lab - I | **Luca Piersanti**<br>Fabio Cardelli<br>Alessandro Gallo<br>Marco Bellaveglia | 1) Measurement of the R/Q of the accelerating mode of an S-band RF Gun with the bead pull method<br>2) Experimental characterization in both frequency and time domain of a pulse compressor of the SLED (Stanford Linac Energy Doubler) type |
| 19/04/2018<br>09.00 – 13.00 | RF Lab - II | **Luca Piersanti**<br>Fabio Cardelli<br>Alessandro Gallo<br>Marco Bellaveglia | Group exchange on the 2 activities |
| 10/05/2018<br>09.00 – 13.00 | Magnetic Measurements | **Carlo Ligi**<br>Alessandro Vannozzi<br>Lucia Sabbatini | Characterization of a magnetic quadrupole with a Hall probe<br>Measurement of the electron q/m ratio with a cathodic tube |
| 17/05/2018<br>09.00 – 13.00 | UHV Techniques | **David Alesini**<br>Simone Bini<br>Fara Cioeta | Introduction to the UHV techniques for accelerators<br>Experimental examples with a test chamber |
| 24/05/2018<br>09.00 – 13.00 | Accelerator Controls | **Marco Bellaveglia**<br>**Giampiero Di Pirro** | Introduction to LabView<br>Application examples on simple motor control |
| 31/05/2018<br>09.00 – 13.00 | Beam Diagnostics I | **Angelo Stella** | Bench characterization of Beam Position Monitors |
| 07/06/2018<br>09.00 – 13.00 | Beam Diagnostics II | **Enrica Chiadroni**<br>Vladimir Shpakov<br>Marco Marongiu | Measurement of the emittance of an optical beam |
| 14/06/2018<br>09.00 – 13.00 | Beam Measurements @ SPARCLAB | **Riccardo Pompili**<br>Marco Bellaveglia | Experimental measurements on the SPARC_LAB beam |

# *Instructions for the final exam*

- Students are required to produce a brief report on each experimental activity. The suggested structure of the report is:
  - Introduction (accelerator physics area of the reported activity)
  - Experimental goals
  - Description of the set-up
  - Experimental results
  - Comments and conclusions
- One of the reports (each student will choose his preferred subject) should be covered in more details, with a deeper description of the experimental techniques and some bibliographic references
- Reports should be delivered all together to the course coordinator (A. Gallo). There is not a sharp deadline. However, the suggestion is to do it within 1 month from the end of the course (i.e. within middle of July 2018)
- ***Material related to the course is available at:***
  https://agenda.infn.it/categoryDisplay.py?categId=986